



Case No. 19-664-GA-RDR

**Audit of the
Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.**

Submitted on July 6, 2020

Prepared by
Blue Ridge Consulting Services, Inc.
114 Knightsridge Road
Travelers Rest, SC 29690
(864) 420-8084

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

This report was formatted to print front and back.

Thus, this page is intentionally left blank.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

TABLE OF CONTENTS

| | |
|--|----|
| 0Disclaimer | 4 |
| Organization of Blue Ridge's Report | 5 |
| Executive Summary | 6 |
| Elements of Analysis | 10 |
| Background | 10 |
| Purpose of Project | 10 |
| Project Scope..... | 10 |
| Audit Standard | 11 |
| Information Reviewed..... | 11 |
| Project Requirements and Analysis..... | 12 |
| 1. Historical Context Leading to Ordered Audit..... | 12 |
| 2. Plant in Service..... | 21 |
| Description of Assets Recovered through Rider AU | 22 |
| Common Assets | 22 |
| Leased AMI Meters..... | 22 |
| Equipment Replacement | 23 |
| Recovery of Replacement Equipment..... | 24 |
| Rider AU Overstatement..... | 24 |
| Conclusion..... | 28 |
| 3. Depreciation Reserve | 29 |
| 4. Policies and Practices..... | 29 |
| 5. Historical Records..... | 32 |
| 6. Classification—Capital vs. Expense..... | 34 |
| 7. Variance Analysis | 34 |
| 8. Physical Inspections..... | 35 |
| 9. Rider AU-Related Schedules..... | 37 |
| 10. Recommended Adjustments..... | 40 |
| Appendices | 43 |
| Appendix A: Information Reviewed..... | 44 |
| Appendix B: Data Requests and Information Provided | 57 |
| Appendix C: Work Papers | 70 |

TABLES

| | |
|--|----|
| Table 1: Effect of Blue Ridge's Recommended Adjustments on Rider AU Revenue Requirements..... | 8 |
| Table 2: EDIT Associated with Blue Ridge's Recommended Adjustments to Plant..... | 9 |
| Table 3: Rider AU Net Plant In-Service as of December 31, 2018—As Filed..... | 22 |
| Table 4: Leased AMI Meters Transferred to Non-Rider AU Project or to Electric..... | 25 |
| Table 5: Auto-Retired Assets Not Reflected in Rider AU | 25 |
| Table 6: Updated Net Plant in-Service—Per Company | 26 |
| Table 7: Updated Net Plant in Service—Per Blue Ridge | 28 |
| Table 8: Reconciliation of Difference Between CPR and Rider AU Filing..... | 33 |
| Table 9: Rider AU Net Plant In-Service and Changes from Year to Year—2011–2018..... | 34 |
| Table 10: Reconciliation of Difference Rider AU Plant in Service between 2014 and 2015..... | 35 |
| Table 11: Schedule 4 Calculation of Deferred Taxes on PISCC, Deferred Expenses, and Carrying Costs | 38 |
| Table 12: Schedule 1 Recommended Presentation of Adjusted Beginning Balance and 2018 Activity..... | 39 |
| Table 13: Effect of Blue Ridge's Recommended Adjustments on Rider AU Revenue Requirements..... | 41 |
| Table 14: EDIT Associated with Blue Ridge's Recommended Adjustments to Plant | 42 |

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

DISCLAIMER

The word *audit* is intended, as it is commonly understood in the utility regulatory environment, to mean a regulatory review, a field investigation, or a means of determining the appropriateness of a financial presentation for regulatory purposes. It is not intended in its precise accounting sense as an examination of booked numbers and related source documents for financial reporting purposes. Neither is the term *audit* in this case an analysis of financial statement presentation in accordance with the standards established by the American Institute of Certified Public Accountants. The reader should distinguish regulatory reviews such as those that Blue Ridge performs from financial audits performed by independent certified public accountants.

This document and the opinions, analyses, evaluations, and recommendations are for the sole use and benefit of the contracting parties. There are no intended third-party beneficiaries, and Blue Ridge shall have no liability whatsoever to third parties for any defect, deficiency, error, or omission in any statement contained in or in any way related to this document or the services provided.

This report was prepared based in part on information not within the control of the consultant, Blue Ridge Consulting Services, Inc. While it is believed that the information that has been provided is reliable, Blue Ridge does not guarantee the accuracy of the information relied upon.

ORGANIZATION OF BLUE RIDGE'S REPORT

This report is organized according to the following major sections:

- *Executive Summary*: This section provides a summary of Blue Ridge's observations, findings, conclusions, and recommendations presented in more detail in the body of the report.
- *Elements of Analysis*: This section provides the following elements used in Blue Ridge's analysis: background, project purpose, project scope, audit standard, and information reviewed.
- *Project Requirements and Analysis*: This section identifies the requirements of the Request for Proposal for this project and specifies Blue Ridge's analyses and conclusions regarding those requirements.
- *Appendices*: The appendices include lists and portions of information reviewed and workpapers developed in support of the recommended adjustments.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

EXECUTIVE SUMMARY

On June 25, 2019, in Case No. 19-664-GA-RDR, Duke filed an application, along with supporting testimony, to adjust Rider AU for grid modernization deployment costs incurred in 2018, pursuant to the process approved in Case No. 07-589-GA-AIR et al.

On October 25, 2019, Staff filed its Review and Recommendations in Case No. 19-664-GA-RDR, stating, “As a result of the Company's inability to provide sufficient financial information to support the locational data of its capital equipment, Staff was unable to adequately complete the capital equipment audit. Without an adequate audit of capital equipment, Staff is unable to express an opinion or provide a recommendation regarding the used and useful status of the capital equipment pursuant to the Commission's Opinion and Order in the previous filing for Rider AU. Staff recommends that the Commission direct Staff to issue a request for proposal (RFP) for the necessary audit of the capital equipment and that the cost of the audit be borne by Duke. Further, Staff recommends that the Rider AU rate be suspended until the completion of the audit.”¹

On December 4, 2019, the Commission ordered Staff to issue a Request for Proposal (RFP) for audit services to review the accounting accuracy, prudence, and used and usefulness of Duke's jurisdictional rate base as presented within its Rider AU AMI components for its gas operations. Blue Ridge Consulting Services, Inc. (“Blue Ridge”) submitted a proposal and was selected to perform the review.

Blue Ridge reviewed the case history associated with Rider AU, including Case Nos. 19-664-GA-RDR, 18-837-GA-RDR, 17-690-GA-RDR, 16-794-GA-RDR, 15-883-GE-RDR, 14-1051-GE-RDR, 13-1141-GE-RDR, and 07-589-GA-AIR et al. Blue Ridge found that assets being recovered through Rider AU are being replaced with upgraded equipment due to concerns with the communications environment. The equipment that has been replaced is still reflected in Rider AU as “in service.”

Blue Ridge found that the December 31, 2015, filing and each subsequent filing continues to report a plant-in-service balance of \$40,631,907. No changes were made to the plant balances in 2016, 2017, and 2018. We would have expected plant balances to have changes over a three-year period for retirements and/or additions to appropriately reflect the actual plant that is used and useful.

Based upon the information provided by the Company, Blue Ridge found that as of December 31, 2018, Rider AU reflected equipment that is not used and useful, and since the Company did not provide the CPR records as of December 31, 2018, it is highly likely that the CPR records do not support what is being sought for recovery through Rider AU. Blue Ridge is unable to provide a determination of the accuracy, completeness, and occurrence of the Company's historical plant records and continuing property records as of December 31, 2018.

Based upon the information provided by the Company, Blue Ridge found that Rider AU includes \$9,527,398 of AMI meters that were transferred to a non-Rider AU project and/or to the Electric Business Segment. Blue Ridge also found \$32,974 in assets with five-year life auto-retirements booked in 2017 and 2018 that were not appropriately reflected in Rider AU. Blue Ridge has reflected these findings in its recommended adjustments to the plant-in-service balances reflected in Rider AU.

In addition, based upon the information provided by the Company, Blue Ridge found that the Company removed from service 60,771 Badger modules and replaced them with Itron OpenWay

¹ Case No. 19-664-GA-RDR, Staff's Review and Recommendations, October 25, 2019, p. 2).

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

modules. The Company also removed 15,995 Ambient communication nodes and replaced the capability of the nodes with connected grid routers (GCRs). The cost of the replaced assets remains in the Rider AU. Blue Ridge's recommended adjustments to plant in service reflect the removal of the costs of these replaced assets from recovery through Rider AU.

Blue Ridge found the information that would allow physical inspection has not been updated since 2014 and there has been significant replacement activity starting in 2017–2018, continuing through the present. Thus, the locational data is six years old and does not reflect the current environment. In addition, the locational data provided was incomplete: it did not include locational data for the Badger gas modules, and it did not include specific locational data for many of the assets.

We reviewed the Company's Rider AU schedules and noted several areas of concern. The development of the Rider AU schedules updated the opening deferred tax balances on Schedules 4 and 5 by modifying the report template so that the revisions would flow through 2018 activity on Schedules 1 and 1A.² This modification was done despite the existing template providing a column to reflect adjustments that would visibly reconcile the closing balances from the prior Rider AU filing in Case No. 18-0837-GA-RDR. The handling of the revisions obfuscated and distorted the reported 2018 activity on Schedules 1 and 1A that resulted in a misstated EDIT balance. Blue Ridge found that the Company's corrections to the opening balances were not unreasonable; however, its handling of the revisions obfuscated and distorted the reported 2018 activity on Schedules 1 and 1A. While the Company may rationalize that "the error in the prior year filing was in the customer's favor" and was therefore not necessary to call out, Blue Ridge recommends the Company take into consideration issues of transparency and public trust in addressing prior filing mistakes going forward.

Blue Ridge found that the accuracy by which the Rider AU schedules were assembled and calculated in Excel to be error prone and reliant upon the experience and attention to detail of the analyst. For example, model inputs were not clearly visible and centrally organized so that a change to one variable would flow through the schedules. Additionally, there were no built-in cross-checks and balances to ensure internal consistency between schedules. In some instances, variables were derived through formula calculation, while in others they were copied as hard values.

Blue Ridge recommends the following adjustments to Rider AU plant-in-service balances and Rider AU revenue requirements:

Adjustment #1: Remove \$9,527,398 of Leased AMI Meters transferred to non-Rider AU Project in 2016 and to the Electric Business Segment in 2017. The adjustment also removes \$836,667 for the related net PISCC regulatory asset. For further detail, see *Rider AU Overstatement* under section Plant in Service.

Adjustment #2: Remove \$32,974 of five-year life auto-retired assets that occurred in 2017 and 2018. For further detail, see *Rider AU Overstatement* under section Plant in Service.

Adjustment #3: Remove 60,771 Badger modules that were replaced with Itron OpenWay modules and 15,995 Ambient communication nodes that were removed and replaced with connected grid routers (GCRs). For further detail, see *Rider AU Overstatement* under section Plant in Service.

² Duke response to BlueRidge-DR-04-001, BlueRidge-DR-04-002 and BlueRidge-04-005.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

Adjustment #4: Adjust for the difference of \$130,557 between CPR and Rider AU filing for 2012–2015 identified by Staff’s Review and Recommendation of the Company’s filing in Case No, 19-664-GA-RDR. For further detail, see section Historical Records.

Adjustment #5. Correct opening December 31, 2017, EDIT balance in connection with PISCC, operating expense deferrals, and related carrying charges. For further detail, see *Development of Schedules* under section Rider AU-Related Schedules.

The effect of these adjustments on Rider AU is provided in the following table.³

Table 1: Effect of Blue Ridge’s Recommended Adjustments on Rider AU Revenue Requirements

| Line No. | | AS FILED Balance 12/31/18 | Adj #1 Transferred Leased AMI Meters | Adj #2 Retired Elec Data Proc Equip | Adj #3 Retired Comm Equip Gas | Adj #4 CPR Differences (2012-2015) | Adj #5 Miscalculated Opening EDIT Bal. | ADJUSTED Balance 12/31/18 | Difference |
|----------|--|---------------------------------|---|--|--|---|---|---------------------------------|-----------------|
| | Return on Investment | | | | | | | | |
| | Total Rider AU Revenue Requirement | | | | | | | | |
| 1 | Additions | \$ 40,631,907 | \$ (9,527,398) | \$ (32,974) | \$ (5,623,222) | \$ (130,557) | \$ - | \$ 25,317,756 | \$ (15,314,151) |
| 2 | Total Plant In-Service | 40,631,907 | (9,527,398) | (32,974) | (5,623,222) | (130,557) | - | 25,317,756 | (15,314,151) |
| | Less: Accumulation Provision for Depreciation | | | | | | | | |
| 3 | Depreciation Expense | 16,046,076 | (3,506,443) | (32,974) | (2,061,848) | (56,575) | - | 10,388,237 | (5,657,839) |
| 4 | Total Accumulated Provision for Depreciation | 16,046,076 | (3,506,443) | (32,974) | (2,061,848) | (56,575) | - | 10,388,237 | (5,657,839) |
| 5 | Net Regulatory Asset--Post In-Service Carrying Cost | 3,537,379 | (836,667) | - | - | - | - | 2,700,712 | (836,667) |
| 6 | Deferred Tax Balance--PISCC, Deferred Depreciation & CC and Deferred O&M & CC (ADIT) | (1,217,234) | 175,700 | - | - | - | - | (1,041,534) | 175,700 |
| 7 | Excess Deferred Income Taxes--PISCC, Deferred Depreciation & CC and Deferred O&M & CC (EDIT) | (1,849,881) | - | - | - | - | 909,034 | (940,847) | 909,034 |
| 8 | Deferred Taxes on Liberalized Depreciation (ADIT) | (4,438,166) | 480,892 | - | 589,769 | 14,313 | - | (3,353,192) | 1,084,974 |
| 9 | Excess Deferred Income Taxes (EDIT) | (3,107,786) | - | - | - | - | - | (3,107,786) | - |
| 10 | Net Rate Base | \$ 17,510,143 | \$ (6,201,030) | \$ - | \$ (2,971,605) | \$ (59,669) | \$ 909,034 | \$ 9,186,873 | \$ (8,323,269) |
| 11 | Pre-Tax Rate of Return (at 21% Federal Rate) | 9.16% | 9.16% | 9.16% | 9.16% | 9.16% | 9.16% | 9.16% | 9.16% |
| 12 | Annualized Return on Rate Base | \$ 1,603,929 | \$ (568,014) | \$ - | \$ (272,199) | \$ (5,466) | \$ 83,268 | \$ 841,518 | \$ (762,411) |
| | Operating Expenses | | | | | | | | |
| 13 | Annualized Provision for Depreciation For Additions | \$ 2,799,444 | \$ (635,160) | \$ - | \$ (374,881) | \$ (8,704) | \$ - | \$ 1,780,699 | \$ (1,018,745) |
| 14 | Annualized Amortization of PISCC | 318,142 | (68,239) | - | - | - | - | 249,903 | (68,239) |
| 15 | Deferred O&M Expense and Carrying Costs | 619,114 | - | - | - | - | - | 619,114 | - |
| 16 | Annualized Property Tax Expense | 687,488 | (198,191) | (513) | (90,717) | (1,887) | - | 396,180 | (291,308) |
| 17 | Reduction in Operation & Maintenance Expense | (3,476,000) | - | - | - | - | - | (3,476,000) | - |
| 18 | Annualized Revenue Requirement - Smart Grid | \$ 2,552,117 | \$ (1,469,604) | \$ (513) | \$ (737,797) | \$ (16,056) | \$ 83,268 | \$ 411,414 | \$ (2,140,703) |

Blue Ridge also has these other recommendations:

1. The Company stated that equipment that was changed out is not being recovered. Recovery is proposed as part of the Company’s Rider CEP application in Case No. 19-791-GA-ALT. Blue Ridge found that the Company’s proposal to seek recovery of the replacement equipment through the CEP could result in over recovery if the original assets (that were replaced and

³ WP Impact of Adjustments BlueRidge-DR-01-001.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

not retired) continue to be recovered through Rider AU. Blue Ridge recommends a thorough and careful reconciliation of the recovery mechanisms should both continue.

2. Blue Ridge also recommends that in future filings, the Company continue to reflect in Rider AU the retirement of equipment that will be replaced through 2022 and to not rely on auto-retirement for assets that have been replaced. The onus is on the Company to reflect accurate and used-and-useful balances in its approved recovery mechanisms.
3. Blue Ridge found the Company's corrections to the opening balances in the Rider AU schedules to be not unreasonable; however, its handling of the revisions obfuscated and distorted the reported 2018 activity on Schedules 1 and 1A. While the Company may rationalize that "the error in the prior year filing was in the customer's favor" and was therefore not necessary to call out, Blue Ridge recommends the Company take into consideration issues of transparency and public trust in addressing prior filing mistakes going forward.
4. The Company provided the Microsoft Excel files that support the Rider AU Schedules included in the Company's Case No. 19-664-GA-RDR filing. Blue Ridge found the accuracy by which the schedules were assembled and calculated in Excel to be error prone and reliant upon the experience and attention to detail of the analyst. For example, model inputs were not clearly visible and centrally organized so that a change to one variable would flow through the schedules. Additionally, there were no built-in cross-checks and balances to ensure internal consistency between schedules. In some instances, variables were derived through formula calculation, while in others they were entered as hard values. Blue Ridge recommends the Company address these spreadsheet modeling deficiencies and formalize its procedures in writing.
5. Blue Ridge recommends that the excess deferred income taxes (EDIT) associated with each recommended plant adjustment remain in Rider AU while the manner of their disposition and treatment is arbitrated in Case No. 18-1830-GA_UNC, the Company's Tax Cuts and Jobs Act docket. The EDIT liabilities in Rider AU were established as of December 31, 2017; they represent income tax expense that the Company previously collected from ratepayers for which it is no longer obligated to remit to the IRS as a result of the federal tax rate change from 35 to 21 percent. Retaining them in Rider AU will ensure their visibility so that the Company and stakeholders can better track them.

