

**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”), a CenterPoint Energy 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 2018 and the 2019 deferrals through September 1, 2019, the date that new base rates became effective pursuant to the Opinion and Order in Case No. 18-298-GA-AIR (Rate Case). 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. The Staff Report on VEDO's 2017 Annual Report (filed June 1, 2018) was issued August 29, 2018. Staff notes within this report that, given VEDO's treatment of the DARR as part of its Rate Case, the deferral of DARR-related expenditures will cease with an order in the Rate Case.

5. The pending Rate Case proposed recovery of the cumulative DARR deferred balance through the date of an order in the Rate Case. As an order had not yet been issued in the Rate Case, on May 16, 2019, VEDO filed a motion for an extension of time to file its annual DARR report for 2018, and included a proposal to file a consolidated report of the 2018 Deferrals along with the 2019 DARR activity through the effective date of the new base rates and charges approved in the Rate Case. VEDO was granted the extension by Entry on May 29, 2019. The Entry established the filing date for the consolidated report to be no later than 60 days after the effective date of rates approved in VEDO's Rate Case<sup>1</sup>.

6. The Entry for an extension of time also adjusted the required schedule for Staff's review of program expenditures, the submission of the Staff Report, and VEDO's response to Staff's recommendations. With the filing of the annual report, Staff should conduct an annual

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<sup>1</sup> Rates approved in the Rate Case (Case No. 18-0298-GA-AIR) became effective September 1, 2019.

review of reported program expenditures and file a Staff Report no later than 60 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.

7. In accordance with the Entry approving the extension on May 29, 2019 and the Rate Case Order on August 28, 2019, the following schedule has been defined for the VEDO Annual Report:

- No later than October 30, 2019 (60 days after the effective date of rates) – VEDO to file its Annual Report for expenditures deferred for calendar year 2018 and the eight-months ended August 31, 2019.
- No later than December 27, 2019 (60 days after the annual report is filed) – Staff Report supporting the review of expenditures through August 31, 2019.
- No later than January 25, 2020 (30 days after the Staff Report is filed) – VEDO response to the Staff Report.

8. 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

9. 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.

10. In accordance with Staff's recommendations in its August 30, 2017 and August 29, 2018 Reports, 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 is also providing a breakdown of DARR Program expenses both monthly and per year.

WHEREFORE, VEDO respectfully submits this annual report for Commission Staff's review, and requests a recommendation that all 2018 and 2019 DARR-related expenses be deferred.

Dated: October 29, 2019

Respectfully submitted,

/s/ Christopher Kennedy

Christopher Kennedy (Counsel of Record)

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 29<sup>th</sup>  
day of October 2019 to the following:

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

/s/ Christopher Kennedy  
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 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"), solely to assist the specified parties in the evaluation of the accuracy of the financial data associated with the Distribution Accelerated Risk Reduction (DARR) program cost deferrals for the period January 1, 2018 to August 31, 2019, in conjunction with the PUCO Case No. 15-1741-GA-AAM (the "Filing"). The Company's management is responsible for the completeness and accuracy of the information provided that is associated with the DARR program. The sufficiency of these procedures is solely the responsibility of the parties specified in this report. 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:

### **Distribution Accelerated Risk Reduction ("DARR") Program**

1. We obtained from Company management a schedule of the detail of DARR program cost deferrals for the period from January 1, 2018 to August 31, 2019 and agreed the sum of cost deferrals to the annual report to be filed with the Public Utilities Commission of Ohio (PUCO) related to Case No. 15-1741-GA-AAM (the "Filing"). We also performed the following procedures:
  - a. Agreed the sum of cost deferrals included in the schedule obtained in Step 1 above to the "2018 activity" column in a reconciliation of the balance in account 1908937 at December 31, 2018 provided by management, as reflected in the Company's general ledger. Also agreed the sum of cost deferrals included in the schedule obtained in Step 1 above to the "2019 activity" column in the reconciliation of the balance in account 1908937 at August 31, 2019 provided by management, as reflected in the Company's general ledger.
  - b. Randomly selected months included in the schedule obtained in Step 1 above. For each month selected, randomly selected individual cost deferrals from the schedule, for a total of 80 selections of which 48 selections related to 2018 activity and 32 selections related to 2019 activity. 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 the individual cost deferral selections selected in step 1.b. above, we noted 14 selections with a difference of less than \$1 due to rounding and 1 selection in which we recalculated a difference of less than \$3.
2. We obtained from Company 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 \$1,849,851 at December 31, 2018 and by \$813,986 at August 31, 2019. We recalculated the cost deferrals noting amounts agreed.

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 or review, the objective of which would be the expression of an opinion or conclusion, respectively, on the Company's compliance with the percentage of Distribution Accelerated Risk Reduction income payment plan recovery mechanism in accordance with the PUCO order regarding Case No. 15-1741-GA-AAM (the "Filing"). 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 these specified parties.

*Deloitte & Touche LLP*

October 28, 2019



## **Attachment B**



## Distribution Accelerated Risk Reduction Program Management

### Distribution Accelerated Risk Reduction 4-Year Plan Update

Program Element	2016 Actuals <sup>(A)</sup>	2017 Actuals <sup>(A)</sup>	2018 Plan <sup>(A)</sup>	2018 Actuals <sup>(B)</sup>	2019 Actuals <sup>(B)</sup>	2018-2019 Subtotal <sup>(C)</sup>	DARR TOTAL
Expanded Leak Management Program	\$1,399,326	\$2,132,866	\$2,000,000	\$1,849,851	\$ 813,986	\$2,663,837	<b>\$6,196,029</b>
Enhanced Damage Prevention Program	\$274,412	\$468,670	\$625,000	\$622,068	\$122,713	\$744,781	<b>\$1,487,863</b>
Public Awareness	\$183,324	\$280,285	\$230,000	\$193,644	\$188,607	\$382,251	<b>\$845,860</b>
Workforce Training and Qualification for New Requirements	\$197,774	\$208,886	\$295,000	\$252,775	\$189,365	\$442,140	<b>\$848,800</b>
Pipeline Safety Management System Implementation	\$61,119	\$230,347	\$112,000	\$239,686	\$133,990	\$373,676	<b>\$665,142</b>
Enhanced Risk Modeling and Threat Analysis	\$133,228	\$633,110	\$665,000	\$768,976	\$332,797	\$1,101,773	<b>\$1,868,111</b>
<b>Grand Total</b>	<b>\$2,249,183</b>	<b>\$3,954,164</b>	<b>\$3,927,000</b>	<b>\$3,927,000</b>	<b>\$1,781,458</b>	<b>\$5,708,458</b>	<b>\$11,911,805</b>

- (A) As Reported in June 1, 2018 Annual Report.
- (B) Actuals through the end of the deferral, August 31, 2019.
- (C) The 2018-2019 Subtotal is the DARR Program Deferral since Vectren's last annual report.

### Plan Variance Commentary

- Vectren continued to reduce the number of leaks left open in the system and remediated Grade 3 leaks upon discovery when possible.
- Vectren continued to enhanced records availability and data in systems used to support locating activities and asset-based risk assessment.
- Vectren continued to train its workforce according to the enhanced standards implemented due to new regulatory requirements.
- Vectren continued to conduct partnered root-cause analysis exercises based on the threats identified by the risk register and current events to determine root-causes and developed and implemented mitigation plans including process enhancements, additional training and qualifications, and data and system enhancements.
- Vectren continued to develop tools and processes to enhance the asset-based risk assessment processes and mitigation activity prioritization.



## Distribution Accelerated Risk Reduction 2018 Monthly Actual Spend

Program Element	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2018
Expanded Leak Management Program	\$0	\$0	\$0	\$29,966	\$438,530	\$358,685	\$444,013	\$429,366	\$220,177	\$85,333	\$25,358	-\$181,576	<b>\$1,849,851</b>
Enhanced Damage Prevention Program	\$30,711	\$50,066	\$48,391	\$32,854	\$54,396	\$50,683	\$45,296	\$90,147	\$64,500	\$56,600	\$11,949	\$86,476	<b>\$622,068</b>
Public Awareness	\$0	\$83	\$10,036	\$68,842	\$42,407	\$13,724	\$0	\$0	\$18,106	\$40,447	\$0	\$0	<b>\$193,644</b>
Workforce Training and Qualification for New Requirements	\$20,164	\$10,864	\$37,757	\$22,853	\$19,836	\$23,454	\$22,682	\$27,588	\$16,446	\$19,988	\$0	\$31,143	<b>\$252,775</b>
Pipeline Safety Management System Implementation	\$20,868	\$22,835	\$25,346	\$19,722	\$26,164	\$24,525	\$21,769	\$23,500	\$17,495	\$20,403	-\$1	\$17,058	<b>\$239,686</b>
Enhanced Risk Modeling and Threat Analysis	\$173,876	\$213,655	\$111,850	\$185,864	\$78,870	-\$39,381	\$21,313	\$16,396	-\$10,575	\$7,514	\$0	\$9,594	<b>\$768,976</b>
<b>Grand Total 2018</b>	<b>\$245,620</b>	<b>\$297,503</b>	<b>\$233,380</b>	<b>\$360,101</b>	<b>\$660,203</b>	<b>\$431,690</b>	<b>\$555,073</b>	<b>\$586,997</b>	<b>\$326,148</b>	<b>\$230,286</b>	<b>\$37,305</b>	<b>-\$37,305</b>	<b>\$3,927,000</b>

- The Expanded Leak Management Program costs met the baseline of \$1,918,234 in April 2018. Costs incurred for leak repairs above the baseline from April through December are reflected in the actual costs of the Expanded Leak Management Program for grade 3 leak remediation.