The estimated EDIT for Blue Ridge's recommended plant adjustment is provided in the following table:

Table 2: EDIT Associated with Blue Ridge's Recommended Adjustments to Plant

| Description | Adj. # | Balance as of 12/31/2018 | | |
|--|--------|------------------------------|---------------------------|---------------------|
| | | Unprotected Property (PISCC) | Protected Property (Depr) | Total |
| Leased AMI Meters | 1 | \$ (126,633) | \$ (292,949) | \$ (419,583) |
| Electronic Data Processing Equip-Gas | 2 | - | (129) | (129) |
| Communication Equipment Gas | 3 | - | (375,440) | (375,440) |
| CPR vs. Rider AU-Unexplained Difference | 4 | - | (9,129) | (9,129) |
| Total Excess Deferred Income Taxes (EDIT) | | \$ (126,633) | \$ (677,648) | \$ (804,281) |

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

ELEMENTS OF ANALYSIS

BACKGROUND

On May 28, 2008, in Case No. 07-589-GA-AIR et al., the Commission approved a stipulation and recommendation that, among other things, provided a process for the filing of Duke's deployment plans for the installation of an automated gas meter reading system, which would share the SmartGrid communications technology for the Company's electric system, and a method for recovering costs associated with the plans, which was designated Rider Advanced Utility (Rider AU).

On July 2, 2019, in Case No. 18-837-GA-RDR, the Commission's Opinion and Order directed Commission Staff (Staff) to thoroughly evaluate whether the equipment contained in Rider AU remains used and useful, given the Company's plan to replace certain advanced metering infrastructure (AMI) components for the gas distribution system. This evaluation was to be performed during the Company's subsequent annual filing and to include, as necessary, a field audit or other physical verification of the Company's AMI components for its gas operations.

On June 25, 2019, in Case No. 19-664-GA-RDR, Duke filed an application, along with supporting testimony, to adjust Rider AU for grid modernization deployment costs incurred in 2018, pursuant to the process approved in Case No. 07-589-GA-AIR et al.

On October 25, 2019, Staff filed its Review and Recommendations in Case No. 19-664-GA-RDR, stating, "As a result of the Company's inability to provide sufficient financial information to support the locational data of its capital equipment, Staff was unable to adequately complete the capital equipment audit. Without an adequate audit of capital equipment, Staff is unable to express an opinion or provide a recommendation regarding the used and useful status of the capital equipment pursuant to the Commission's Opinion and Order in the previous filing for Rider AU. Staff recommends that the Commission direct Staff to issue a request for proposal (RFP) for the necessary audit of the capital equipment and that the cost of the audit be borne by Duke. Further, Staff recommends that the Rider AU rate be suspended until the completion of the audit."⁴

On December 4, 2019, the Commission ordered Staff to issue a Request for Proposal (RFP) for audit services to review the accounting accuracy, prudence, and used and usefulness of Duke's jurisdictional rate base as presented within its Rider AU AMI components for its gas operations. Blue Ridge Consulting Services, Inc. ("Blue Ridge") submitted a proposal and was selected to perform the review.

PURPOSE OF PROJECT

As defined in the RFP, the audit is to review and attest to the accounting accuracy and used and useful nature of all the capital expenditures included for recovery in the Company's Rider AU.

PROJECT SCOPE

The project scope, as delineated in the RFP, states the investigation shall determine the accuracy, prudence, and used and useful nature of the Company's Rider AU capital assets as of December 31, 2018. Based on the RFP requirements, Blue Ridge's Staff-approved work plan incorporated these tasks:

⁴ Case No. 19-664-GA-RDR, Staff's Review and Recommendations, October 25, 2019, p. 2).

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

- Determine total Company plant in service for each account and subaccount included in Rider AU.
- Determine total Company depreciation reserve for each account included in Rider AU.
- Audit the Company's depreciation reserve to determine the proper balance based on the auditor's findings.
- Provide a determination as to the accuracy, completeness, and occurrence of the Company's historical plant records and continuing property record.
- Ensure plant-in-service expenditures were properly classified as a capital expenditure.
- Perform physical inspections to verify Rider AU assets are still used and useful.
- Reconcile the Company's Continuing Property Record with Asset Management System and locational data.
- Review Case Nos. 19-664-GA-RDR, 18-837-GA-RDR, 17-690-GARDR, 16-794-GA-RDR, 15-883-GE-RDR, 14-1051-GE-RDR, 13-1141-GE-RDR, and 07-589-GA-AIR et al.
- Read and become familiar with all applicable testimony and workpapers.
- Recommend and support specific adjustments to Rider AU plant-in-service balance based on any findings or lack of used and usefulness.
- Review and audit all Rider AU-related schedules and testimony to ensure accuracy, including Schedules 1 through 12 and associated workpapers as filed on June 25, 2019, in Case No. 19-664-GA-RDR.
- Provide a report of findings that include rationale and description of any recommended adjustments.

This report addresses each of the defined requirements.

AUDIT STANDARD

Blue Ridge's focus is on the accuracy, prudence, and used and useful nature of the assets being recovered through Rider AU. Blue Ridge used the following standards during the course of the audit when assessing the attributes required in the project scope:

Accuracy: The stated value is supported by accurate and complete plant accounting property records. Transactions are properly recorded as capital expenditures in the appropriate FERC account.

Prudence: The decision to make the investment was reasonable at the time the decision was made and based on information then available. The decision is one that a reasonable person could have made in good faith, given the information and decision tools available at the time of the decision.

Used and Useful: The assets are used in providing services and are useful to the ratepayer.

INFORMATION REVIEWED

Blue Ridge reviewed or is familiar with the following information as required by the RFP:

- Generally accepted accounting principles (GAAP)
- Federal Energy Regulatory Commission (FERC) Uniform System of Accounts
- The operations and regulatory environment of natural gas distribution utilities
- Duke's most recent application to increase rates (Case No. 12-1685-GA-AIR et al.)
- Duke's continuing property records
- Duke's summary of significant accounting policies
- Duke's accounting information system

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

- The Company's applications in Case Nos.:
 - 19-664-GA-RDR
 - 18-837-GA-RDR
 - 17-690-GA-RDR
 - 16-794-GA-RDR
 - 15-883-GE-RDR
 - 14-1051-GE-RDR
 - 13-1141-GE-RDR
 - 07-589-GA-AIR et al.

During the audit process, Blue Ridge requested and was provided additional information. A list of the data requested is included as Appendix B. Electronic copies of the information obtained were provided to Staff.

PROJECT REQUIREMENTS AND ANALYSIS

The project scope, as delineated in the RFP, states the investigation shall determine the accuracy, prudence, and used and useful nature of the Company's Rider AU capital assets. The RFP listed the specific investigation requirements. Blue Ridge also identified additional analyses required to support our findings and recommendations. To ensure that we have addressed the specific requirements in the RFP and the additional analyses needed, we have maintained the integrity of the work scope through the subsections provided in this portion of our report. Where appropriate, we have combined requirement areas.

1. HISTORICAL CONTEXT LEADING TO ORDERED AUDIT

Requirements: Review Case No. 19-664-GA-RDR, 18-837-GA-RDR, 17-690-GA-RDR, 16-794-GA-RDR, 15-883-GE-RDR, 14-1051-GE-RDR, 13-1141-GE-RDR, and 07-589-GA-AIR et al.

Requirements: Read and become familiar with all applicable testimony and workpapers.

Blue Ridge reviewed Case Nos. 19-664-GA-RDR, 18-837-GA-RDR, 17-690-GA-RDR, 16-794-GA-RDR, 15-883-GE-RDR, 14-1051-GE-RDR, 13-1141-GE-RDR, and 07-589-GA-AIR et al., including applicable testimony and workpapers. Appendix A includes key excerpts from relevant stipulations/settlements, Staff reviews and recommendations, Company reply comments, and Commission opinions and orders. The following case summaries provide relevant historical context scope for this audit.

Case No. 07-589-GA-AIR

The Company's gas distribution rate case (Case No. 07-589-GA-AIR et al.), originally filed in July 2007, was resolved by a stipulation that provided, in part, for a process for filing deployment plans for the installation of an automated gas meter reading system. The automated gas meter reading system was designed to employ the grid modernization communications technology. The stipulation also contained a method for recovering costs associated with the plans, which was designated Rider AU.⁵ The Commission approved the stipulation on May 28, 2008.⁶

⁵ Case No. 07-589-GA-AIR, Settlement Supporting Testimony of Paul G. Smith, February 28, 2008, page 8.

⁶ Case No. 07-589-GA-AIR, Finding and Order, May 28, 2008, page 25.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

Case No. 13-1141-GE-RDR

In Case No. 13-1141-GE-RDR, Company witness Donald Schneider explained that 2012 was the fourth year of Duke's full-scale distribution automation (DA) deployment. Through the first quarter of 2013, Duke had installed a total of 547,194 electric meters, 363,233 gas modules, and 127,232 communications nodes and had certified 510,689 of the electric meters installed and 340,365 of the gas modules installed. Meters are certified to identify when the meter has successfully been commissioned and verified and the meter data is ready to be used for billing. Duke's AMI deployment is approximately 75 percent complete, with planned completion to occur in mid-2014. (Duke Ex. 6 at 3-4)⁷

On January 10, 2014, a stipulation and recommendation, entered into by Duke, Staff, OPAE, OCC, and FES, was filed in this proceeding. On April 9, 2014, the Commission approved the stipulation.⁸

Case No. 14-1051-GE-RDR

In Case No. 14-1051-GE-RDR, Company witness Donald Schneider explained that the field deployment portion of the Company's grid modernization program is almost complete. Through April 2014, Duke had installed a total of 716,074 electric meters, 433,126 gas modules, 12,957 auto meter reading gas modules, and 141,259 communications nodes and has certified 668,879 of the electric meters installed and 417,479 of the gas modules installed. Meters are certified to identify when the meter has successfully been commissioned and verified and the meter data is ready to be used for billing. Duke's AMI deployment is approximately 99.9 percent complete, with planned completion to occur by the fourth quarter of 2014. Since the AMI deployment is substantially complete, Duke's project team is now working with its operations personnel to complete all business transaction items and to close out any remaining metering installations and communications network fine-tuning. (Duke Ex. 3 at 3-4)

Staff stated that, as part of its grid modernization program, Duke is installing gas modules on all its gas meters. Staff explained that these modules transmit meter data, which reduces the need for meter readers, and that, until 2011, Duke charged the cost of these modules to its Meters account. Further, Staff explained that the Uniform System of Accounts (USOA) of the Federal Energy Regulatory Commission (FERC) allows utilities to record plant in service as soon as the equipment is purchased for this account, even if the equipment is not used and useful. In 2013, however, Duke charged the cost of its gas modules to Communication Equipment—Gas account, which is not allowed the same special accounting treatment. Instead, the gas modules charged to this account must be used and useful before their costs are recoverable in rates. During 2013, Duke charged 15,846 gas modules to the Communication Equipment—Gas account, which the Company installed but did not certify as used and useful. The cost associated with these uncertified gas modules is \$983,966. Staff maintains that gas modules charged to Communication Equipment—Gas must be used and useful before costs related to these modules are recoverable in rates. Accordingly, Staff recommended that \$983,966 be removed from Rider AU capital costs until Duke certifies the gas module installations as used and useful. Further, Staff requested that the Commission instruct Duke to cease charging gas module purchases to Rider AU until the gas modules are installed and certified. (Staff Ex. 1 at 5-6, 10, 11)

The Commission agreed that the cost of the gas modules, \$983,966, should be disallowed for recovery through Rider AU in this proceeding. The Commission stated that they believe this

⁷ Case No. 13-1141-GA-RDR, Opinion and Order, April 9, 2014, pages 3-4.

⁸ Case No. 13-1141-GA-RDR, Opinion and Order, April 9, 2014, page 19.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

determination, which is in agreement with FERC's USOA requirement that capital costs charged to the Communication Equipment—Gas account be used and useful before the costs are recoverable in rates, is reasonable and consistent with their past precedent. Only those gas module costs that are used and useful during the year in question should be included in the Company's rider calculations for cost recovery. However, as pointed out by Staff (Tr. at 224), once the gas modules are certified and deemed used and useful, it would be appropriate to include the gas module cost for recovery in Duke's 2015 proceeding for the recovery of 2014 costs through Rider AU. Accordingly, Duke was directed to remove the \$983,966 cost of the gas modules from Rider AU in this case.⁹

Case No. 15-883-GE-RDR

On January 6, 2016, a stipulation and recommendation were entered into by Duke, Staff, OP&E, and OCC in Case No. 15-883-GE-RDR.

In support of Duke's application, Duke witness Donald L. Schneider stated that the field deployment portion of the Company's grid modernization program was complete as of December 31, 2014. Mr. Schneider explained that 2014 was the fifth year for full-scale, advanced metering infrastructure (AMI) deployment. He further explained that, through December 31, 2014, Duke had installed a total of 720,320 electric meters, 435,670 gas modules, 12,978 automated meter reading gas modules, and 143,431 communications nodes and had certified 706,593 of the electric meters installed and 440,394 of the gas modules installed. Meters are certified to identify when the meter has successfully been commissioned and verified and the meter data is ready to be used for billing. Duke's AMI deployment is now complete. Since the AMI deployment is complete, Duke's project team has turned over continued and future installations, certifications, and communications network fine-tuning to Duke's operations personnel. (Duke Ex. 2 at 3-4)

On March 31, 2016, the Commission approved the stipulation.

Case No. 16-794-GA-RDR

On April 18, 2016, in Case No. 16-794-GA-RDR, Duke filed an application, along with supporting testimony, to adjust Rider AU for grid modernization deployment pursuant to the processes approved in the Gas Distribution Rate Case. On August 4, 2016, Staff filed its review and recommendations on Duke's proposed Rider AU adjustment. Staff stated that Duke appropriately included in Rider AU only those costs that were incurred as a result of serving its retail customers in Ohio; therefore, Staff recommended that the application be approved, with the new rate effective on a bills-rendered basis beginning April 2017. On September 22, 2016, the Commission approved Duke's application to adjust its Rider AU.

Case No. 17-690-GA-RDR

In Case No. 17-690-GA-RDR, OCC filed comments stating, "Duke has stated in its recent electric distribution rate case filing that the Company intends to replace the newly installed gas meter reading technology, which Duke's customers are continuing to pay for through Rider AU, with a newer advanced metering infrastructure (AMI) technology for both electric and gas customers." (In re Duke Energy Ohio, Inc., Case No. 17-32-EL-AIR et al. (Duke Electric Rate Case), Direct Testimony of Donald L. Schneider, Jr. (Mar. 16, 2017) at 10.¹⁰)

⁹ Case No. 14-1051-GA-RDR, Opinion and Order, April 8, 2016, pages 3-4, 4-5, and 9.

¹⁰ Case No. 17-690-GA-RDR Finding and Order, October 11, 2017, ¶11.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

Case No. 17-32-EL-AIR

OCC's comments in Case No. 17-690-GA-RDR alluded to a concern regarding the AMI gas meters. To better understand the issues, Blue Ridge reviewed Duke witness Donald Schneider's direct testimony in Case No. 17-32-EL-AIR (electric rate case). Witness Schneider's testimony described the current state (as of March 2017) of the Company's AMI environment, challenges to that environment, and how the Company planned to address those challenges. The following are key points from his testimony as it relates to AMI for the gas business.¹¹

- AMI involves a two-way communication network between the utility and its meters that is used to provide operational efficiencies and to enable customer services not possible with metering programs involving walk-by or one-way communications network (drive-by) readings. (page 3)
- There are two AMI metering environments: node and mesh.
 - Node Environment
 - The node environment is composed of Echelon electric meters, Badger gas communication modules, and communication nodes that were originally manufactured by Ambient, which has since been acquired by Ericsson. (page 3)
 - Badger gas communication modules communicate with nodes via one-way wireless radio-frequency signals. Each node is equipped with a cellular modem that allows for data and signals to be sent to and received from the node environment. The devices within the node environment are managed by head-end control systems. Badger Read Center manages the gas communication modules, and the Ambient Network Management System (Ambient NMS) manages the communication nodes. (pages 3–4)
 - The node environment serves most of Duke Energy Ohio's residential electric and residential combination gas and electric customers. (page 6)
 - Mesh Environment
 - The mesh environment is composed of Itron electric meters, Itron gas communications modules, Itron range extenders, and Cisco Connected Grid Routers (CGRs). (page 3)
 - The mesh environment is so described because Itron electric meters communicate with one another and CGRs using wireless radio-frequency signals with IPv6 communication protocol, effectively forming a meshed communication network across a geographic area. Itron gas communication modules communicate with Itron electric AMI meters using a separate wireless radio-frequency signal that uses a communication protocol known as ZigBee, and that data is then carried over the mesh network to CGRs. Each CGR is equipped with a cellular modem that allows for data and signals to be sent to and received from the mesh environment. Itron range extenders are used in the mesh environment to help extend the wireless radio-frequency signal when necessary. The Itron

¹¹ Case No. 17-32-EL-AIR et al., Direct Testimony of Donald L. Schneider, Jr. (see parentheticals in each bullet for the page in testimony).