## Distribution Accelerated Risk Reduction 2019 Monthly Actual Spend

Program Element	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2019
Expanded Leak Management Program	\$0	\$0	\$0	\$0	\$95,756	\$254,927	\$222,716	\$240,586	n/a	n/a	n/a	n/a	<b>\$813,986</b>
Enhanced Damage Prevention Program	\$52,378	\$42,860	\$28,933	-\$84,454	\$26,167	\$14,869	\$26,754	\$15,206	n/a	n/a	n/a	n/a	<b>\$122,713</b>
Public Awareness	\$15,303	\$2,019	\$47,294	\$65,714	\$19,332	\$20,539	\$11,434	\$6,970	n/a	n/a	n/a	n/a	<b>\$188,607</b>
Workforce Training and Qualification for New Requirements	\$21,787	\$16,888	\$21,191	\$24,557	\$19,112	\$26,463	\$24,887	\$34,482	n/a	n/a	n/a	n/a	<b>\$189,365</b>
Pipeline Safety Management System Implementation	\$16,761	\$21,422	\$18,253	\$18,708	\$15,770	\$13,362	\$14,694	\$15,020	n/a	n/a	n/a	n/a	<b>\$133,990</b>
Enhanced Risk Modeling and Threat Analysis	\$26,263	-\$8,415	\$28,787	\$11,935	\$69,758	\$75,684	\$59,192	\$69,592	n/a	n/a	n/a	n/a	<b>\$332,797</b>
<b>Grand Total 2019</b>	<b>\$132,492</b>	<b>\$74,774</b>	<b>\$144,458</b>	<b>\$36,460</b>	<b>\$245,895</b>	<b>\$405,843</b>	<b>\$359,677</b>	<b>\$381,857</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>\$1,781,458</b>

- The Expanded Leak Management Program costs met the baseline of \$1,918,234 in May 2019. Costs incurred for leak repairs above the baseline from May through August are reflected in the actual costs of the Expanded Leak Management Program for grade 3 leak remediation.



## 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 repaired. 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 (2018)	3,656
Number of Grade 3 Backlog Leaks Resolved (September 1, 2019)	3,737
Percent of Backlog Leaks Completed	98%

Vectren continued to focus 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. Not all pre-2016 leaks were completed through September 2019 as VEDO prioritized the remediation of some newly discovered leaks. In addition, some pre-2016 leaks are either now scheduled for future capital replacement or geographically linked with other leaks for future repair.