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

Open Way head-end system manages the Itron AMI meters and the Cisco Network Management System (CGNMS) manages the CGRs. (page 4)

- The mesh environment serves most of the Company's commercial/industrial customer classes, as well as some residential customers. The mesh environment also serves some combination gas and electric customers in both the residential and commercial/industrial customer classes. (page 6)
- The major difference between the AMI node and mesh-metering environments is that the node environment utilizes low-voltage power-line carrier technology that requires installation of communication nodes at power transformers associated with the downstream electric meters, individual communication nodes support only about five electric AMI meters on average. In comparison, the mesh environment is typically designed so that 500 to 1,000 meters can communicate with a single CGR. (page 6)
- Concerns with the Node Environment
 - The Company stated that it is facing issues with Duke Energy Ohio's AMI node environment. Ericsson is no longer manufacturing communication nodes. Duke Energy Ohio's inventory of nodes is therefore depleting beyond the desired stocking level with each device failure. Additionally, communication nodes have been failing at a higher rate than expected. (page 10)
 - Duke Energy Ohio has begun a business continuity effort for the years 2017–2018 to remove approximately 23,700 communication nodes currently deployed in the field, in order to restore inventory back to desired stocking levels. Removing these nodes—transitioning from the AMI node environment to the mesh environment—requires expanding the footprint of the Company's existing mesh environment; consequently, the Company will replace approximately 80,000 Echelon electric meters and 48,800 Badger gas communication modules with Itron electric meters and Itron gas communication modules. Upon completion of the effort, the AMI node environment will contain approximately 546,000 Echelon electric meters, 370,000 Badger gas communication modules, and 120,000 communication nodes remaining in the field. The Company began expanding the mesh environment footprint in early 2017. This business continuity work is expected to conclude by the end of 2018. [emphasis added] (page 10)
- Hardware Upgrades
 - Verizon, the Company's primary cellular provider, has alerted the Company that their second generation (2G) and third generation (3G) cellular networks will be discontinued, or sunset, in 2022. Verizon originally planned to discontinue these networks earlier than 2022, but through Duke Energy's partnership with Verizon, it was agreed to extend the sunset to 2022. No further extension is expected. The 2G and 3G sunset will require Duke Energy Ohio to completely transition all its communication devices—whether they are nodes or CGRs—to the Verizon 4G network prior to end of 2022. The 2G and 3G sunset applies to all users of the Verizon cellular network, including anyone using Verizon's personal cellular services. (page 11)
 - Duke Energy Ohio will need to upgrade 233 of its current 234 CGRs to 4G communications technology before Verizon ends its support. Upgrading a CGR involves swapping out the 3G communication card for a 4G communication card and replacing the CGR's antennas. (pages 11–12)

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

- The loss of support for 2G and 3G is a significant long-term challenge for Duke Energy Ohio's node environment due to the sheer volume of communication nodes. There are far more communication nodes installed since the ratio of meters to nodes is so much lower than the ratio of meters to CGRs. The Company would need to upgrade at least 140,000 nodes. Adding to the challenge, the communication nodes are no longer being manufactured, but the Company could work with the vendor to source a replacement 4G modem and antenna that could be retrofitted into the node. Upgrading a node to the 4G network is more complicated than the upgrade process for CGRs. The node design incorporates a cellular modem chip that is soldered onto the communication node's motherboard; so, it is a more delicate and labor-intensive process than what is required for CGRs, which incorporates a cellular modem card design. (page 12)
- Since the Company began its AMI deployment, Ambient has been purchased by Ericsson, and Duke Energy Ohio remains the only customer utilizing the specific communication nodes that were manufactured by Ambient. While Echelon has had success in other countries, Duke Energy Ohio remains the only North American company utilizing the Echelon AMI nodal solution. The failure of nodes, the lack of North American adoption, and the fact that the nodes are no longer manufactured are all factors that present risk to Duke Energy Ohio and its customers. Even if the Company were to upgrade all its communication nodes to the Verizon 4G network, the node failure issue would not be resolved. The nodes are already approaching the end of their expected 10-year useful lives. The Company would need to continue removing nodes and switching customers to the mesh environment just for business continuity beyond 2018. The Company has a support contract in place for node repair, but with the higher than expected failure rates, Ericsson is not able to keep up with the repairs. (pages 12–13)
- *Rather than upgrading the communication nodes to 4G and perpetuating the support concerns the Company is already confronting in the near-term, the Company proposes to transition entirely from the AMI node environment to the AMI mesh environment. The estimated total cost of the Ohio AMI Transition effort is approximately \$143.4 million, most of which will be capital costs. The work would begin in 2019 and conclude by the end of 2022 [emphasis added]. (page 13)*

In its electric rate case application, Duke sought to incorporate the SmartGrid revenue requirements (recovered through Rider AU) in rate base.¹² OCC argued that the book value of the current smart meter system should be disallowed stating that Duke should be held accountable for a series of imprudent decisions involved in the initial installation of the Echelon meters. During the course of the rollout, the Company learned that the node system would not operate with nonresidential customers and another system would need to be put in place for those customers.¹³

The Commission found that

the AMI transition proposed by Duke and included in the Stipulation is reasonable. The transition allows the Company to cost-effectively address the unexpected issues to its current system and to continue to make advancements to its infrastructure that will benefit ratepayers. The concerns regarding Duke's current smart grid system are well documented. The need to transition away from the Echelon meters was not

¹² Case No. 17-32-EL-AIR, Application of Duke Energy of Ohio, Inc., March 2, 2017, ¶7.

¹³ Case No. 17-32-EL-AIR Opinion and Order, December 19, 2018, ¶210–212.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

caused by a single issue, but rather a multitude of challenges. For example, not only did the nodes fail at a higher rate than expected, but now the nodes are no longer being produced. Further, the cellular service provider is upgrading to a 4G network and will no longer support the nodes. (Duke Ex. 11 at 8,11.) All of these issues, largely out of Duke's control, justify a transition to a superior approach. Other alternatives, including upgrades to the current system, were not demonstrated to be economical options (Duke Ex. 11 at 13, att. DSL-1). The transition is not only the least-cost option, but also will enable Duke to provide additional enhancements to the customer experience. As discussed by Staff, CEUD will be more readily available to CRES providers and others who can utilize the data and offer more innovative products (Staff Ex. 11 at 5). This is consistent with state policy as well as the Commission's PowerForward initiative. We find that the AMI transition is a practical decision that mitigates costs and offers customers additional benefits.¹⁴

Furthermore, the Commission found

We are not persuaded by OCC's argument that the book value of the current smart meter system should be disallowed. Initially, we note that the deployment of Duke's smart grid system has been subject to continuous review by the Commission, in open proceedings, through, among other things, the Mid-Deployment Review Case as well as annual rider updates. Although the future functionality of Duke's infrastructure is in doubt, the present operation has been serviceable and benefits customers. Staff has reviewed Duke's smart grid expenses on an annual basis and determined whether spending was prudent and reasonable, and the Commission has considered and approved those recommendations (Staff Ex. 6 at 3-4). Thus, we find OCC's contention to be without merit. Similarly, we decline OCC's request to modify the depreciation of the current smart grid assets. As we previously approved recovery for the meters in the Mid-Deployment Review Case, we agree with Staff that it is appropriate to accelerate the depreciation of the meters now that they will be removed and consistent with previous actions (Staff Ex. 1 at 11, citing *In re Duke Energy Ohio, Inc.*, Case No. 08-709-EL-AIR, et al., Staff Report (Jan. 27, 2009)). As the meters are no longer being installed and are set for removal, it is prudent to treat the meters as dying accounts and consistent with prior actions (Staff Ex. 8 at 4-5).¹⁵

As a result of the Commission's findings, the electric AMI assets were moved into ratebase and are no longer a component of Rider AU.

Case No. 18-837-GA-RDR

In Case No. 18-837-GA-RDR, OCC argued that Duke plans to replace its automated gas meter reading infrastructure due to obsolete communication systems. OCC maintains that the Company should not be permitted to continue charging customers under Rider AU for infrastructure that is being replaced.¹⁶

Duke replied that its application incorporates no new capital investment and merely updates the Rider AU revenue requirement to reflect a decrease in rate base as assets are depreciating, which will continue to provide a benefit to customers each year. Duke emphasizes that there have been no new

¹⁴ Case No. 17-32-EL-AIR Opinion and Order, December 19, 2018, ¶218.

¹⁵ Case No. 17-32-EL-AIR Opinion and Order, December 19, 2018, ¶219.

¹⁶ Case No. 18-837-GA-RDR, Opinion and Order, July 2, 2019, ¶19.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

investments related to the initial deployment of its natural gas SmartGrid program since 2014 and that Staff has conducted a prudency review of the Company's incremental investment in each annual proceeding to adjust Rider AU.¹⁷

The Commission agreed with OCC that a review should be conducted to examine whether the SmartGrid assets that Duke has deployed for its gas operations continue to be used and useful on a going-forward basis. In Duke's recent electric rate proceedings, the Commission approved a stipulation and recommendation agreed to between Duke and a number of other parties that provides for an AMI transition to facilitate the replacement of meters and communications infrastructure for residential customers, including a plan for the recovery of the associated costs. (In re Duke Energy Ohio, Inc., Case No. 17-32-EL-AIR, et al., Opinion and Order (Dec. 19, 2018) at ¶ 209-220¹⁸)

As Duke witness Lawler acknowledged, the Commission-approved stipulation does not resolve or address issues related to the AMI transition's effect on the Company's gas distribution business, although the Company plans to replace 48,800 Badger gas communication modules during 2017-2018 (Tr. at 25-26). Ms. Lawler emphasized that Duke does not seek to recover any costs related to the gas meter technology replacement or any additional capital expenditures in this proceeding (Duke Ex. 4 at 5). Ms. Lawler, however, also explained that Duke continues to collect, through Rider AU, a return on the rate base, depreciation, property taxes, and incremental expenses related to information technology, system support, data transfer fees, and any other costs that can be directly attributed to the SmartGrid program (Duke Ex. 2 at 2-4). As Mr. Williams testified, Duke's customers may unreasonably continue to pay charges through Rider AU for costs associated with equipment that is no longer used and useful, given the Company's plans to replace certain AMI components for the gas distribution system (OCC Ex. 5 at 3-5; Tr. at 49-50). Accordingly, the Commission directed Staff, in Duke's next annual proceeding, to adjust Rider AU, to thoroughly evaluate this issue in the course of its review, including, as necessary, a field audit or other physical verification of the Company's AMI components for its gas operations.¹⁹

On July 2, 2019, the Commission approved Duke's proposed adjustment to Rider AU. The Commission also ordered that Staff comply with directive in ¶24 (in Duke's next annual proceeding to adjust Rider AU, to thoroughly evaluate this issue in the course of its review, including, as necessary, a field audit or other physical verification of the Company's AMI components for its gas operations).²⁰

Case No. 19-664-GA-RDR

On June 25, 2019, in Case No. 19-664-GA-RDR, Duke filed an application, along with supporting testimony, to adjust Rider AU for grid modernization deployment costs incurred in 2018, pursuant to the process approved in Case No. 07-589-GA-AIR et al. The Company's application included rate base that reflects the net balance of the Company's investment in SmartGrid allocable to its gas business as of December 31, 2018.²¹

On October 25, 2019, Staff filed its Review and Recommendations in Case No. 19-664-GA-RDR, stating

¹⁷ Case No. 18-837-GA-RDR, Opinion and Order, July 2, 2019, ¶20.

¹⁸ Case No. 18-837-GA-RDR, Opinion and Order, July 2, 2019, ¶23.

¹⁹ Case No. 18-837-GA-RDR, Opinion and Order, July 2, 2019, ¶24.

²⁰ Case No. 18-837-GA-RDR, Opinion and Order, July 2, 2019, ¶33.

²¹ Case No 19-664-GA-RDR, Direct Testimony of Sarah E. Lawler, page 6, lines 11-15.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

Capital Equipment Audit

In reviewing the plant in service. Staff first compared the transactional details within the Company's continuing property records (CPR) and its historical annual Rider AU filings. Staff found that the CPR was \$130,557 less than the amounts reported in the Company's annual Rider AU filings. In response to Staff's subsequent inquiry, the Company advised this unreconciled difference identified between the CPR and Rider AU filings could not be explained. (See response to Staff DR #4)

In order to perform a physical inspection to verify the existence and valuation of the capital assets. Staff sampled a set of transactions from the CPR transactional details provided by the Company. In response, the Company stated it was unable to tie the capital transactions from the CPR with the locations of the capital equipment. Specifically, the Company stated, "the methodology used to generate the [capital transaction detail] could not be used to link with actual addresses/coordinates as the data is maintained in a different system." [See Response to Staff DR #4] The Company provided a listing of its capital equipment with addresses as a means to perform a physical verification; however, the documentation did not include any financial information. Without financial information necessary to support the locational data of the capital equipment, Staff was unable to perform an adequate physical inspection to confirm both the existence and valuation of the capital equipment.

As a result of the Company's inability to provide sufficient financial information to support the locational data of its capital equipment. Staff was unable to adequately complete the capital equipment audit. Without an adequate audit of capital equipment. Staff is unable to express an opinion or provide a recommendation regarding the used and useful status of the capital equipment pursuant to the Commission's Opinion and Order in the previous filing for Rider AU.

Conclusion

Staff recommends that the Commission direct Staff to issue a request for proposal (RFP) for the necessary audit of the capital equipment and that the cost of the audit be borne by Duke. Further, Staff recommends that the Rider AU rate be suspended until the completion of the audit.

On November 8, 2019, the Company filed its reply comments.

In Case No. 18-837-GA-RDR (2018 Rider AU proceeding), considering recovery of 2017 expenditures, the Commission noted that Duke Energy Ohio must transition to a different type of AMI infrastructure, due to several unforeseeable issues. The Company fully supported the rationale for the transition in Case No. 17-32-EL-SSO, et al., explaining that the technological support for the communication system supporting the advanced metering provided by a third-party vendor would soon be discontinued. Recognizing that the need to transition to a new smart metering system was beyond the control of the Company, the Commission provided a mechanism to recover the unamortized balance of the meters associated with electric operations that would be retired before the end of their useful life. That mechanism was the creation of a dying asset account to address the recovery of Duke Energy Ohio's investment in meters that would be retired before the end of their useful lives.

In the instant proceeding, Duke Energy Ohio is confronted with the same situation. The natural gas metering technology must be replaced, so natural gas meters must be

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

retired before the end of their useful lives. If the Commission orders the Company to discontinue Rider AU it should still ensure that the Company can fully recover its investment. As stated earlier, the Commission encouraged the Company to complete its initial SmartGrid deployment and there has been no finding that any of the Company's investment was imprudent.²²

Furthermore, the Company argued

The early retirement of natural gas meters installed since March 31, 2012, should not truncate recovery of that investment. Staff's recommendation to discontinue Rider AU, without offering any alternative for fully recovering the Company's prudently incurred investment, would violate the Court's standard for prudence review by invoking improper hindsight judgment. Put another way, whether the investment being recovered in the current Rider AU remains used and useful is not relevant to whether those costs can be recovered. The Ohio Supreme Court has clearly opined on whether prudently incurred costs are recoverable and it is not relevant whether the underlying asset is currently used and useful in providing utility service.

The AMI infrastructure transition affects both electric and natural gas infrastructure. There is absolutely no reason why the same events should result in one accounting treatment for electric operations and a different accounting treatment for natural gas operations. Under R.C. 4905.13, the Commission could approve the creation of a dying asset account to address the recovery of Duke Energy Ohio's natural gas operations investment in meters that would be retired before the end of their useful lives. This would be consistent with how these costs are being treated for the Company's electric business. The Company would discontinue Rider AU once the dying asset accounting for the natural gas investments was approved by the Commission. The recovery of dying asset costs would then be addressed in the Company's next natural gas base rate case. In the next base rate case, the Company expects that the "dying account" concept would be applied to those meters currently being recovered in base rates that will also be retired early due to the transition. At some point, then the dying account will capture all of the meters (those being recovered in the current Rider AU and those recovered in existing base rates).²³

On December 4, 2019, the Commission ordered Staff to issue a Request for Proposal (RFP) for audit services to review the accounting accuracy, prudence, and used and usefulness of Duke's jurisdictional rate base as presented within its Rider AU AMI components for its gas operations. Blue Ridge submitted a proposal and was selected to perform the review. This report presents Blue Ridge's findings and recommendations.

2. PLANT IN SERVICE

Requirements: Determine total company plant in-service for each account and subaccount included in Rider AU.

The Company's application in Case No. 19-694-GA-RDR seeks a return on and of investment of the following net plant in service.

²² Case No. 19-664-GA-RDR, Reply Comments, November 8, 2019, page 2.

²³ Case No. 19-664-GA-RDR, Reply Comments, November 8, 2019, pages 3-4.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

Table 3: Rider AU Net Plant In-Service as of December 31, 2018—As Filed

| Description | 12/31/2018 Balance |
|---|-----------------------|
| Plant In-Service | |
| 19101 Electronic Data Processing Equip-Common | \$ - |
| 29700 Communication Equipment Gas | 12,937,396 |
| 20300 Intangible Gas | 1,483,193 |
| 29101 Electronic Data Processing Equip-Gas | 67,359 |
| 17001 Leased AMI Meters | 9,527,398 |
| 19700 Communication Equipment Common | 16,616,561 |
| Total Plant in Service | \$ 40,631,907 |
| Less Accumulated Provision for Depreciation | \$ (16,046,076) |
| Net Plant in Service | \$ 24,585,831 |

Description of Assets Recovered through Rider AU

The Company provided a description of the assets included in Rider AU.

- 29700 Communication Equipment Gas (FERC Account 397)—Includes grid mod modems (machine-to-machine modems or self-contained hardened units), communication equipment, meter devices, and encoder receiver transmitters (ERT) or modules
- 20300 Intangible Gas (FERC Account 303)—Includes intangible software evaluated and approved for capital on a case by case basis
- 29101 Electronic Data Processing Equipment-Gas (FERC Account 391)—Includes hardware, servers, mainframe computer equipment, and data processing equipment.
- 17001 Leases AMI Meters (FERC Account 381)—Includes leased meters
- 19700-Communication Equipment Common (FERC Account 397)—See assets described under 297 Communication Equipment but applied to common assets²⁴

Common Assets

Common assets shared between Gas and Electric for the period 2012 through 2015 were comprised of leased gas meters and communication equipment (gas modules). The electric SmartGrid assets are no longer included in Rider AU after their transfer to rate base in the Company's last electric rate case. The common assets are split based on Common Plant Allocation factors based on the balances in Property, Plant, & Equipment, customer counts, labor dollars, and account receivable.²⁵

Leased AMI Meters

Rider AU reflected \$9,527,398 for Leased AMI Meters. The Company stated that it had leased gas meters through Bank of America Leasing in 2018. No other equipment was included in the leases.²⁶ While the leased AMI meters include those that have been set and those in storage, the leased meters in storage were not included in Rider AU until they were placed in service in the field and recorded in the PowerPlan asset system. The Company supplied the confidential leases but was unable to

²⁴ Duke response to BlueRidge-DR-01-009.

²⁵ Duke response to BlueRidge-DR-01-023.

²⁶ Duke response to BlueRidge-DR-01-010 CONFIDENTIAL (Confidential).

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

locate a business case for the decision to lease meters. They did state that the leased treatment is consistent with historical treatment of gas meters.²⁷

Equipment Replacement

The Company has and continues to replace equipment that is being recovered through Rider AU. In Case No. 17-32-EL-AIR, the Company provided testimony that Duke Energy Ohio had begun a business continuity effort for the years 2017–2018 to remove approximately 23,700 communication nodes currently deployed in the field in order to restore inventory back to desired stocking levels. Removing these nodes—transitioning from the AMI node environment to the mesh environment—requires expanding the footprint of the Company's existing mesh environment; consequently, the Company will replace approximately 80,000 Echelon electric meters and 48,800 Badger gas communication modules with Itron electric meters and Itron gas communication modules. Upon completion of the effort, the AMI node environment will contain approximately 546,000 Echelon electric meters, 370,000 Badger gas communication modules, and 120,000 communication nodes remaining in the field. The Company began expanding the mesh environment footprint in early 2017. The Company stated in its testimony that this business continuity work is expected to conclude by the end of 2018.²⁸

The Company provided a narrative regarding the issues that required the initial AMI equipment installations to be changed out.

Duke Energy Ohio's legacy Badger/Echelon/Ambient AMI solution was in need of an upgrade from third generation (3G) cellular technology to fourth generation (4G). Verizon, the Company's primary cellular provider, alerted the Company that their 3G cellular networks would be discontinued, or sunset, in 2022. In addition to this, communications node manufacturer Ambient (now Ericsson) no longer manufactures the communications nodes, the nodes have been failing at a higher rate than expected, and the nodes are already approaching the end of their expected 10-year useful lives. A comparative cost analysis was performed, and it was more economical to transition to Duke Energy's new AMI standard (Itron solution) as opposed to upgrading the existing Badger/Echelon/Ambient solution.

The following equipment was removed from service: Badger AMI modules and Ambient communication nodes. The following equipment was installed in place of the equipment that was removed: Itron Openway AMI modules, Itron AMR modules, and Cisco Connected Grid Routers. This transition to Itron technology has occurred and continues to occur through two projects. The first project, Tech Transition, began on July 10, 2017 and ended on March 20, ~~2018~~ 2019. The second project, Big Ohio, began on March 20, ~~2018~~ 2019, and is ongoing.²⁹

In Case No. 17-32-EL-AIR (electric rate case), the Company testified that

Rather than upgrading the communication nodes to 4G and perpetuating the support concerns the Company is already confronting in the near-term, the Company proposes to transition entirely from the AMI node environment to the AMI mesh

²⁷ Duke response to BlueRidge-DR-01-010 CONFIDENTIAL (Confidential).

²⁸ Case No. 17-32-EL-AIR et al., Direct Testimony of Donald L. Schneider, Jr., page 10.

²⁹ Duke response to BlueRidge-DR-01-008. The Company notified Blue Ridge during the fact-check review that the response to the data request was incorrect resulting in a change in the dates.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

environment. The estimated total cost of the Ohio AMI Transition effort is approximately \$143.4 million, most of which will be capital costs. The work would begin in 2019 and conclude by the end of 2022.³⁰

The Company provided a clarification and status as of March 31, 2020, of the AMI node environment transition. Duke has no plans to upgrade existing 3G Ambient communication node to 4G. The Company is replacing all existing Ambient communications nodes with 4G Connected Grid Routers (CGR). There were some existing 3G CGRs that are being upgraded to 4G.³¹ The project is about 36 percent complete with 180,000 electric and 120,000 gas modules replaced. The Company has spent \$46 million.³² The Company has auto-retired \$46,761 within Company account 291–Electronic Data Processing Equip Gas.³³ These are the expected completion dates: Meter/Module exchange completed by March 30, 2022, Communication infrastructure deactivated/removed by June 30, 2022, with the legacy system ceasing to operate by September 30, 2022. The Company stated that when the project is complete, the same number of meters will be read through the SmartGrid system. The upgrade will change the allocation of common assets between gas and electric. Approximately 41,000 Ambient COMBO Communication nodes will be removed, and 350 new CGRs will be installed for the communication network.³⁴

Recovery of Replacement Equipment

In Case No. 18-837-GA-RDR, the Company emphasized that Duke does not seek to recover any costs related to the gas meter technology replacement or any additional capital expenditures in this proceeding (Duke Ex. 4 at 5).³⁵ However, the Company testified that Duke continues to collect, through Rider AU,³⁶ a return on the rate base, depreciation, property taxes, and incremental expenses related to information technology, system support, data transfer fees, and any other costs that can be directly attributed to the SmartGrid program.³⁷

In this proceeding, the Company stated that equipment that was changed out is not being recovered. Recovery is proposed as part of the Company's Rider CEP application in Case No. 19-791-GA-ALT.³⁸ Blue Ridge found that the Company's proposal to seek recovery of the replacement equipment through the CEP could result in over recovery if the original assets (that were replaced and not retired) continue to be recovered through Rider AU. Blue Ridge recommends a thorough and careful reconciliation of both recovery mechanisms should continue.

Rider AU Overstatement

As of December 31, 2018, Rider AU includes plant-in-service balances for equipment that is no longer used and useful, having been replaced. Starting in 2019, and to be completed by 2022, the

³⁰ Case No. 17-32-EL-AIR et al., Direct Testimony of Donald L. Schneider, Jr., page 13.

³¹ Duke response to BlueRidge-DR-05-006.

³² Duke response to BlueRidge-DR-03-001.

³³ Duke response to BlueRidge-DR-05-006.

³⁴ Duke response to BlueRidge-DR-03-001.

³⁵ Case No. 18-837-GA-RDR, Opinion and Order, July 2, 2019, ¶ 24.

³⁶ In Case No. 19-0664-GA-RDR, Commission Entry December 4, 2019, the Commission directed that collection of Rider AU be suspended until otherwise ordered by the Commission. On January 3, 2020, the Company requested a rehearing which was granted on January 29, 2020. As of the date of this report, collection of Rider AU remains suspended.

³⁷ Case No. 18-837-GA-RDR, Opinion and Order, July 2, 2019, ¶ 24.

³⁸ Duke response to BlueRidge-DR-01-008.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

Company proposes to transition entirely from the AMI node environment. It is Blue Ridge's understanding that all the plant being recovered through Rider AU will no longer be in service and used and useful in 2022.

When asked to update the Rider AU revenue requirement schedules to show all retirements, additions, transfers, and adjustments to reflect the equipment and costs that are currently used and useful, the Company stated that the asset balances were deemed used and useful at the time the assets were placed in service.

However, the Company did provide corrected Rider AU schedules as of December 31, 2018. The Company's corrected schedules removed Leased AMI Meters that were transferred to the Electric segment.³⁹ As shown in the following table, the transfer of \$9,527,398 leaves a zero balance in Rider AU for account 17001 Leased AMI Meters.

Table 4: Leased AMI Meters Transferred to Non-Rider AU Project or to Electric

| Description | Transferred |
|--------------------------|-------------|
| Balance as of 12/31/2015 | \$9,527,398 |
| Transferred in 2016 | (13,538) |
| Transferred in 2017 | (9,513,860) |
| Balance as of 12/31/2017 | \$0 |

The Company explained that the original assets reflected in the \$13,538 transfer in 2016 and the \$9,513,860 transfer in 2017 were placed in service in Common Business Segment with a portion of the assets allocated to the Gas segment and reflected within Rider AU. The assets were either moved to a non-Rider AU project (\$13,538) or transferred to the Electric Business Segment (\$9,513,860). The transfers occurred in 2016 and 2017, and the Company should have included the transfer in prior years' Rider AU filings.⁴⁰ As a result, plant in service, as filed in the Company application in this proceeding, is overstated. Blue Ridge recommends that Rider AU revenue requirements be corrected to reflect the transfer of these assets. The impact on the Rider AU revenue is a *reduction* of \$1,469,604 [ADJUSTMENT #1].

The Company's corrected Rider AU revenue requirements schedules also corrected \$32,974 in recorded retirements that were not reflected within the Company's initial filing in this proceeding as summarized in the following table.⁴¹

Table 5: Auto-Retired Assets Not Reflected in Rider AU

| Retirement Date | Description | Retired |
|-----------------|------------------------------|------------|
| 6/2017 | ITRON SG Solutions Hardware | \$(11,174) |
| 6/2018 | SG Openway Scale-up Hardware | (21,800) |
| | Total | \$(32,974) |

The Company stated that \$11,174 reflected auto-retirements booked in 2017 and \$21,800 reflected auto-retirements booked in 2018 based on the average useful life of the assets. These retirements are not related to the change out of gas communication modules or nodes and relate solely to the auto-retire process that results in retirements when the assets' pre-set useful life is up

³⁹ Duke response to BlueRidge-DR-01-007.

⁴⁰ Duke response to BlueRidge-DR-05-003.

⁴¹ Duke response to BlueRidge-DR-01-007.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

and not when assets are replaced or removed.⁴² The Company agrees that these retirements should have been included in prior years' Rider AU filings. As a result, the revenue requirements, as filed in the Company application in this proceeding, is overstated. Blue Ridge recommends Rider AU revenue requirements be *reduced* by \$513 to reflect these transfers [**ADJUSTMENT #2**].

The Company-revised Rider AU plant-in-service balances, reflecting these retirements, transfers, and adjustments, is shown in the following table. The Company stated its position was that if the Commission approves a dying asset as discussed in the Company's Reply Comments, the stranded cost/dying asset would be \$19,128,338, as shown in the following table.

Table 6: Updated Net Plant in-Service—Per Company⁴³

| Description | Adj. # | Balance as of 12/31/2018 | | |
|---|--------|--------------------------|-----------------------|----------------------|
| | | As Filed | Adjustment | Updated |
| Plant In-Service | | | | |
| 19101 Electronic Data Processing Equip-Common | | \$ - | \$ - | \$ - |
| 29700 Communication Equipment Gas | | 12,937,396 | - | 12,937,396 |
| 20300 Intangible Gas | | 1,483,193 | - | 1,483,193 |
| 29101 Electronic Data Processing Equip-Gas | 2 | 67,359 | (32,974) | 34,385 |
| 17001 Leased AMI Meters | 1 | 9,527,398 | (9,527,398) | - |
| 19700 Communication Equipment Common | | 16,616,561 | - | 16,616,561 |
| Total Plant in Service | | \$ 40,631,907 | \$ (9,560,372) | \$ 31,071,535 |
| Less: Accumulated Provision for Depreciation | | (16,046,076) | 4,102,879 | (11,943,197) |
| Net Plant in Service | | \$ 24,585,831 | \$ (5,457,493) | \$ 19,128,338 |

The Company's updated Rider AU resulted in an adjusted plant-in-service balance of \$31,071,535. Blue Ridge asked the Company to confirm that this remaining balance as of December 31, 2018, was used and useful and fully functional based on the assets original intended functionality. The Company stated

The assets were used and useful when they were installed. Since the original installation, some of the assets have been replaced. All of these assets remain in the PowerPlan Asset System—and therefore in the plant balances included in Rider AU—since these assets are marked to auto-retire after a 15-year life.⁴⁴

The Company stated that no assets originally recorded to Company accounts 197 and 297, included in Rider AU from 2012–2015, and subsequently replaced have been retired from the CPR record⁴⁵ and thus remain in Rider AU plant in service balances.

Blue Ridge found that under the Company's approach to not retire equipment as it is replaced, but to rely on auto-retirements based on the expected useful life of the original assets, the Company will continue to earn a return on and of equipment through Rider AU for plant that is not in service nor used and useful.

Blue Ridge found that the Company removed from service 60,771 Badger modules and replaced them with Itron OpenWay modules. The Company also removed 15,995 Ambient communication

⁴² Duke response to BlueRidge-DR-05-001.

⁴³ Duke response to BlueRidge-DR-01-007 Attachment B.

⁴⁴ Duke response to BlueRidge-DR-05-005.

⁴⁵ Duke response to BlueRidge-DR-06-004.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

nodes and replaced the capability of the nodes with connected grid routers (GCRs).⁴⁶ The transition to Itron technology occurred and continues to occur through two projects. The Tech Transition began on July 10, 2017, and ended on March 20, 2019. The Big Ohio Project began on March 20, 2019, and is ongoing.⁴⁷ The Company's response to discovery was that these removed gas modules and communication nodes were charged to Company account 297 and are auto-retired after a 15 year life.⁴⁸ However, during the fact-check review the Company stated that the gas modules were booked to Company account 297 and the communication nodes were booked to Company account 197.

Even though some of these assets have been removed from service, they have not been retired from the CPR⁴⁹ nor from Rider AU as of December 31, 2018. Blue Ridge recommends that the cost of the original nodes/modules and their associated reserve be removed from Rider AU as they are no longer in service. The Company was unable to provide the cost of these auto-retired components that are no longer in service. Blue Ridge requested the average installed costs of the equipment included in Rider AU. The Company was unable to provide the average installed cost of the equipment in Rider AU at the quantity level in PowerPlan CPR because quantities are not required due to the system auto-retire process for accounts 197 and 297.⁵⁰ Since the Company was unable to provide the requested information to remove these assets from plant in service, Blue Ridge estimated the excluded costs based on information that was provided, using the following assumptions.

- The costs of the gas modules/communication nodes were initially reflected in the Rider AU starting in 2012. By the end of 2013, 88 percent of the assets costs were reflected in the plant balances recovered through Rider AU. Thus, Blue Ridge estimates that as of December 31, 2018, the costs of the gas modules and communication nodes had been recovered through Rider AU for approximately 5.5 years. While the balances are reflected over multiple vintage years, between 2012 and 2014, the dollar volume is highly concentrated in 2013. Applying the half-year convention, the ostensible in-service date would accordingly be June 30, 2013. Based on an amortization period of 15 years, the corresponding depreciation reserve is about 36.67 percent of original cost in our adjustment.
- Blue Ridge estimated the average unit cost of the gas modules (Account 297) at \$62 based on a prior Staff recommended adjustment wherein 15,846 modules were removed from service at a total cost of \$983,966.⁵¹

⁴⁶ Duke response to BlueRidge-DR-05-007 SUPPLEMENTAL. The Company confirmed that these quantities reflect an update to the planned 23,700 communication nodes and 48,800 Badger Gas Communication Modules that were replaced in 2017–2018 as discussed in Case No. 17-32-EL-RDR by Company Witness Donald Schneider Direct Testimony, page 10 and Case No. 18-837-GA-RDR, Opinion and Order, July 2, 2019, ¶ 24, respectively.

⁴⁷ Originally, based on the Company's response to BlueRidge-DR-01-008, Blue Ridge wrote "The Tech Transition began on July 10, 2017, and ended on March 20, **2018**. The Big Ohio Project began on March 20, **2018**, and is ongoing." The Company notified Blue Ridge during the fact-check review that the response to the data request was incorrect resulting in a change in the dates.

⁴⁸ Duke response to BlueRidge-DR-06-002 and BlueRidge-DR-06-003.

⁴⁹ Duke response to BlueRidge-DR-06-002 and BlueRidge-DR-06-003.

⁵⁰ Duke response to BlueRidge-DR-01-016.

⁵¹ Case No. 14-1051-GE-RDR, Opinion and Order, April 8, 2016, page 5 Comments and Reply Comments. "During 2013, Duke charged 15,846 gas modules to the "Communication Equipment - Gas" account, which the Company installed but did not certify as used and useful. The cost associated with these uncertified gas modules is \$983,966.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

- Blue Ridge estimated the average unit cost of the communication nodes (Account 197) at \$116. We derived our estimate based on the \$16,616,907 total balance in Account 197, divided by 143,431 total communication nodes,⁵² which results in a unit cost of \$116.

Blue Ridge estimates the net plant that should be excluded for these auto-retired assets that were replaced prior to December 31, 2018, to be \$3,561,374. The effect on Rider AU revenue requirement would be a *reduction* of \$737,797 [**ADJUSTMENT #3**].

With Blue Ridge's recommended adjustments, the net plant in service as of December 31, 2018, would be \$14,929,520, not the \$19,128,338 as stated by the Company in the Rider AU corrected schedules.⁵³ This balance will continue to be reduced as the equipment change-out continues through 2022. The effect of our adjustments is reflected in the following table.

Table 7: Updated Net Plant in Service—Per Blue Ridge⁵⁴

| Description | Adj. # | Balance as of 12/31/2018 | | |
|---|--------|--------------------------|------------------------|----------------------|
| | | As Filed | Adjustment | Updated |
| Plant In-Service | | | | |
| 19101 Electronic Data Processing Equip-Common | | \$ - | \$ - | \$ - |
| 29700 Communication Equipment Gas | 3 | 12,937,396 | (3,767,802) | 9,169,594 |
| 20300 Intangible Gas | | 1,483,193 | - | 1,483,193 |
| 29101 Electronic Data Processing Equip-Gas | 2 | 67,359 | (32,974) | 34,385 |
| 17001 Leased AMI Meters | 1 | 9,527,398 | (9,527,398) | - |
| 19700 Communication Equipment Common | | 16,616,561 | (1,855,420) | 14,761,141 |
| CPR vs. Rider AU—Unexplained Difference | 4 | - | (130,557) | (130,557) |
| Total Plant in Service | | \$ 40,631,907 | \$ (15,314,151) | \$ 25,317,756 |
| Less: Accumulated Provision for Depreciation | | (16,046,076) | 5,657,839 | (10,388,237) |
| Net Plant in Service | | \$ 24,585,831 | \$ (9,656,311) | \$ 14,929,520 |

Conclusion

Blue Ridge recommends that Rider AU be corrected to reflect the retirements, transfers, and adjustments resulting in only the equipment that is used and useful as of December 31, 2018. Blue Ridge also recommends that in future filings, the Company continue to reflect in Rider AU the retirement of equipment that will be replaced through 2022 and not to rely on auto-retirement for assets that have been replaced. The onus is on the Company to reflect accurate and used-and-useful balances in its approved recovery mechanisms.

Blue Ridge also recommends that the Company's plans to recover equipment, which has been changed out as part of the Company's Rider CEP application in Case No. 19-791-GA-ALT, should be thoroughly and carefully reconciled to the Rider AU, while both mechanisms continue to prevent over recovery of the initial assets (that were replaced) and the equipment that replaced them.