### 2018 Status

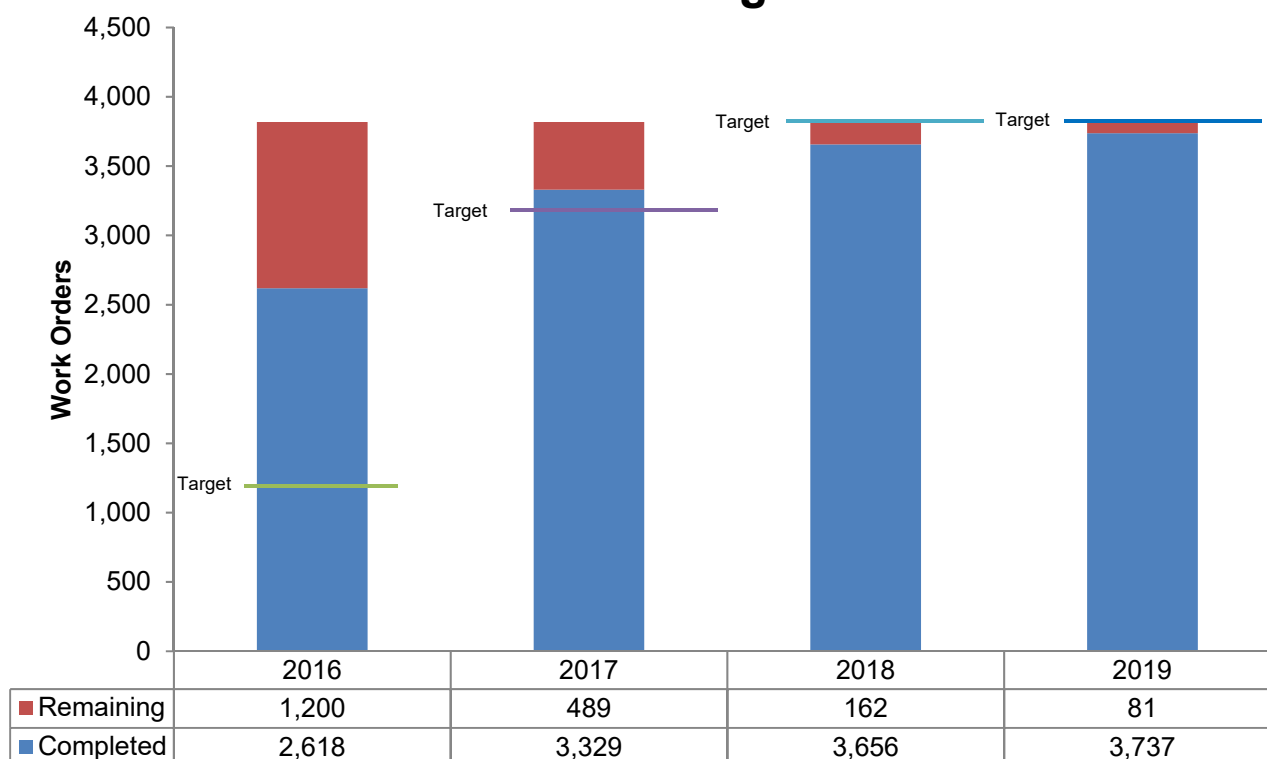
- Additionally, 1,099 grade 1 and 990 grade 2 leaks have been remediated.
- Vectren reduced the number of leaks left open in the system by 399 in 2018

### 2019\* Status

- Additionally, 608 grade 1 and 501 grade 2 leaks have been remediated.
- Vectren reduced the number of leaks left open in the system by 1,057.
- 23 Grade 3 Backlog leaks will be eliminated as part of scheduled Modernization Projects with 15 identified as Below Ground Soft Surface and 8 Below Ground Hard Surface.