⁵² Case No. 19-694-GA-RDR, Application, June 25, 2019, Schedule 2, line 6.

⁵³ Duke response to BlueRidge-DR-01-007 Attachment B.

⁵⁴ WP Impact of Adjustments BlueRidge-DR-01-001 Attachment.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

3. DEPRECIATION RESERVE

Requirement: Determine total company depreciation reserve for each account included in Rider AU.

Requirement: Audit the Company's depreciation reserve to determine the proper balance based on the auditor's findings.

The Company's Rider AU rate base as of December 31, 2018, reflects a depreciation reserve of \$16,046,076. The offsetting balance in rate base represents the cumulative annual depreciation recovered through Rider AU lifetime to date. Blue Ridge reviewed the calculation and found that the depreciation reserve is not unreasonable relative to the plant-in-service balance reflected in the filed Rider AU. However, as discussed throughout this report, Blue Ridge found that the Company has included plant that is no longer used and useful in its requested recovery through Rider AU. Adjusting plant for the assets that are no longer used and useful would also affect the depreciation reserve. Blue Ridge recommends that the depreciation reserve be revised to reflect the Company's update discussed in Section 2 Plant in Service.

4. POLICIES AND PRACTICES

Requirement: Obtain an understanding of the policies and practices that would affect the balances reported through Rider AU.

Requirement: Review external and internal audit reports related to the SmartGrid program.

Policies and Procedures

Blue Ridge did not perform a management audit but did review the Company's policies and procedures to ensure that they were sufficient so as not to adversely affect the balances in utility net plant in service recovered through Rider AU. Blue Ridge focused on these processes:

- Meter purchases and accounting
- Meter storage and stock keeping
- Meter replacement
- Asset location systems
- Systems that record installation and location of assets
- Systems that track costs of capital investment
- Interrelationship of systems
- Meter readings

Based on the documents reviewed, Blue Ridge was able to understand the Companies' processes and controls reflected in the list.

Continuing Property Records

Assets included in Rider AU are maintained in CPR according to the Utility Account (e.g., 297—Communication Equipment), Retirement Unit (e.g., Gas Transmitter Module), and at the State level Asset Location (e.g., Gas Distribution Lines—OH).⁵⁵

⁵⁵ Duke response to BlueRidge-DR-01-025.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

Meter Purchases and Storage

All purchases of meters (SmartGrid or non-SmartGrid) are recorded in Inventory (Account 154) at cost and charged to Construction Work in Process (CWIP; Account 107) at system average price upon issuance.⁵⁶ The Company does not have a formal policy of meter storage and stock keeping.⁵⁷

Gas Modules

The gas modules were purchased and recorded in Inventory (FERC Account 154). During the installation period (of the modules on the Gas meters), they are moved from Inventory Account 154 to CWIP (FERC Account 107). Once the assets are placed in service, they are recorded to Utility Plant in Service Company Account 297—Communication Equipment (FERC 397), which is a General Plant FERC account.⁵⁸

Stock Replacement

Brecon⁵⁹ stocks the replacement AMI modules and meters at their warehouse. A Maximo requisition is created to transfer stock from Brecon to the Gas Measurement Center. If Brecon is out of stock, the Gas Measurement Center issues a purchase requisition to order from the vendor. Inventory is provided by Brecon in the Maximo-Emax system.

The AMI modules in inventory are not included in Rider AU until they are installed. There have been no new installations for Rider AU since 2014.⁶⁰

Meter Reading

The Company's Meter Tracking System (MTS) is linked with the Customer Management System (CMS).⁶¹ Not all the Company's gas customers are on SmartGrid. The Company maintains a database of all meters deployed in the field, which indicates how they are to be read: AMI, AMR, or no module. Each class of meter can have one of those three module options, depending on the various factors, including AMI mesh density and meter location (i.e., in open location versus inside walls that will block signals), to determine which module option is selected for each meter. The Company maintains meter reading routes for all non-AMI meters: drive-by routes for AMR meters and walk-by routes for meters without communications. Meters with AMI modules are read automatically over the AMI communications network. Meters with AMR modules are read using drive-by mobile data collection. Meters with no modules are read manually.⁶²

Plant Retirement

When meters are removed from service, the Company's process begins by manually recording retirements of gas meters on the first workday of each month based upon a report generated from the Meter Tracking System (MTS). The report lists the quantity of gas meters removed from service for the month recorded. All gas meters are retired with this method.

⁵⁶ Duke response to BlueRidge-DR-01-018.

⁵⁷ Duke response to BlueRidge-DR-01-006 CONFIDENTIAL.

⁵⁸ Duke response to BlueRidge-DR-01-006 CONFIDENTIAL.

⁵⁹ Brecon is a Duke operational site.

⁶⁰ Duke response to BlueRidge-DR-01-019.

⁶¹ Duke response to BlueRidge-DR-01-020.

⁶² Duke response to BlueRidge-DR-01-022.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

The gas modules are retired based upon vintage year accounting, which means that assets are retired when their vintage year equals the current expected life for that class of asset. This process is performed annually.⁶³

Interrelationship of Systems

The only interrelationships of systems (financial, systems of record, asset location, etc.) are the interfaces built to pass data from system to system for various reasons. Each system has defined data fields to support that system's purpose. While some systems may house the same data fields, there is not one system that houses all data fields from all systems. Capital project costs are charged to project IDs kept within PowerPlan's (asset management system) Project Module by cost categories (resource types). As projects are placed in service, asset costs flow to Power Plan's Continued Property Records (CPR) at the Utility Account (e.g., 297—Communication Equipment), Retirement Unit (e.g., Gas Transmitter Module), and the State level Asset Location (e.g., Gas Distribution Lines—OH).⁶⁴

External and Internal Audits

The Company stated that no FERC audits were performed during 2018 and 2019 related to Rider AU and/or SmartGrid.⁶⁵

Blue Ridge requested various external and internal audit reports conducted on areas of the Company's operations that could impact the capital assets recovered through Rider AU. The Company stated that an Internal Audit has been performed on the OpenWay IT Security Review. The OpenWay (OW) application is the head-end system that provides a suite of services used to request and collect energy usage data from customer smart meters on the Advanced Metering Infrastructure (AMI) network. The audit scope included a review of general IT controls related to application security and system operations.⁶⁶ In a follow-up data request, the Company provided a confidential summary of findings and recommendations. Blue Ridge found that the findings and recommendations included in the internal audit did not relate to Rider AU.⁶⁷

Blue Ridge requested any SOX compliance audits performed in 2018 and 2019 that reviewed any system that provides Rider AU asset or SmartGrid data. The Company's initial response was that "an opinion on Internal Controls over Financial Reporting is provided as part of the Company's annual financial statement audit each year."⁶⁸ Blue Ridge requested additional detail and found that no SOX audits were performed in 2018 or 2019 regarding Rider AU. The Company's SOX testing follows a risk-based approach for testing. Risk is based on qualitative and quantitative factors at the financial statement level, which is then applied to the controls that then map to those financial statement line items.⁶⁹ Blue Ridge found the Company's explanation was not unreasonable.

⁶³ Duke response to BlueRidge-DR-01-027.

⁶⁴ Duke response to BlueRidge-DR-01-006 CONFIDENTIAL.

⁶⁵ Duke response to BlueRidge-DR-01-028.

⁶⁶ Duke response to BlueRidge-DR-01-029.

⁶⁷ Duke response to BlueRidge-DR-02-003 CONFIDENTIAL Attachment A.

⁶⁸ Duke response to BlueRidge-DR-01-030.

⁶⁹ Duke response to BlueRidge-DR-02-004.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

5. HISTORICAL RECORDS

Requirement: Provide a determination as to the accuracy, completeness, and occurrence of the Company's historical plant records and continuing property record.

Requirement: Reconcile the Company's Continuing Property Record with Asset Management System and locational data.

The Company stated that assets included in the Rider AU are maintained in the continuing property records (CPR) at the Utility Account (e.g., 297—Communication Equipment), Retirement Unit (e.g., Gas Transmitter Module), and the State level Asset Location (e.g., Gas Distribution Lines—Ohio).⁷⁰

The installed equipment included in Rider AU is synchronized to the Company's customer billing system, CMS. Each module is associated to a gas meter, which is associated to a service/premise in the Company's Meter Tracking System (MTS). Premise/Service is linked to the CMS Account Info & Address. There is a two-way synchronization upon each removal, change, or installation within CMS and MTS to keep the systems aligned.⁷¹

As part of Blue Ridge's analysis, we requested the continuing property records (CPR) that support the plant-in-service balance of \$40,631,907, as of December 31, 2018. The Company's response included additions for 2012, 2013, 2014, and 2015 and also referred to an adjustment made as part of a Stipulation in Case No. 15-0883-GA-RDR that revised the December 31, 2014, plant asset ending balance⁷² that is discussed in Section 7 Variance Analysis.

Staff's Review and Recommendation of the Company's filing in Case No. 19-664-GA-RDR included a finding that the CPR reviewed by Staff for 2012–2015 was \$130,557 less than the amount reported in the Company's annual Rider AU filing. The Company's response to Staff was that the unreconciled difference between the CPR and Rider AU filings could not be explained.⁷³ Blue Ridge pursued the issue further, and the Company provided a reconciliation.⁷⁴

⁷⁰ Duke response to BlueRidge-DR-01-025.

⁷¹ Duke response to BlueRidge-DR-01-026.

⁷² Duke response to BlueRidge-DR-01-017.

⁷³ Case No. 19-664-GA-RDR Staff's Review and Recommendation, October 25, 2019, page 1.

⁷⁴ Duke response to BlueRidge-DR-01-003.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

Table 8: Reconciliation of Difference Between CPR and Rider AU Filing

| | Pivot (CPR) (A) | Gas Detail (Filed) (B) | Difference C = (A) - (B) | Adjustments for Uninstalled Meters (D) | Other Reconciling Items (E) | Common Allocation Differences (F) | Included 2015 Project Charges in 2014 (G) | CPR vs Project Module (H) | Revised Difference (I) = C+D+E+F+G+H |
|------|--|------------------------------|-----------------------------|---|--------------------------------------|--|--|------------------------------------|---|
| 2012 | \$ 11,239,831 | \$ 12,416,689 | \$ (1,176,858) | \$ 1,069,188 | | \$ 107,670 (6) | | | \$ 0 |
| 2013 | 23,329,649 | 23,333,563 | (3,914) | - | | 3,914 (6) | | | (0) |
| 2014 | 5,931,870 | 5,033,648 | 898,222 | (407,563) | (170,223) (2) | (179,519) (3) | (148,892) (4) | 7,975 (5) | 0 |
| 2015 | (322,227) (1) | (151,995) | (170,232) | - | 170,223 (2) | 9 (6) | | | 0 |
| | \$ 40,179,123 | \$ 40,631,905 | \$ (452,782) | \$ 661,625 | \$ - | \$ (67,926) | \$ (148,892) | \$ 7,975 | \$ 0 |
| | Adjusted 2015 CPR Amount | | \$ 322,227.17 | | | | | | |
| | Agrees to DR-01-003 Reconciling Amount | | \$ (130,554.89) | | | | | | |

Note 1 Amount represents 2015 additions that should have been included in the original reconciliation. See BlueRidge-DR-01-017 Attachment A for the 2015 CPR records.

Note 2 Amounts represent 2015 additions that were removed from 2015 CPR and adjusted into the 2014 revised filing.

Note 3 Differences in common asset split between gas and electric

Note 4 Project charges in 2015 that were included in both the 2014 revised filing and the 2015 filing additions

Note 5 Difference in project cost (used for filing) vs CPR addition

Note 6 Difference in an estimated common allocation percentage applied to CPR assets

Blue Ridge reviewed the Company's reconciliation and recommends that the Rider AU plant be reduced by \$130,557 to adjust for the difference between the CPR and Rider AU. We also estimated the effect on the accumulated provision for depreciation and the ADIT. The effect on Rider AU revenue requirement would be a *reduction* of \$16,056 [**ADJUSTMENT #4**].

Blue Ridge found that the Company provided CPR activity for *each* year from 2012 through 2015. However, the Company did not provide CPR records for the year ended December 31, 2018, to support the plant-in-service balances in the December 31, 2018, Rider AU. The Company stated the following as its position throughout the audit.

At the time the assets were placed in service and included in the Rider AU filing, the assets were deemed used and useful. Importantly, the deployment of the SmartGrid assets, both those assets being recovered via Rider AU and those being recovered in base rates (i.e., all those assets placed in service before March 31, 2012), was approved by the Commission in Case No. 12-1685-GA-AIR, and at no time has the Commission deemed any of these expenditures to be imprudent. Consequently, as explained by the Company on page 3 of its Reply Comments in this proceeding, whether the assets are currently "used and useful" or not "used and useful" is not relevant as to whether the Company should get full recovery of prudently incurred costs that were previously approved by the Commission.⁷⁵

Based upon the information provided by the Company, Blue Ridge found that Rider AU as of December 31, 2018, reflected equipment that is not used and useful, and since the Company would not provide the CPR records as of December 31, 2018, it is highly likely that the CPR records do not support what is being sought for recovery through Rider AU. Blue Ridge is unable to provide a determination of the accuracy, completeness, and occurrence of the Company's historical plant records and continuing property records as of December 31, 2018.

In addition, the Company is unable to financially link the capital projects recovered through Rider AU to asset location/coordinates. Therefore, Blue Ridge found that we are also unable to reconcile the CPR with the Asset Management System and locational data.

⁷⁵ Duke response to BlueRidge-DR-01-004.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

6. CLASSIFICATION—CAPITAL VS. EXPENSE

Requirement: Ensure plant in-service transactions were properly classified as a capital expenditure.

Since no new additions have been reflected in Rider AU since 2014 and the Commission approved full recovery of those costs in prior proceedings, the determination of whether 2018 expenditures were properly classified as capital was not required.

7. VARIANCE ANALYSIS

Requirement: Compare plant-in-service and reserve balances for each account and subaccount reflected in Rider AU from 2012–2018 to determine the reasonableness of any changes in balances, including additions, retirements, transfers, and adjustments.

The following table shows the changes in the plant balances recovered through the Rider AU from 2012 through 2018. As shown in the table, there have been no changes since 2015.

Table 9: Rider AU Net Plant In-Service and Changes from Year to Year–2011–2018

| | Case No. | 13-1141-GE-RDR | 14-1051-GE-RDR | 15-883-GE-RDR | 16-794-GA-RDR | 17-690-GA-RDR | 18-837-GA-RDR | 19-664-GA-RDR |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Description | 12/31/2011 Balance | 12/31/2012 Balance | 12/31/2013 Balance | 12/31/2014 Balance | 12/31/2015 Balance | 12/31/2016 Balance | 12/31/2017 Balance | 12/31/2018 Balance |
| Plant In-Service | | | | | | | | |
| 19101 Electronic Data Processing Equip-Common | - | - | - | - | - | - | - | 0 |
| 29700 Communication Equipment Gas | - | 408,219 | 12,485,521 | 13,086,288 | 12,937,396 | 12,937,396 | 12,937,396 | 12,937,396 |
| 20300 Intangible Gas | - | 11,176 | 553,985 | 553,985 | 1,483,193 | 1,483,193 | 1,483,193 | 1,483,193 |
| 29101 Electronic Data Processing Equip-Gas | - | 5,599,936 | 32,977 | 32,977 | 67,359 | 67,359 | 67,359 | 67,359 |
| 17001 Leased AMI Meters | - | 866,164 | 8,854,674 | 8,191,901 | 9,527,398 | 9,527,398 | 9,527,398 | 9,527,398 |
| 19700 Communication Equipment Common | - | 5,531,194 | 13,823,097 | 17,803,668 | 16,616,561 | 16,616,561 | 16,616,561 | 16,616,561 |
| Total Plant in Service | | 12,416,689 | 35,750,254 | 39,668,819 | 40,631,907 | 40,631,907 | 40,631,907 | 40,631,907 |
| Plant - Incremental Changes | | | | | | | | |
| 19101 Electronic Data Processing Equip-Common | | - | - | - | - | - | - | - |
| 29700 Communication Equipment Gas | | 408,219 | 12,077,302 | 600,767 | (148,892) | - | - | - |
| 20300 Intangible Gas | | 11,176 | 542,809 | - | 929,208 | - | - | - |
| 29101 Electronic Data Processing Equip-Gas | | 5,599,936 | (5,566,959) | - | 34,382 | - | - | - |
| 17001 Leased AMI Meters | | 866,164 | 7,988,510 | (662,773) | 1,335,497 | - | - | - |
| 19700 Communication Equipment Common | | 5,531,194 | 8,291,903 | 3,980,571 | (1,187,107) | - | - | - |
| Total Plant in Service | | 12,416,689 | 23,333,565 | 3,918,565 | 963,088 | - | - | - |

Blue Ridge found incremental additions in 2012 through 2014 consistent with the Company's completion of its grid modernization as of December 31, 2014.

Blue Ridge inquired about the 2015 increase in total plant in service of \$963,088. The Company explained that a stipulation was filed on January 6, 2016, in Case No. 15-0883-GE-RDR (approved by the Commission on March 31, 2016). The Company provided the revised schedules for the Rider AU 2014 filing that reflected an updated plant balance of \$40,783,902. The Company further stated that the revision was not related to the initial equipment that was changed out.⁷⁶

The original Rider AU 2014 schedules with a balance of \$39,668,819 were replaced with a balance of \$40,783,902. Comparing the December 31, 2014, stipulated balance to the December 31, 2015, filing, results in a difference of \$151,995. The Company provided the following reconciliation.⁷⁷

⁷⁶ Duke response to BlueRidge-DR-01-012 Attachment A.

⁷⁷ Duke response to BlueRidge-DR-01-012.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

Table 10: Reconciliation of Difference Rider AU Plant in Service between 2014 and 2015

| Duke Energy Ohio | | | |
|--|---|-------------|---------------|
| Rider AU | | | |
| Plant Additions Reconciliation from 12/31/2014 to 12/31/2015 | | | |
| | | | |
| | Filing | | Amount |
| | 15-0883-GE-RDR for year ending 12/31/14 per Stipulation | | \$ 40,783,902 |
| | 16-0794-GA-RDR for year ending 12/31/15 per original Filing | | \$ 40,631,907 |
| | Difference - See Details Below | | \$ 151,995 |
| | | | |
| | | | 2015 |
| | Project | Note | Amount |
| | SGMDMMM2S - SG MDM Mass Market Project 2 | 1 | \$ 1,995 |
| | SGOGPCMEQ - Smart Grid Ohio Gap Comm Equip | 2 | \$ (2,580) |
| | SGOGPEMTR - Smart Grid Ohio Gap Elec Meter | 2 | \$ (2,518) |
| | SGOGPGMOD - Smart Grid Ohio Gap Gas Modules | 3 | \$ (148,892) |
| | | | \$ (151,995) |
| | | | |
| Note 1 | System allocations continued into 2015 when they should have been stopped on 12/31/14 | | |
| Note 2 | DOE Stimulus Reimbursements | | |
| Note 3 | Journal entry booked in February 2015 to correct allocations from December 2014 and January 2015 and miscellaneous system allocations | | |

Blue Ridge found that the December 31, 2015, filing and each subsequent filing continues to report a plant-in-service balance of \$40,631,907. No changes were made to the plant balances in 2016, 2017, and 2018. We would have expected plant balances to have changes over a three-year period of retirements and/or additions to appropriately reflect the actual plant that is used and useful. As discussed throughout this report, the Company made the decision to not update the plant-in-service balances to reflect actual used and usefulness and relied on the argument that “at the time the assets were placed in service and included in the Rider AU filing, the assets were deemed used and useful,” and that “whether the assets are currently ‘used and useful’ or not ‘used and useful’ is not relevant as to whether the Company should get full recovery of prudently incurred costs that were previously approved by the Commission.”⁷⁸

In conclusion, Blue Ridge found that the plant-in-service and reserve balances for each account and subaccount reflected in Rider AU from 2012–2015 are not unreasonable. However, the balances did not change over the subsequent three years (2016, 2017, and 2018) to reflect additions, retirements, transfers, and adjustments. The balances as of December 31, 2018, do not reflect the actual plant that is used and useful.

8. PHYSICAL INSPECTIONS

RFP Requirement: Perform physical inspections to verify Rider AU assets are still used and useful.

Blue Ridge’s planned scope included physical inspections to verify that Rider AU assets are still used and useful. Blue Ridge reviewed the challenges that Staff had faced during its attempt to verify the existence and valuation of capital assets. The Company provided Staff with a list of its capital equipment with addresses as a means to perform a physical verification (STAFF-DR-04-001).

⁷⁸ Duke response to BlueRidge-DR-01-004.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

However, the documentation did not include any financial information. As a result, Staff was unable to perform an adequate physical inspection to confirm both the existence and valuation of the capital equipment.⁷⁹

With the understanding of the limitation on linking the physical location to the financial information, Blue Ridge attempted to work with the Company to identify shared data between the Company's continuing property records and the asset management system that includes locational data. Blue Ridge was referred to STAFF-DR-04-001, which included locations for Rider AU assets placed in service between April 1, 2012, and December 31, 2014.⁸⁰ The Company explained that the list was generated from a SmartGrid database that captures various data points from numerous Duke Energy systems, such as Customer Management System (CMS), Geographical Information System (GIS), Meter Data Management System (MDM), and Meter Tracking System (MTS). However, the Company stated it is unable to reconcile the equipment on the list to the amount of plant being recovered through Rider AU.⁸¹

The Company explained why the Company is unable to financially link the capital projects recovered through Rider AU to asset location/coordinates:

- The plant-in-service data, which comes from the asset accounting system (PowerPlan) supporting the costs included in the rider, was not designed to include the location of each meter.
- The equipment list data that includes the meter and communication node locations derives from a different system and was never intended to capture cost data.
- Because contractors installed the meters and the invoices were billed in lump sums, invoice data by meter is not available. However, Staff reviewed the invoices and found them to be prudent in each rider proceeding as they were installed.

However, the Company believes that the equipment list includes locations of each meter and communication node installed from 4/1/12 through 12/31/14, the timeframe covered by Rider AU, and should be sufficient in order to physically inspect the assets included in the rider.⁸²

Blue Ridge does not agree that the information provided is useful in confirming that Rider AU plant that is being recovered as of December 31, 2018, is used and useful. Blue Ridge found that the information provided by the Company included in-service assets as of December 31, 2014, but it has not been updated to reflect assets that have been replaced (and presumably retired). The equipment list information has not been updated since 2014 and there has been significant replacement activity in 2017 and 2018 (removal of 15,995 Ambient communication nodes and replacement of 60,771 Badger communication modules) and continuing with another significant transition (AMI node environment transition) that began in 2019 and will continue through 2022. Confirming assets in the spring 2020 from a list created six years ago (in 2014) in which there is significant replacement activity would be unproductive.

In addition, Blue Ridge found that the locational data provided to Staff initially and later to Blue Ridge⁸³ was incomplete. Of the 15,403 lines of data provided in response to Staff-DR 2-004, 2,304

⁷⁹ Case No. 19-664-GA-RDR Staff's Review and Recommendation, October 25, 2019, page 3.

⁸⁰ Duke response to BlueRidge-DR-01-005.

⁸¹ Duke response to BlueRidge-DR-01-016.

⁸² Duke response to Staff-DR-05-001 referred to in BlueRidge-DR-01-016.

⁸³ Duke response to Staff DR-2-004 and STAFF DR-4-001.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

lines have no latitude and longitude coordinates to determine the location. Also, for the other entries with latitude and longitude, there are several particular coordinates which repeat. For example, latitude 39.088964616666 and longitude -84.23823313333 repeats 10 times, and latitude 39.21556355 and longitude -84.54937696666 repeats eight times.

Using an online coordinate converter, Blue Ridge converted these coordinates to street addresses. The coordinates that repeated 10 times point to an auto body shop (address 1245 Old State Rte 74, Batavia, OH 45103). The coordinates that repeat eight times point to a beauty salon (address 6803 Hamilton Ave, Cincinnati, OH 45224). Thus, there are identical latitude and longitude coordinates for equipment that is located in various counties in the state.

When asked about the discrepancies, the Company stated that it determined that the information initially provided to Staff and later to Blue Ridge to perform physical inspections was determined to be for Ambient communication nodes installed only and did not include Badger gas modules. The Company stated that it does not keep a history of gas modules and, therefore, could provide the gas modules only as of the date that were installed (April 1, 2014, and December 31, 2014).⁸⁴ Blue Ridge found that the Company does not have contemporaneous locational information for the gas modules as of December 31, 2018.

The Company further stated that the duplicate latitude-longitudes were due to apartment buildings having the same value. There were also instances where the Company could not find the latitude-longitude. In these cases, the Company uses transformer coordinates, which results in duplicates.⁸⁵

As a result, Blue Ridge found the information that would allow physical inspection has not been updated since 2014 and there has been significant replacement activity in 2017 and 2018. In addition, the locational data that the Company provided was incomplete. It did not include locational data for the Badger gas modules and did not provide specific locational data for many of the assets. Since the Company was unable to provide current locational information, Blue Ridge did not perform field verifications to confirm that all Rider AU assets are still used and useful.

9. RIDER AU-RELATED SCHEDULES

Requirement: Review and audit all Rider AU-related schedules and testimony to ensure accuracy including Schedules 1 through 12 and associated workpapers as filed on June 25, 2019, in Case No. 19-664-GA-RDR.

The June 25, 2019, Rider AU filing in Case No. 19-664-GA-RDR includes the following schedules:

- Schedule 1 Revenue Requirement Summary
- Schedule 1A Revenue Requirement Credit Summary
- Schedule 2 Plant Additions by Month
- Schedule 3 Post In Service Carrying Costs on Plant Additions Accrued as Regulatory Asset
- Schedule 4 Deferred Income Taxes on Post In Service Carrying Costs and Deferred O&M
- Schedule 5 Deferred Taxes on Liberalized Depreciation Associated with Plant Additions
- Schedule 6 Summary of Weighted-Average Cost of Capital from Most Recent Retail Rate Case
- Schedule 7 Annualized Depreciation Expense on Plant in Service at Year End
- Schedule 8 Annualized Amortization of Post In Service Carrying Charges

⁸⁴ Duke response to BlueRidge-DR-06-001.

⁸⁵ Duke response to BlueRidge-DR-06-001.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

- Schedule 9 Regulatory Asset for Deferred O&M and Associated Carrying Costs
- Schedule 10 Annualized Property Taxes on Plant in Service at Year End
- Schedule 11 Incremental O&M Savings from SmartGrid Implementation
- Schedule 12 Calculation of Rider AU Charges

Development of Schedules

The Company does not have a formal policy or procedure to develop the Rider AU schedules. The Company referred us to the testimony of Company witness Sarah Lawler for a narrative of the process used to develop Rider AU filings and schedules.⁸⁶ Blue Ridge reviewed the testimony⁸⁷ and found the Company's narrative on the development of the Rider AU schedules did not address changes since the last cost recovery filing. Specifically, the Company updated the opening deferred tax balances on Schedules 4 and 5 by modifying the report template so that the revisions would flow through 2018 activity on Schedules 1 and 1A.⁸⁸ This modification was done despite the existing template providing a column to reflect adjustments that would visibly reconcile the closing balances from the prior Rider AU filing in Case No. 18-0837-GA-RDR.

Blue Ridge found the Company's corrections to the opening balances to be not unreasonable; however, its handling of the revisions obfuscated and distorted the reported 2018 activity on Schedules 1 and 1A. While the Company may rationalize that "the error in the prior year filing was in the customer's favor"⁸⁹ and therefore not necessary to call out, Blue Ridge recommends the Company take into consideration issues of transparency and public trust in addressing prior filing mistakes going forward.

The table below compares the historical versus current data columns presented on Schedule 4. Whereas prior Rider AU filings show the (1) Beginning Balance, (2) Adjustment, (3) Adjusted Beginning Balance, (4) Activity by Month, and (5) Ending Balance, the current application eliminates all interim steps rolling forward to the valuation as of December 31, 2018.

Table 11: Schedule 4 Calculation of Deferred Taxes on PISCC, Deferred Expenses, and Carrying Costs

| <i>Prior Presentation in Case No. 18-0837-GA-RDR</i> | | | | | | |
|---|--------------------------|--------------------------------------|-----------|-------------------------|------------|--------------------------|
| Balance at 12/31/2016 | Adjustment | Adjusted Balance at 12/31/2016 | 1/31/2017 | Monthly Activity ... | 12/31/2017 | Balance at 12/31/2017 |
| (1) | (2) | (3) | | (4) | | (5) |
| <i>Modified Presentation in Case No. 19-0664-GA-RDR</i> | | | | | | |
| Balance at 12/31/2017 | Balance at 12/31/2018 | | | | | |
| (1) | (5) | | | | | |

The table below demonstrates how the Company should have flowed through adjustments to the opening ADIT and excess deferred income tax (EDIT) balances on PISCC, deferred expenses, and carrying costs, consistent with the Company's existing report format on Schedule 1. There is no

⁸⁶ Duke response to BlueRidge-DR-01-002.

⁸⁷ Case No. 19-664-GA-RDR, Direct Testimony of Sarah E. Lawler, June 25, 2019, pages 2–9.

⁸⁸ Duke response to BlueRidge-DR-04-001, BlueRidge-DR-04-002 and BlueRidge-04-005.

⁸⁹ Duke response to BlueRidge-DR-04-001, BlueRidge-DR-04-002 and BlueRidge-04-005.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

difference between the Company's and Blue Ridge's calculations with respect to the closing ADIT balance on Schedule 1, line 6. However, concerning the EDIT component, the Company continues to reflect the misstated balance in rate base because there was no 2018 activity in which to flow through the prior period adjustment as the Company awaits an order in Case No. 18-1830-GA-UNC related to the impact of the Tax Cuts and Jobs Act. Correcting for the misstated opening EDIT balance results in an increase of \$83,268 to the Rider AU revenue requirements [**ADJUSTMENT #5**].

Table 12: Schedule 1 Recommended Presentation of Adjusted Beginning Balance and 2018 Activity

| Description | Balance 12/31/2017 | Adjustment | Adjusted Bal. 12/31/2017 | 2018 Activity | Cumulative 12/31/2018 |
|--|-----------------------|------------|-----------------------------|---------------|--------------------------|
| ADIT on PISCC, Deferrals & Carry Cost | | | | | |
| Company Rider AU Filing - Sch 1, Line 6 | (2,774,821) | - | (2,774,821) | 1,557,587 | (1,217,234) |
| Blue Ridge Recommended | (2,774,821) | 1,363,551 | (1,411,271) | 194,037 | (1,217,234) |
| EDIT on PISCC, Deferrals & Carry Cost | | | | | |
| Company Rider AU Filing - Sch 1, Line 7 | (1,849,881) | - | (1,849,881) | - | (1,849,881) |
| Blue Ridge Recommended | (1,849,881) | 909,034 | (940,847) | - | (940,847) |

Mathematical Verification

The Company provided the Microsoft Excel files that support the Rider AU Schedules included in the Company's Case No. 19-664-GA-RDR filing.⁹⁰ Blue Ridge performed mathematical checks on the calculations included in the Rider AU revenue requirements.⁹¹ We did not identify anything that would lead us to conclude that the results of the mathematical computations themselves were unreasonable. However, we found the accuracy by which the schedules were assembled and calculated in Excel to be error prone and reliant upon the experience and attention to detail of the analyst. For example, model inputs were not clearly visible and centrally organized so that a change to one variable would flow through the schedules. Additionally, there were no built-in cross-checks and balances to ensure internal consistency between schedules. In some instances, variables were derived through formula calculation, while in others they were copied as hard values. Blue Ridge recommends the Company address these spreadsheet modeling deficiencies and formalize its procedures in writing.

Source Data Validation

Blue Ridge also verified that hard-value inputs were supported and consistent with source documentation. We did not identify any exceptions. For example, the book depreciation accrual and cost of capital rates were consistent with those established and applied to Rider AU since the Stipulation in Case No. 12-1685-GA-AIR. The federal tax rate reflects the current statutory 21 percent and the property tax rate was appropriately updated to reflect the 2018 assessment. The tax depreciation rates applied in the calculation of deferred taxes on liberalized depreciation were consistent with guidance published by the IRS.⁹²

⁹⁰ Duke response to BlueRidge-DR-01-001.

⁹¹ WP V&V Schedules BlueRidge-DR-01-001 Attachment.

⁹² IRS Publication 946 – Appendix A, Table 1 (3-, 5- and 7-year property) and Table 14 (10-year property).

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

10. RECOMMENDED ADJUSTMENTS

Requirement: Recommend and support specific adjustments to Rider AU plant in-service balance based on any findings or lack of used and usefulness.

Requirement: Provide a report of findings that include rationale and description of any recommended adjustments.

In absence of clear-cut data that can be traced to their source, Blue Ridge relied on the Company's representations to estimate the impact of plant balances that should be removed from Rider AU. Most of our assumptions involved when plant items were placed into service and when they were rendered no longer used and useful. We used judgment based on our observations of the data to derive the plant vintage and then applied the half-year convention to estimate the in-service date. For all adjustments, Blue Ridge independently calculated the impact on rate base and operating expenses as of December 31, 2018, the ostensible removal date. Additionally, where the Company quantified certain adjustments,⁹³ we used the information to verify the reasonableness of our calculations; we did not adopt the Company's input in its entirety because supporting workpapers were not included for our review.

Each recommended adjustment to plant in service considers the related impact on (1) depreciation reserve, (2) accumulated deferred income tax, and (3) excess deferred income tax (EDIT) balances in net rate base. The recommended adjustments also reflect the impact on operating expenses subject to recovery in Rider AU; they include (1) depreciation, (2) regulatory asset amortization, and (3) property taxes.

Blue Ridge recommends the following adjustments to Rider AU plant-in-service balances and Rider AU revenue requirements:

Adjustment #1: Remove \$9,527,398 of Leased AMI meters transferred to non-Rider AU Project in 2016 and to the Electric Business Segment in 2017. The adjustment also removes \$836,667 for the related net PISCC regulatory asset. For further detail, see *Rider AU Overstatement* under section Plant in Service.

Adjustment #2: Remove \$32,974 of auto-retired assets that occurred in 2017 and 2018. For further detail, see *Rider AU Overstatement* under section Plant in Service.

Adjustment #3: Remove the net plant associated with 60,771 Badger modules that were removed and replaced with Itron OpenWay modules and the 15,995 Ambient communication nodes removed and with connected grid routers (GCRs). For further detail, see *Rider AU Overstatement* under section Plant in Service.

Adjustment #4: Adjust for the difference of \$130,557 between CPR and Rider AU filing for 2012–2015 identified by Staff's Review and Recommendation of the Company's filing in Case No, 19-664-GA-RDR. For further detail, see section Historical Records.

Adjustment #5. Correct opening December 31, 2017 EDIT balance in connection with PISCC, operating expense deferrals, and related carrying charges. For further detail, see *Development of Schedules* under section Rider AU-Related Schedules.