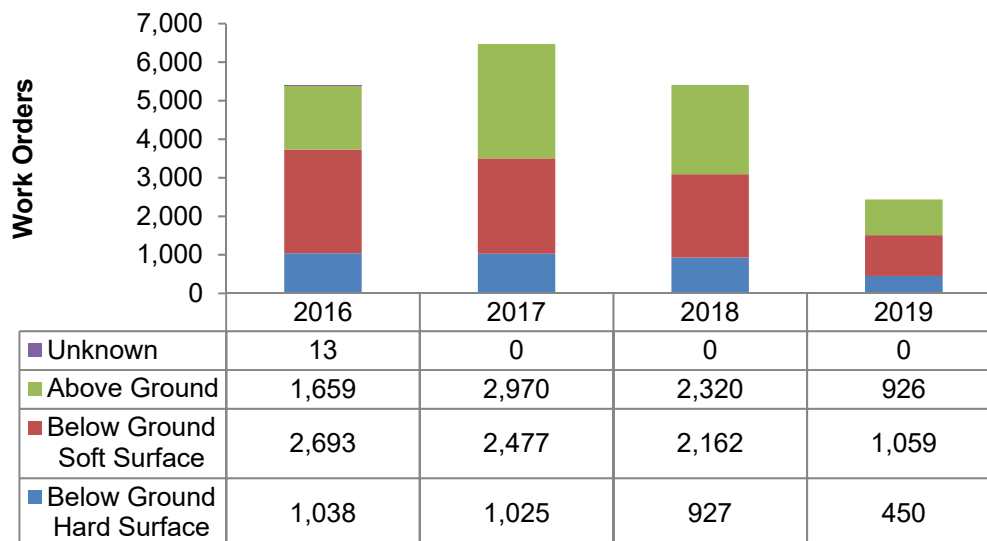
\*Status as of September 1, 2019

## Ohio Leak Backlog Status



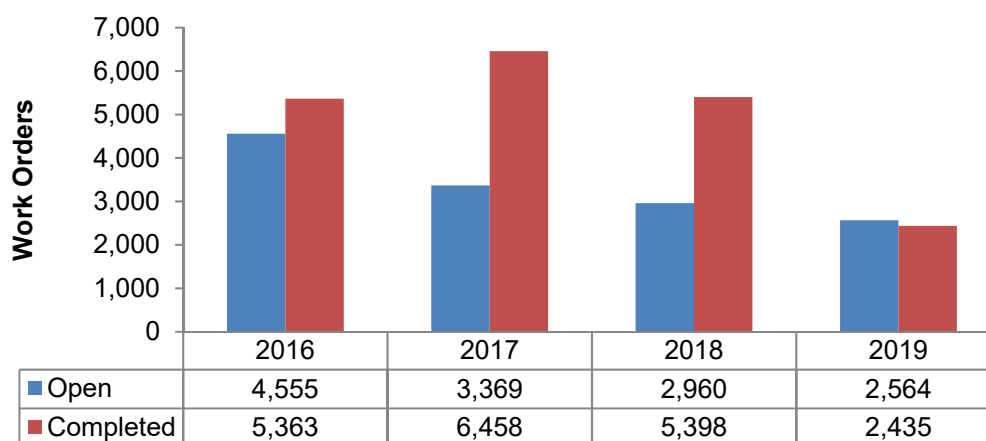


## Total Completed Leaks



\*Status as of September 1, 2019

## Leak Status at Year-end



\*Status as of September 1, 2019

### 2018-2019\* Status

- The focus of grade 3 leak repair is to continue to remediate grade 3 leaks as they are discovered as well as work on reducing the backlog. This results in a slower backlog remediation pace than in 2016 and 2017 original backlog (from January 1, 2016).
- In 2018 an additional 4,998 grade 3 leaks were discovered
- In 2019\* an additional 2,444 grade 3 leaks were discovered.
- Vectren has discovered that some leak reports are duplicates, as the leaks had been reported from a previous survey. Vectren is working towards process enhancements to resolve duplicate reporting, which will remediate a number of grade 3 duplicate reported backlog leaks.
- 132 Open Leaks will be eliminated as part of scheduled Modernization Projects with 28 Below Ground Soft Surface and 104 Below Ground Hard Surface.

\* Status as of September 1, 2019



## 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	2018 Data	2019 Data *
Number of Locate Tickets	89,303	84,540	91,791	63,690
Damage Rate	2.27	1.85	1.87	2.14

### 2018-2019\* 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 59% of all 2018 excavation damages and 54% for all 2019 excavation damages through September 1, 2019. In 2018, there were 27 excavation damages due to the person excavating not using the 811 system and 47 excavations related to the failure to hand dig in the tolerance zone. In 2019, there were 34 excavation damages due to the person excavating not using the 811 system and 27 excavations related to the failure to hand dig in the tolerance zone. Vectren has enhanced our 811 awareness messaging to target specific industry groups. Vectren has also increased education around hand tools usage.

Enhanced Damage Prevention Program Measures	2015	2016	2017	2018	2019*
Damage Rate	2.53	2.27	1.85	1.87	2.14
Target	N/A	2.25	2.10	1.90	1.84

## Ticket Risk Assessment

Measure	2016 Data	2017 Data	2018 Data
Number of Ticket Risk Assessment (TRA) Tickets Worked	5,350	7,716	8,094

### 2018-2019\* Status

- Vectren suspended the TRA program in Ohio on December 14, 2018. Vectren continues to research different risk scoring systems that will provide a more effective ticket risk assessment.

## Damage Reduction Data Improvements

Measure	2016 Data	2017 Data	2018 Data	2019 Data *
Percent of Total Damages due to Incorrect/Unavailable Records	7%	16%	8%	11%

### 2018-2019\* Status

- Vectren continues to educate excavators on safe digging practices and conducting locate audits to ensure quality locate markings are being applied.
- Vectren is onboarding a new locate vendor, One Call Concepts, with a go live date of October 24, 2019. They will locate for Vectren only assets.
- Vectren is continuing our public awareness messaging to target stakeholders that are less aware of the state laws and best practices around safe digging.