⁹³ Duke response to BlueRidge-DR-01-007.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

The effect of these adjustments on Rider AU is provided in the following table:⁹⁴

Table 13: Effect of Blue Ridge's Recommended Adjustments on Rider AU Revenue Requirements

| Line No. | Return on Investment | AS FILED Balance 12/31/18 | Adj #1 Transferred Leased AMI Meters | Adj #2 Retired Elec Data Proc Equip | Adj #3 Retired Comm Equip Gas | Adj #4 CPR Differences (2012-2015) | Adj #5 Miscalculated Opening EDIT Bal. | ADJUSTED Balance 12/31/18 | Difference |
|----------|--|---------------------------------|---|--|--|---|---|---------------------------------|-----------------|
| | Total Rider AU Revenue Requirement | | | | | | | | |
| 1 | Additions | \$ 40,631,907 | \$ (9,527,398) | \$ (32,974) | \$ (5,623,222) | \$ (130,557) | \$ - | \$ 25,317,756 | \$ (15,314,151) |
| 2 | Total Plant In-Service | 40,631,907 | (9,527,398) | (32,974) | (5,623,222) | (130,557) | - | 25,317,756 | (15,314,151) |
| | Less: Accumulation Provision for Depreciation | | | | | | | | |
| 3 | Depreciation Expense | 16,046,076 | (3,506,443) | (32,974) | (2,061,848) | (56,575) | - | 10,388,237 | (5,657,839) |
| 4 | Total Accumulated Provision for Depreciation | 16,046,076 | (3,506,443) | (32,974) | (2,061,848) | (56,575) | - | 10,388,237 | (5,657,839) |
| 5 | Net Regulatory Asset--Post In-Service Carrying Cost | 3,537,379 | (836,667) | - | - | - | - | 2,700,712 | (836,667) |
| 6 | Deferred Tax Balance--PISCC, Deferred Depreciation & CC and Deferred O&M & CC (ADIT) | (1,217,234) | 175,700 | - | - | - | - | (1,041,534) | 175,700 |
| 7 | Excess Deferred Income Taxes--PISCC, Deferred Depreciation & CC and Deferred O&M & CC (EDIT) | (1,849,881) | - | - | - | - | 909,034 | (940,847) | 909,034 |
| 8 | Deferred Taxes on Liberalized Depreciation (ADIT) | (4,438,166) | 480,892 | - | 589,769 | 14,313 | - | (3,353,192) | 1,084,974 |
| 9 | Excess Deferred Income Taxes (EDIT) | (3,107,786) | - | - | - | - | - | (3,107,786) | - |
| 10 | Net Rate Base | \$ 17,510,143 | \$ (6,201,030) | \$ - | \$ (2,971,605) | \$ (59,669) | \$ 909,034 | \$ 9,186,873 | \$ (8,323,269) |
| 11 | Pre-Tax Rate of Return (at 21% Federal Rate) | 9.16% | 9.16% | 9.16% | 9.16% | 9.16% | 9.16% | 9.16% | 9.16% |
| 12 | Annualized Return on Rate Base | \$ 1,603,929 | \$ (568,014) | \$ - | \$ (272,199) | \$ (5,466) | \$ 83,268 | \$ 841,518 | \$ (762,411) |
| | Operating Expenses | | | | | | | | |
| 13 | Annualized Provision for Depreciation For Additions | \$ 2,799,444 | \$ (635,160) | \$ - | \$ (374,881) | \$ (8,704) | \$ - | \$ 1,780,699 | \$ (1,018,745) |
| 14 | Annualized Amortization of PISCC | 318,142 | (68,239) | - | - | - | - | 249,903 | (68,239) |
| 15 | Deferred O&M Expense and Carrying Costs | 619,114 | - | - | - | - | - | 619,114 | - |
| 16 | Annualized Property Tax Expense | 687,488 | (198,191) | (513) | (90,717) | (1,887) | - | 396,180 | (291,308) |
| 17 | Reduction in Operation & Maintenance Expense | (3,476,000) | - | - | - | - | - | (3,476,000) | - |
| 18 | Annualized Revenue Requirement - Smart Grid | \$ 2,552,117 | \$ (1,469,604) | \$ (513) | \$ (737,797) | \$ (16,056) | \$ 83,268 | \$ 411,414 | \$ (2,140,703) |

Blue Ridge had other recommendations not including adjustments:

1. The Company stated that equipment that was changed out is not being recovered. Recovery is proposed as part of the Company's Rider CEP application in Case No. 19-791-GA-ALT. Blue Ridge found that the Company's proposal to seek recovery of the replacement equipment through the CEP could result in over recovery if the original assets (that were replaced and not retired) continue to be recovered through Rider AU. Blue Ridge recommends a thorough and careful reconciliation of both recovery mechanisms should continue.
2. Blue Ridge also recommends that in future filings, the Company continue to reflect in Rider AU the retirement of equipment that will be replaced through 2022 and not to rely on auto-retirement for assets that have been replaced. The onus is on the Company to reflect accurate and used-and-useful balances in its approved recovery mechanisms.

⁹⁴ WP Impact of Adjustments BlueRidge-DR-01-001.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

3. Blue Ridge found the Company's corrections to the opening balances were not unreasonable; however, its handling of the revisions obfuscated and distorted the reported 2018 activity on Schedules 1 and 1A. While the Company may rationalize that "the error in the prior year filing was in the customer's favor" and was therefore not necessary to call out, Blue Ridge recommends the Company take into consideration issues of transparency and public trust in addressing prior filing mistakes going forward.
4. The Company provided the Microsoft Excel files that support the Rider AU Schedules included in the Company's Case No. 19-664-GA-RDR filing. Blue Ridge found the accuracy by which the schedules were assembled and calculated in Excel to be error prone and reliant upon the experience and attention to detail of the analyst. For example, model inputs were not clearly visible and centrally organized so that a change to one variable would flow through the schedules. Additionally, there were no built-in cross-checks and balances to ensure internal consistency between schedules. In some instances, variables were derived through formula calculation, while in others they were copied as hard values. Blue Ridge recommends the Company address these spreadsheet modeling deficiencies and formalize its procedures in writing.
5. Blue Ridge recommends that the excess deferred income taxes (EDIT) associated with each recommended plant adjustment remain in Rider AU while the manner of their disposition and treatment is arbitrated in Case No. 18-1830-GA-UNC, the Company's Tax Cuts and Jobs Act docket. The EDIT liabilities in Rider AU were established as of December 31, 2017; they represent income tax expense that the Company previously collected from ratepayers for which it is no longer obligated to remit to the IRS as a result of the federal tax rate change from 35 to 21 percent. Retaining them in Rider AU will ensure their visibility so that the Company and stakeholders can better track them.

The estimated EDIT for Blue Ridge's recommended plant adjustment is provided in the following table:

Table 14: EDIT Associated with Blue Ridge's Recommended Adjustments to Plant

| Description | Adj. # | Balance as of 12/31/2018 | | |
|--|--------|---------------------------------|------------------------------|---------------------|
| | | Unprotected Property (PISCC) | Protected Property (Depr) | Total |
| Leased AMI Meters | 1 | \$ (126,633) | \$ (292,949) | \$ (419,583) |
| Electronic Data Processing Equip-Gas | 2 | - | (129) | (129) |
| Communication Equipment Gas | 3 | - | (375,440) | (375,440) |
| CPR vs. Rider AU-Unexplained Difference | 4 | - | (9,129) | (9,129) |
| Total Excess Deferred Income Taxes (EDIT) | | \$ (126,633) | \$ (677,648) | \$ (804,281) |

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

APPENDICES

Appendix A: Information Reviewed

Appendix B: Data Requests and Information Provided

Appendix C: Workpapers

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

APPENDIX A: INFORMATION REVIEWED

The following are excerpts from Commission Opinions and Orders and the Combined Stipulations specifically related to capital expenditures recovered through the Rider AU are provided below.

Case No. 07-589-GA-AIR

On July 18, 2007, the Company filed an application to increase its rates. As part of its application, the Company proposed to establish a process to recover its future investment in Duke's Utility of the Future initiative through a new rider (Rider AU).

Stipulation and Recommendation dated February 28, 2008

Pages 15–16: Rider AU-Deployment Plan. Within 60 days of the Commission's final order in this proceeding, DE-Ohio will file a deployment plan for 2008–2009 for its Utility of the Future Program, which is DE-Ohio's plan to install a smart grid system. The deployment plan will include supporting testimony and will show: (1) the equipment/systems/locations that DE-Ohio plans to deploy in 2008–2009; (b) DE-Ohio's cost, net of DE-Ohio's benefits, for which DE-Ohio seeks recovery through Rider AU; (c) customer and societal benefits (which will not be reflected as DE-Ohio's benefits in Rider AU) that are expected from the Utility of the Future program; and (d) an estimated revenue requirement for 2008 and 2009. Any party may intervene and seek discovery relating to any deployment plan. Staff shall conduct an investigation of any of DE-Ohio's deployment plan(s) and, if Staff finds DE-Ohio's deployment plan to be unjust or unreasonable or if any other party that filed for intervention files an objection that is not resolved by DE-Ohio within 60 days after filing the deployment plan, the Commission will schedule a hearing. DE-Ohio will file its deployment plan for 2010 by August 1, 2009 and annually thereafter. Parties may intervene and participate in expedited discovery (i.e., ten-day response turn-around) in the annual Rider AU update proceedings pursuant to the same procedure outlined above.

Settlement Supporting Testimony of Paul G. Smith dated February 29, 2008

Page 8: Seventh, the Stipulation creates a placeholder for a new tracking mechanism known as Rider AU ("Advanced Utility"). This rider will allow DE-Ohio to receive timely cost recovery for deploying a smart grid system which will provide numerous benefits, including reduced meter reading costs. DE-Ohio's service area is largely urban with a significant number of hard to access inside meters. The Company maintains keys to thousands of customer homes to allow the Company access to read inside meters. Entering customer homes, and the Company's inability to access other inside meters, creates many customer service and billing issues that DE-Ohio will now be able to avoid. Eighth, the Stipulation benefits low-income customer

Finding and Order dated May 28, 2008

I. Procedural Background, Page 4: On February 28, 2008, the parties filed a Joint Stipulation and Recommendation resolving all the issues except the adoption of a new residential rate design..

II. Summary of Evidence, A. Summary of Proposed Stipulation:

Page 9: (13) Duke will file, within 60 days of the Commission's final order in this proceeding, a deployment plan for the company's Utility of the Future Program for 2008-2009 (Id. at 15-16).

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

Order, page 25: ORDERED, That the Stipulation filed on February 28, 2008 is approved in its entirety.

***Report of DE- Ohio, Inc. to the PUCO Regarding the Deployment of Smart Grid Technology
filed July 28, 2008***

Page 2, 11. RIDER AU - ADVANCED UTILITY - UTILITY OF THE FUTURE (SMARTGRID) SmartGrid is DE-Ohio's project to transform gas and electric transmission and distribution systems into an integrated, digital network to produce operating efficiencies, enhance customer and utility information and communications, and to create a platform which will allow synergies with emerging technologies. The most basic component of SmartGrid is Advanced Metering Infrastructure (AMI). In very simple terms, AMI is a metering and communication system that resides with the customer's meter and records data to be transmitted to the company over an advanced communications network to a data management system. SmartGrid, however, is much more than this. It is an advanced communications infrastructure, or platform, much like the internet, which will enable development of many new technologies to increase efficiency, conservation and many other as yet undeveloped applications relevant to energy delivery. Among applications which are envisioned in the near term are dynamic pricing, distribution automation, microgrids, distributed resource management and electric vehicle integration.

Page 3, III. RIDER AU - ADVANCED UTILITY RIDER The Stipulation entered in this case provided for a placeholder for a new tracking mechanism, known as Advanced Utility Rider AU. This rider was designed to allow DE-Ohio to receive timely cost recovery for deploying a SmartGrid system, that will provide numerous benefits, including reduced metering costs. The SmartGrid technology presently being deployed in DE-Ohio's service territory will benefit gas and dual gas/electric customers. Therefore, additional information regarding DE-Ohio's SmartGrid is provided in testimony and exhibits relevant to Case No. 08-709-EL-AIR, the DE-Ohio distribution rate case, and DE-Ohio's Electric Security Plan as well. The complete deployment of SmartGrid is economically viable only as a combination project for both the gas and electric divisions of DE-Ohio's business. Therefore, implementation of Rider AU and SmartGrid is conditional upon acceptance by the Commission of substantially the same application in DE-Ohio's electric distribution case and/or Electric Security Plan to be filed.

Case No. 13-1141-GE-RDR

On June 28, 2013, Duke filed its application and supporting testimony requesting authority to adjust Riders DR-IM and AU for SmartGrid deployment, pursuant to the process approved in the Gas Rate Case and the 2008 ESP Case.

On January 10, 2014, a stipulation and recommendation (Stipulation) entered into by Duke, Staff, OPAE, OCC, and FES was filed in this proceeding. Direct Energy was not a signatory party to the Stipulation.

Stipulation and Recommendation dated January 10, 2014

Page 8, C. The Company agrees to deploy automated meter reading for gas only customers as part of the Company's SmartGrid program.

Opinion and Order dated April 9, 2014

Page 3-4, II. Summary of Evidence and Stipulation, A. Application

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

In support of Duke's application, Duke witness Schneider explains that 2012 was the fourth year of Duke's full-scale distribution automation (DA) deployment. In 2012, Duke installed or upgraded over 244 system devices inside substations and over 2,621 system devices on distribution circuits, which met Duke's 2012 plan. Mr. Schneider further explains that 2012 was the third year for full-scale, advanced metering infrastructure (AMI) deployment. The target for 2012 was to install 184,000 electric meters, 107,030 gas meters/modules, and 48,000 communications nodes. Actual installation for 2012 included 185,031 electric meters, 113,024 gas meters/modules, and 45,801 communications nodes. (Duke Ex. 6 at 3.)

Duke witness Schneider further provides that, through the first quarter of 2013, Duke has installed a total of 547,194 electric meters, 363,233 gas modules, and 127,232 communications nodes, and has certified 510,689 of the electric meters installed and 340,365 of the gas modules installed. Meters are certified to identify when the meter has successfully been commissioned and verified and the meter data is ready to be used for billing. Duke's AMI deployment is approximately 75 percent complete, with planned completion to occur in mid-2014. With the completion of AMI deployment, Duke will have installed over 717,000 electric meters, 437,000 gas meters/modules, and 139,000 communications nodes. (Duke Ex. 6 at 3-4.)

Page 9, C. Stipulation:. (9) Duke will deploy automated meter reading for gas-only customers as part of its SmartGrid program.

Page 19, ORDER: It is, therefore, ORDERED, That the Stipulation filed in this proceeding is approved and adopted.

Case No. 14-1051-GE-RDR

On June 13, 2014, Duke filed its application and supporting testimony requesting authority to adjust Riders DR-IM and AU for SmartGrid deployment, pursuant to the process approved in the Gas Rate Case and the 2008 ESP Case.

Opinion and Order dated April 8, 2016

Page 3–4, II. Summary of Application and Comments, A. Application

In support of Duke's application, Duke witness Schneider explains that the field deployment portion of the Company's grid modernization program is almost complete. In 2013, Duke installed or upgraded over 326 system devices inside substations and over 2,855 system devices on distribution circuits, which was 97.4 percent of Duke's 2013 planned deployment or 3,181 of 3,266 planned system devices for 2013. Mr. Schneider further explains that 2013 was the fourth year for full-scale, advanced metering infrastructure (AMI) deployment. The Company installed 197,172 electric meters, 89,296 gas meters/modules, and 22,053 communications nodes. (Duke Ex. 3 at 3.)

Duke witness Schneider further provides that, through April 2014, Duke has installed a total of 716,074 electric meters, 433,126 gas modules, 12,957 auto meter reading gas modules, and 141,259 communications nodes, and has certified 668,879 of the electric meters installed and 417,479 of the gas modules installed. Meters are certified to identify when the meter has successfully been commissioned and verified and the meter data is ready to be used for billing. Duke's AMI deployment is approximately 99.9 percent complete, with planned completion to occur by the fourth quarter of 2014. Since the AMI deployment is substantially complete. Duke's projects team is now working with its operations personnel to complete all

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

business transaction items and to close out any remaining metering installations and communications network fine-tuning. (Duke Ex. 3 at 3-4.)

Pages 4–5, B. Comments and Reply Comments

Staff states that, as part of its grid modernization program, Duke is installing "gas modules" on all of its gas meters. Staff explains that these modules transmit meter data, which reduces the need for meter readers, and that, until 2011, Duke charged the cost of these modules to its "Meters" account. Further, Staff explains that the Uniform System of Accounts (USOA) of the Federal Energy Regulatory Commission (FERC) allows utilities to record plant in service as soon as the equipment is purchased for this account, even if the equipment is not used and useful. In 2013, however, Duke charged the cost of its gas modules to "Communication Equipment - Gas" account, which is not allowed the same special accounting treatment. Instead, the gas modules charged to this account must be used and useful before their costs are recoverable in rates. During 2013, Duke charged 15,846 gas modules to the "Communication Equipment - Gas" account, which the Company installed but did not certify as used and useful. The cost associated with these uncertified gas modules is \$983,966. Staff maintains that gas modules charged to "Communication Equipment - Gas" must be used and useful before costs related to these modules are recoverable in rates. Accordingly, Staff recommends that \$983,966 be removed from Rider AU capital costs until Duke certifies the gas module installations as used and useful. Further, Staff requests that the Commission instruct Duke to cease charging gas module purchases to Rider AU until the gas modules are installed and certified. (Staff Ex. 1 at 5-6,10,11.)

Page 9, III. Summary of the Evidence and Conclusions, B. Gas Modules

The Commission agrees with Staffs proposal that the cost of the gas modules, \$983,966, should be disallowed for recovery through Rider AU in this proceeding. We believe that this determination, which is in agreement with FERC's USOA requirement that capital costs charged to the "Communication Equipment - Gas" account be used and useful before the costs are recoverable in rates, is reasonable and consistent with our past precedent. Only those gas module costs that are used and useful during the year in question should be included in the Company's rider calculations for cost recovery. However, as pointed out by Staff (Tr. at 224), once the gas modules are certified and deemed used and useful, it would be appropriate to include the gas module cost for recovery in Duke's 2015 proceeding for the recovery of 2014 costs through Rider AU. Accordingly, Duke is directed to remove the \$983,966 cost of the gas modules from Rider AU in this case.

Case No. 15-883-GE-RDR

On June 4, 2015, Duke filed its application and supporting testimony requesting authority to adjust Riders DR-IM and AU for SmartGrid deployment, pursuant to the process approved in the Gas Rate Case and the 2008 ESP Case.

On January 6, 2016, Duke, Staff, OPAE, and OCC (collectively. Signatory Parties) filed a stipulation and recommendation (Stipulation) (Jt. Ex. 1). The Signatory Parties maintain that the Stipulation resolves all of the issues raised in this proceeding. Thereafter, on January 12, 2016, Direct Energy filed a letter stating that it does not oppose the stipulation.