## Public Awareness

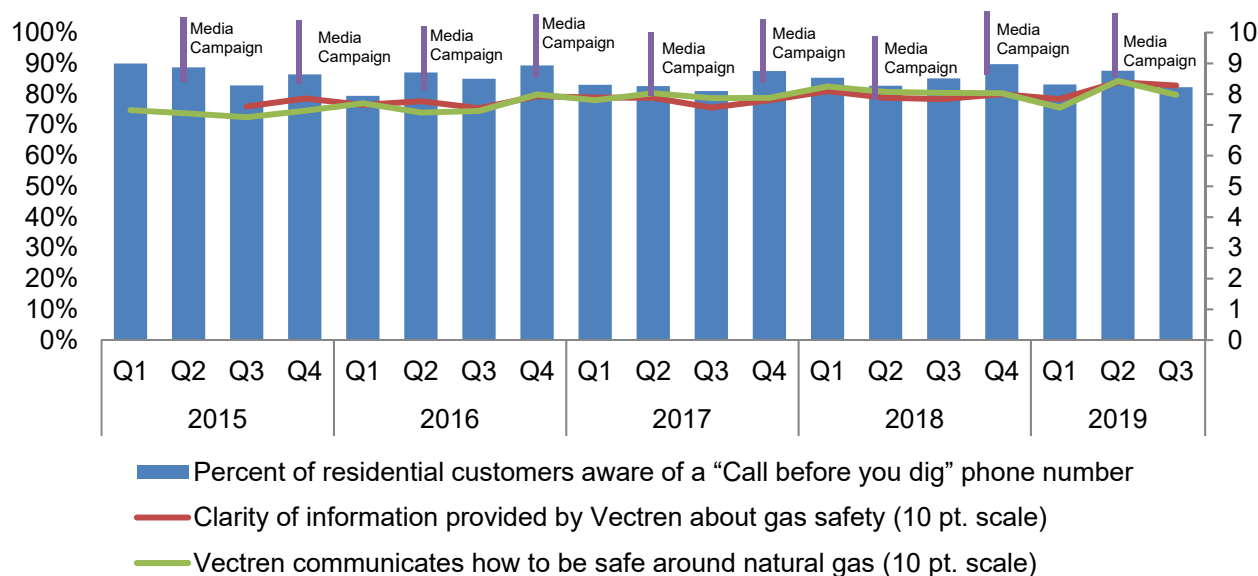
The focus of this section is to describe the increased communications to support pipeline safety in regard to our increased work within pipeline right-of-way in communities. These communications efforts are directly connected to our pipeline modernization programs and also continue to sustain public 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)	1,893,884* 3,036,641†	4,714* 2,290†	16 (682,364 views)* 15 (952,703 views) †
Network & Cable TV	6,151,000* 4,105,000†	N/A	984* 583†
Radio	2,318,000* 1,613,000†	N/A	422* 345†

\*January–December 2018

†January–September 1, 2019

## Residential Quarterly Customer Survey



Source: Quarterly Online Customer Satisfaction Survey

### 2018-2019 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.



## 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 remain at 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	2018 Data	2019 Data*
Number of Evaluations Completed and Processed	2,498	1,838	1,535	1,066
Number of Employees Evaluated	103	132	126	87

*\*January–September 1, 2019*

### 2018 Status

- Completed 603 new evaluations and other reoccurring tasks (target date of completion of all phases of new PEF deployment was June 30, 2018).
- By June 30, 2018, 97 employees had been evaluated on the new forms to finalized the PEF deployment.
- 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.

### 2019 Status

- Vectren continues to review content for covered 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's acquisition by CenterPoint Energy is being leveraged to develop a comprehensive OQ Program that builds upon identified OQ best practices in our new, 8-state footprint. These efforts will continue through 2020 and beyond.
- 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 continue.





## Pipeline Safety Management System Implementation

This section focuses on the development and implementation of a pipeline safety management system (or PSMS) supported by Pipeline Hazardous Materials and Safety Administration's (PHMSA) "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:

- Executing a safety control framework
- Staff dedicated to managing, planning, developing and implementing the safety management system including:
  - Documenting processes and developing control points
  - Performing quality assurance of pipeline safety processes

Measure	2018	2019
Percent Complete of 2 Year Project Plan Milestones ('18-'19 Plan)*	62%	93%
Percent Complete of Planned Mitigation Activities	80%	84%

\*2017- Completed PricewaterhouseCoopers (PwC) reassessment and established 2 year project plan for 2018-2019.

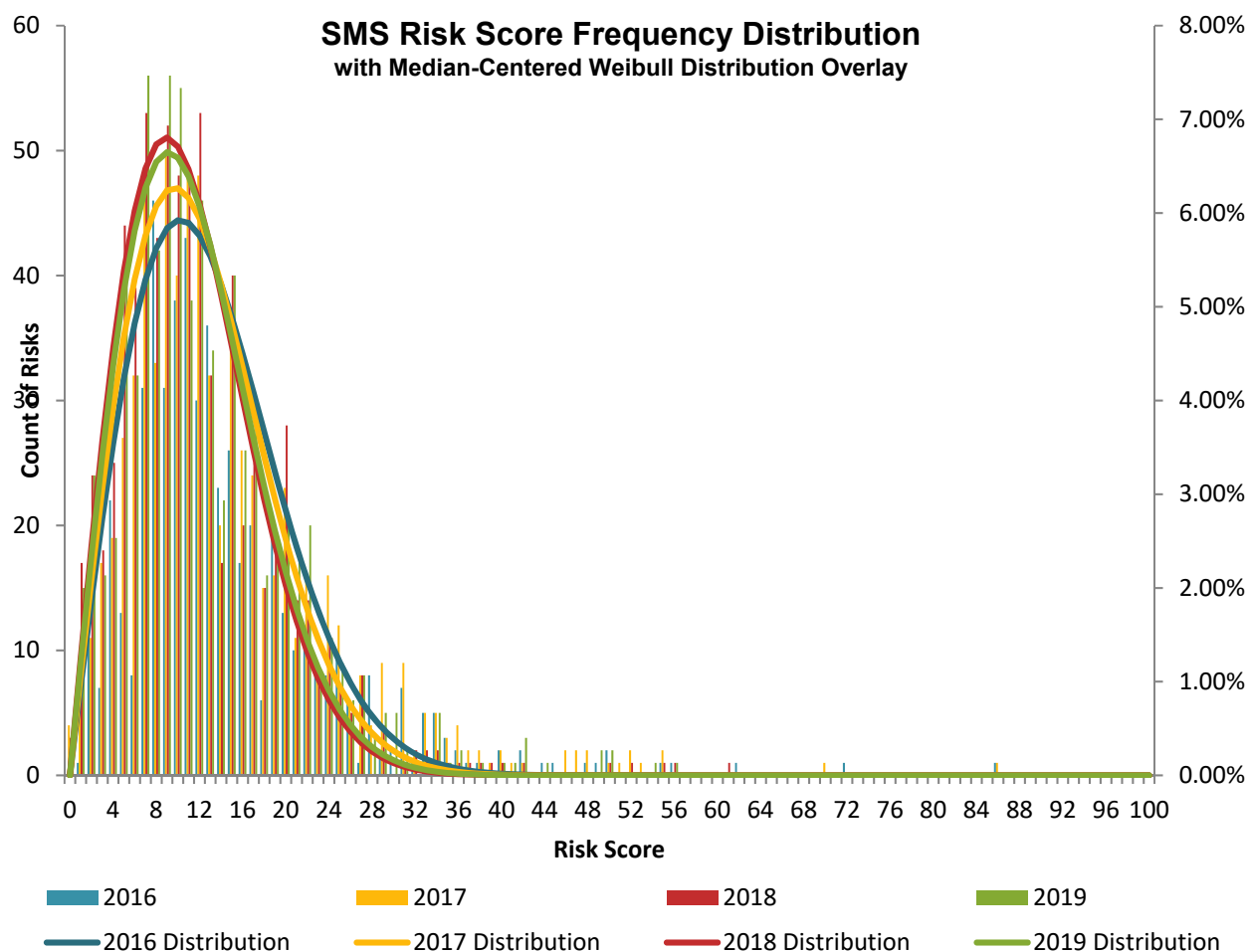
### 2018 Status

- Annual risk median score relative reduction of 8%.
- Milestone achievements include the development and implementation of an operational control testing strategy, a check and adjust event related to management of change, a check and adjust event for incident investigation, and completion of internal audit process for 3 PSMS elements.
- 14 new risk register items were identified exceeding the threshold for evaluation. 14 out of 14 items have been addressed. 65% of the mitigative actions developed to address those items are complete.
- 27 risks have completed mitigation plans.
- Completed 131 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.
- Completed 25 PSMS partnered activities with various business units.
- Initiated 30 testing plans.
- Conducted two mock drills to test emergency response to a pipeline event detected through Gas Control.

### 2019 Status

- Annual risk median score relative increase of 2%.
- Milestone achievements include completion of a check and adjust event for risk identification and development of the internal audit plan for 3 PSMS elements.
- 16 new risk register items were identified exceeding the threshold for evaluation. 8 out of 16 items have been addressed. 54% of the mitigative actions developed to address those items are complete.
- 38 risks have completed mitigation plans.
- Completed 71 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.
- Completed 20 PSMS partnered activities with various business units.
- Initiated 10 testing plans.
- Conducted two mock drills to test emergency response to a pipeline event detected through Gas Control.

## Safety Management System Continued



### 2018 Status

- The SMS risk register profile shows that the items reported range in risk score from 0 to 61 with the majority falling within the 7-15 range.

### 2019 Status

- The 2019 focus includes executing the mitigation plans and measuring their impact to the SMS risk score.
- The SMS risk register profile shows that the items reported range in risk score from 0 to 56 with the majority falling within the 7-16 range.
- The initial population provided the baseline, established in 2016, of the SMS 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 in its entirety 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.



## Enhanced Risk Modeling And Threat Analysis

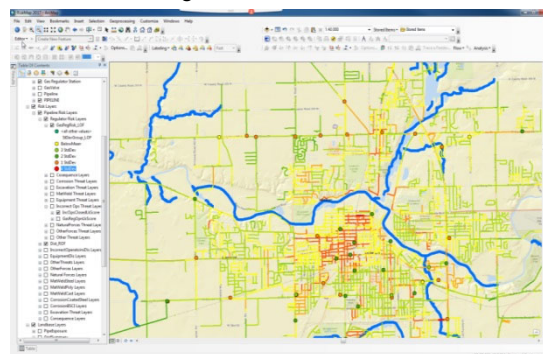
This section focuses on the progress of developing an asset-based risk model, improving the quality and completeness of data on distribution assets and enhancements to the threat identification and analysis process by developing additional or more robust reporting, data integration, data mapping and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

Measure	Year	Status
Develop Distribution Risk Model – 2016 Target models	2016	100%
Develop Distribution Risk Model – 2017 Target models	2017	100%
Percent Complete Develop and Implement Enhanced Distribution Risk Models (Service Line, Meter Setting, Fitting)	2018	0%*

### 2018 Status

#### DIMP RISK MODEL DEVELOPMENT

- \*The development of the Gas Service Line, Meter Setting and Fitting was started but the focus in 2018 shifted from adding more models to solidifying the pipeline risk model. This included doing a full model review and developing processes and procedures to the DIMP plan.
- Another focus in 2018 was to interface the new Distribution Pipeline Risk model to the Modernization database. Project Plan and charter were developed and Project Manager assigned. A team was also assembled to develop a solution. Progress is at 56%.
- Vectren also performed a check and adjust cycle to evaluate the pipeline asset-based risk model. The evaluation was completed in 2018. Action items from the evaluation still pending. Progress is at 25%.
- In addition to the planned DARR items above, Vectren conducted risk assessment workshops to incorporate the asset-based risk model development, maintenance and results evaluation processes into the distribution integrity management risk process and plan. This work is 100% completed
  - Resulted in enhancement plan including:
    - Documentation of standard work
    - Development of process and procedures
    - DIMP plan updates



#### DATA ANALYSIS

- Data Enhancements: Emphasis was placed on Data to support risk modeling and identify threats. Initiatives included:
  - Continued accelerated data collection/digitization of distribution records to support service risk model development.
  - Initiated an effort to validate leak cause data quality
  - Developed a data health report for data being used in the distribution risk models.
  - Data governance road map and framework was developed in 2018
  - There were 2 indirect surveys (CIS and DCVG) performed on HPD lines in 2018. They were on Z-50 West and the 16" pipeline through the IWU campus in Marion.



## Enhanced Risk Modeling And Threat Analysis

This section focuses on the progress of developing an asset-based risk model, improving the quality and completeness of data on distribution assets and enhancements to the threat identification and analysis process 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.

### 2019 Status

#### DIMP RISK MODEL DEVELOPMENT

- In 2018, Vectren completed a first round of validation on the main asset level risk model, Geofields. Following the acquisition and integration with CenterPoint Energy, the new Distribution Integrity Management organization is recalibrating the model to better align with the CenterPoint main risk model algorithms. This is anticipated to be complete by Q1 2020. Additional risk evaluation activities as a result of the integration will include:
  - Implementation of workflow management system to track DIMP compliance throughout execution – completed Q3 2019
  - Implementation of Threat Risk model across all system facilities for statistical risk analytics – completed Q2 2019
  - DIMP Plan (Manual) update to reflect DIM cycle tools and execution in new Distribution Integrity Management organization – to be completed by Q4 of 2019
- Additional pilots and/or very early stage implementations within the DIMP organization include:
  - Corrosion model pilot using machine learning algorithms with Urbint (risk modeling service provider) in Ohio and Texas footprints
  - Cross bore Risk Model implementation with JANA (risk modeling service provider with a specialization in cross bore modeling) across entire organization

#### DATA ANALYSIS

- Continued accelerated data collection/digitization of distribution records to support service risk model development.
- Continued to validate leak cause data quality
- Delivered data governance road map and framework developed in 2018 and early 2019 to stakeholders

**This foregoing document was electronically filed with the Public Utilities**

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Summary: Report 2019 DARR Annual Report electronically filed by Mr. Christopher T Kennedy on behalf of Vectren Energy Delivery of Ohio, Inc.