Stipulation and Recommendations dated January 6, 2016

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

Issues agreed to within the Stipulation is related to Financial and Accounting and Self-Healing Teams reporting requirements.

Opinion and Order dated March 31, 2016

II. Summary of Application, Staff Review, and Comments, A. Application, Page 3

In support of Duke's application, Duke witness Donald L. Schneider states that the field deployment portion of the Company's grid modernization program was complete as of December 31, 2014. Mr. Schneider explains that 2014 was the fifth year for full-scale, advanced metering infrastructure (AMI) deployment. He further explains that, through December 31, 2014, Duke has installed a total of 720,320 electric meters, 435,670 gas modules, 12,978 automated meter reading gas modules, and 143,431 communications nodes, and has certified 706,593 of the electric meters installed and 440,394 of the gas modules installed. Meters are certified to identify when the meter has successfully been commissioned and verified and the meter data is ready to be used for billing. Duke's AMI deployment is now complete. Since the AMI deployment is complete. Duke's project team has turned over continued and future installations, certifications, and communications network fine-tuning to Duke's operations personnel. (Duke Ex. 2 at 3-4.)

Note: the issues raised by the parties are related to cost recovery

Page 12, ORDER: It is, therefore, ORDERED, That the Stipulation filed in this proceeding is approved and adopted.

Case No. 16-794-GA-RDR

On April 18, 2016, Duke filed an application, along with supporting testimony, to adjust Rider AU for grid modernization deployment, pursuant to the processes approved in the Gas Distribution Rate Case.

Opinion and Order dated September 22, 2016

[¶ 7] On August 4, 2016, Staff filed its review and recommendations on Duke's proposed Rider AU adjustment. Staff states that Duke appropriately included in Rider AU only those costs that were incurred as a result of serving its retail customers in Ohio; therefore. Staff recommends that the application be approved, with the new rate effective on a bills-rendered basis beginning April 2017.

[¶ 10] ORDERED, That Duke's application to adjust its Rider AU rate be approved.

Case No. 17-690-GA-RDR

On March 24, 2017, Duke filed an application, along with supporting testimony, to adjust Rider AU for grid modernization deployment, pursuant to the 17-690-GA-RDR processes approved in the Gas Distribution Rate Case. On July 5, 2017, Staff filed its review and recommendations on Duke's proposed Rider AU adjustment. In the filing, Staff states that Duke appropriately included in Rider AU only those costs that were incurred as a result of serving its retail customers in Ohio; therefore, Staff recommends that the application be approved, with the new rate effective on a bills-rendered basis.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

Opinion and Order dated October 11, 2017

- [¶ 11] In its comments, OCC noted that Duke has stated in its recent electric distribution rate case filing that the Company intends to replace the newly installed gas meter reading technology, which Duke's customers are continuing to pay for through Rider AU, with a newer advanced metering infrastructure (AMI) technology for both electric and gas customers. See In re Duke Energy Ohio, Inc., Case No. 17-32-EL-AIR, et al. (Duke Electric Rate Case), Direct Testimony of Donald L. Schneider, Jr. (Mar. 16, 2017) at 10. Based on this information from the Duke Electric Rate Case, OCC argued that, in this case, the Commission should examine the prudence of Duke's decision to invest in its recently-installed gas meter reading technology.
- [¶ 14] By Entry dated September 14, 2017, the attorney examiner found that Duke's motion to strike OCC's comments should be granted and that OCC's comments should be stricken in their entirety. The attorney examiner noted that Duke has made no request in this proceeding to recover costs for new AMI technology in its application to adjust Rider AU for costs incurred in 2016 and that OCC's comments on Duke's future plans to replace its AMI technology thus are irrelevant in the context of this Rider AU proceeding. Further, the attorney examiner noted that, consistent with the traditional framework of a rate case, the Duke Electric Rate Case, rather than the present case, would be the proper venue for the discussion of issues relating to Duke's proposal to implement new or updated AMI technology.
- [¶ 15] In addition, in light of the ruling granting Duke's motion to strike OCC's comments, the attorney examiner found that all of the issues raised in the filed comments have been resolved and that the procedural schedule in this case should be held in abeyance, pending the Commission's consideration of Duke's application to adjust Rider AU.
- [¶ 18] ORDERED, That Duke's application to adjust its Rider AU rate be approved.

Case No. 18-837-GA-RDR

On June 29, 2018, Duke filed an application, along with the direct testimony of Sarah E. Lawler (Duke Ex. 2), to adjust Rider AU for grid modernization deployment costs incurred in 2017, pursuant to the process approved in the Gas Distribution Rate Case.

Opinion and Order dated July 2, 2019

- [¶ 18] In its review and recommendations, Staff states that Duke appropriately included in Rider AU only those costs that were incurred as a result of serving its retail customers in Ohio. Staff, therefore, recommends that the application be approved, with the new rate effective on a bills-rendered basis. (Staff Ex. 1 at 1.)
- [¶ 19] In its brief, OCC argues that, although it does not dispute Duke's proposed Rider AU charge or the proposed credit for gas-only customers, the Company's customers may be overpaying for natural gas service. OCC notes that it has been at least four years since Duke's natural gas SmartGrid project was fully deployed and six years since the Company's most recent natural gas distribution rate case. OCC asserts that Duke's customers should be receiving actual savings attributable to the Company's natural gas SmartGrid rather than the estimated savings that customers have received since 2012 pursuant to the Commission's Order in Case No. 12-1811-GE-RDR. Noting that Duke plans to replace its automated gas meter reading infrastructure due to obsolete communication systems, OCC maintains that the Company should not be permitted to continue charging customers under Rider AU for infrastructure that is being replaced. For these reasons, OCC contends that the Commission should direct

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

Duke to file a natural gas rate case within the next 12 months, in order to ensure that customers are charged just and reasonable rates and receive the benefits of actual operational savings. OCC further recommends that the Commission conduct a thorough prudency review of Duke's SmartGrid investment. (OCC Br. at 2, 4-5.)

- [¶ 20] Duke, in its brief, notes that its application incorporates no new capital investment and merely updates the Rider AU revenue requirement to reflect a decrease in rate base as assets are depreciating, which will continue to provide a benefit to customers each year. Duke emphasizes that there have been no new investments related to the initial deployment of its natural gas SmartGrid program since 2014 and that Staff has conducted a prudency review of the Company's incremental investment in each annual proceeding to adjust Rider AU. Duke argues that there is no cause to require a rate case and that OCC is afforded the opportunity to make its case by filing a complaint under R.C. 4905.26. Duke adds that it is unlikely that the result of a rate case would be lower overall rates for customers, given that the Company has made significant capital investments in its system and seen increases in operating and maintenance expenses since the last rate case. Finally, Duke asserts that, despite OCC's opposition, single-issue ratemaking is permitted under R.C. Chapter 4929 and there is no requirement that the Company file a base rate case, even with no new investment reflected in Rider AU. (Duke Br. at 1-4.)
- [¶ 23] With respect to OCC's recommendations in this proceeding, the Commission does not agree that it is necessary at this time to require Duke to file a natural gas distribution rate case or to order an independent review of the Company's natural gas grid modernization program and proposals for replacement of the program, as recommended by OCC witness Williams (OCC Ex. 5 at 3-4). However, as to the latter recommendation, we agree with Mr. Williams that a review should be conducted to examine whether the SmartGrid assets that Duke has deployed for its gas operations continue to be used and useful on a going-forward basis. In Duke's recent electric rate proceedings, the Commission approved a stipulation and recommendation between Duke and a number of other parties that provides for an advanced metering infrastructure (AMI) transition to facilitate the replacement of meters and communications infrastructure for residential customers, including a plan for the recovery of the associated costs. In re Duke Energy Ohio, Inc., Case No. 17-32-EL-AIR, et al., Opinion and Order (Dec. 19, 2018) at ¶¶ 209-220.
- [¶ 24] As Duke witness Lawler acknowledged, the Commission-approved stipulation does not resolve or address issues related to the AMI transition's effect on the Company's gas distribution business, although the Company plans to replace 48,800 Badger gas communication modules during 2017-2018 (Tr. at 25-26). Ms. Lawler emphasized that Duke does not seek to recover any costs related to the gas meter technology replacement or any additional capital expenditures in this proceeding (Duke Ex. 4 at 5). Ms. Lawler, however, also explained that Duke continues to collect, through Rider AU, a return on the rate base, depreciation, property taxes, and incremental expenses related to information technology, system support, data transfer fees, and any other costs that can be directly attributed to the SmartGrid program (Duke Ex. 2 at 2-4). As Mr. Williams testified, Duke's customers may unreasonably continue to pay charges through Rider AU for costs associated with equipment that is no longer used and useful, given the Company's plans to replace certain AMI components for the gas distribution system (OCC Ex. 5 at 3-5; Tr. at 49-50). Accordingly, the Commission directs Staff, in Duke's next annual proceeding to adjust Rider AU, to thoroughly evaluate this issue in the course of its review, including, as necessary, a field audit or other physical verification of the Company's AMI components for its gas operations.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

[¶ 33] ORDERED, That Duke's proposed adjustment to Rider AU be approved. It is, further,

[¶ 34] ORDERED, That Staff comply with the directive set forth in Paragraph 24.

Case No. 19-664-GA-RDR

On June 25, 2019, Duke filed an application, along with supporting testimony, to adjust Rider AU for grid modernization deployment costs incurred in 2018, pursuant to the process approved in the Gas Distribution Rate Case.

Staff's Review and Recommendation filed October 25, 2019

Page 1: Staff was ordered by the Commission in its Opinion and Order dated July 2, 2019 in Case No. 18-837-GA-RDR to determine whether Duke's customers are paying charges through Rider AU for costs associated with equipment that is no longer used and useful. Staff was directed in this annual proceeding "to thoroughly evaluate this issue in the course of its review, including as necessary, a field audit or other physical verification of the Company's AMI components for its gas operations".

Pages 1–2, Staff's Review and Recommendations:

Capital Equipment Audit

In reviewing the plant in service. Staff first compared the transactional details within the Company's continuing property records (CPR) and its historical annual Rider AU filings. Staff found that the CPR was \$130,557 less than the amounts reported in the Company's annual Rider AU filings. In response to Staff's subsequent inquiry, the Company advised this unreconciled difference identified between the CPR and Rider AU filings could not be explained. (See response to Staff DR #44)

In order to perform a physical inspection to verify the existence and valuation of the capital assets. Staff sampled a set of transactions from the CPR transactional details provided by the Company. In response, the Company stated it was unable to tie the capital transactions from the CPR with the locations of the capital equipment. Specifically, the Company stated, "the methodology used to generate the [capital transaction detail] could not be used to link with actual addresses/coordinates as the data is maintained in a different system." [See Response to Staff DR #4] The Company provided a listing of its capital equipment with addresses as a means to perform a physical verification; however, the documentation did not include any financial information. Without financial information necessary to support the locational data of the capital equipment, Staff was unable to perform an adequate physical inspection to confirm both the existence and valuation of the capital equipment.

As a result of the Company's inability to provide sufficient financial information to support the locational data of its capital equipment. Staff was unable to adequately complete the capital equipment audit. Without an adequate audit of capital equipment. Staff is unable to express an opinion or provide a recommendation regarding the used and useful status of the capital equipment pursuant to the Commission's Opinion and Order in the previous filing for Rider AU.

Conclusion

Staff recommends that the Commission direct Staff to issue a request for proposal (RFP) for the necessary audit of the capital equipment and that the cost of the audit be borne by Duke.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

Further, Staff recommends that the Rider AU rate be suspended until the completion of the audit.

Reply Comments of Duke Energy Ohio, Inc. filed November 8, 2019

In 2008, Duke Energy Ohio, Inc., (Duke Energy Ohio or Company) received approval from the Public Utilities Commission of Ohio (Commission) to deploy an automated gas meter reading system and to recover associated costs through Rider Advanced Utility (Rider AU). Since that time, the Company has filed annual applications for approval of deployment costs incurred during the preceding year and the Commission has, each year, approved those applications after completing its review.

In 2010, approximately midway through deployment of the Company's natural gas and electric SmartGrid program, the Commission opened a docket, Case No. 10-2326-GE-UNC, "to conduct an operational audit and an operational benefits assessment of [Duke Energy Ohio's] overall SmartGrid implementation to date." Responding to the audit report filed in that case, Staff recommended that the "Commission should approve moving forward beyond December 2011 with a complete deployment of SmartGrid conditioned on" additional recommendations. At no point during the deployment of natural gas or electric SmartGrid has Staff ever suggested that the Company's investment was imprudent. Following Staff's recommendation and the Commission's order in that proceeding, the Company did complete its deployment by 2014.

As part of its 2012 Natural Gas Base Rate Case, the Commission approved Duke Energy Ohio's proposal to begin recovering the costs associated with its investment in natural gas SmartGrid infrastructure that was used and useful as of March 31, 2012, the date certain in that case. In that case, based on Staff's recommendation, the Commission approved of the Company's proposal to continue Rider AU to recover incremental investment in natural gas SmartGrid infrastructure made after March 31, 2012.

In Case No. 18-837-GA-RDR (2018 Rider AU proceeding), considering recovery of 2017 expenditures, the Commission noted that Duke Energy Ohio must transition to a different type of AMI infrastructure, due to several unforeseeable issues. The Company fully supported the rationale for the transition in Case No. 17-32-EL-SSO, et al., explaining that the technological support for the communication system supporting the advanced metering provided by a third-party vendor would soon be discontinued. Recognizing that the need to transition to a new smart metering system was beyond the control of the Company, the Commission provided a mechanism to recover the unamortized balance of the meters associated with electric operations that would be retired before the end of their useful life. That mechanism was the creation of a dying asset account to address the recovery of Duke Energy Ohio's investment in meters that would be retired before the end of their useful lives.

In the instant proceeding, Duke Energy Ohio is confronted with the same situation. The natural gas metering technology must be replaced, so natural gas meters must be retired before the end of their useful lives. If the Commission orders the Company to discontinue Rider AU it should still ensure that the Company can fully recover its investment. As stated earlier, the Commission encouraged the Company to complete its initial SmartGrid deployment and there has been no finding that any of the Company's investment was imprudent.

In 1993, the Ohio Supreme Court defined a prudent decision as "one which reflects what a reasonable person would have done in light of conditions and circumstances which were

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

known or reasonably should have been known at the time the decision was made.” The Court explained that “the standard contemplates a retrospective, factual inquiry without the use of hindsight judgment, into the decision making process of the utility’s management.”⁴ At the time the decision was made to complete the initial deployment, the Company only knew that the Commission approved of such completion. It would be improper for the Commission to deny the Company full recovery of costs for an investment that was prudently incurred, based on all of the information available at the time.

The early retirement of natural gas meters installed since March 31, 2012, should not truncate recovery of that investment. Staff’s recommendation to discontinue Rider AU, without offering any alternative for fully recovering the Company’s prudently incurred investment, would violate the Court’s standard for prudence review by invoking improper hindsight judgment. Put another way, whether the investment being recovered in the current Rider AU remains used and useful is not relevant to whether those costs can be recovered. The Ohio Supreme Court has clearly opined on whether prudently incurred costs are recoverable and it is not relevant whether the underlying asset is currently used and useful in providing utility service.

The AMI infrastructure transition affects both electric and natural gas infrastructure. There is absolutely no reason why the same events should result in one accounting treatment for electric operations and a different accounting treatment for natural gas operations. Under R.C. 4905.13, the Commission could approve the creation of a dying asset account to address the recovery of Duke Energy Ohio’s natural gas operations investment in meters that would be retired before the end of their useful lives. This would be consistent with how these costs are being treated for the Company’s electric business. The Company would discontinue Rider AU once the dying asset accounting for the natural gas investments was approved by the Commission. The recovery of dying asset costs would then be addressed in the Company’s next natural gas base rate case. In the next base rate case, the Company expects that the “dying account” concept would be applied to those meters currently being recovered in base rates that will also be retired early due to the transition. At some point, then the dying account will capture all of the meters (those being recovered in the current Rider AU and those recovered in existing base rates).

The costs recovered through Rider AU have been reviewed by Commission Staff in each annual rider filing. And, in each annual rider filing, these costs were deemed reasonable and prudent by the Commission. Each year Commission Staff recommended and the Commission ordered that the applications be approved and rates put into effect. No further audit should be needed.

It is also unreasonable for the Commission to order the Company to cease collections under Rider AU while it completes an audit that is not necessary. Nothing has changed to make the incurred costs uncollectible or unreasonable. If the Commission determines that an audit should be undertaken, it should allow the rider to continue to function pending the outcome of that audit process.

Finally, if the Commission determines an audit is necessary, at a minimum it should consider the efficiencies of joining any audit in this proceeding with the ongoing audit of natural gas infrastructure in another case, considering the initiation of a capital expenditure rider, Rider CEP. As part of its application in the Rider CEP proceeding, the Company has already provided total natural gas plant in-service data, which includes natural gas SmartGrid assets as of

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

December 31, 2018. In that case, the auditor has been instructed to audit the plant in-service balances with an emphasis on Rider CEP expenditures and investments. This currently excludes expenditures being recovered through Rider AU. The Company recommends that, if an audit is to be done for Rider AU, the audit in Rider CEP be modified to remove this exclusion so that these AU-related assets could be audited and considered as part of the Rider CEP application. The auditor in that case could add the metering infrastructure to the work already underway. And, subject to those audit findings, the metering infrastructure cost recovery could continue as part of the new Rider CEP and the Company would then discontinue Rider AU.

The Company therefore requests that the Commission approve the application in this case, as filed. If the Commission however is not inclined to do so, at a minimum, the Company recommends that the Commission either allow the Company to record the natural gas assets to a dying account to be treated consistently with the assets associated with electric operations or allow the audit of the natural gas metering infrastructure to be combined with the audit in the Rider CEP proceeding. The Commission should only order the Company to discontinue Rider AU if a dying asset account is created for the natural gas investments or if consolidated with the Rider CEP audit, once Rider CEP becomes effective.

Commission Entry filed December 4, 2019

B. Summary of the Comments

[¶ 9] In its review and recommendations, Staff notes that Duke seeks to recover approximately \$2.5 million in costs incurred over the 12-month period ending December 31, 2018, through a per-meter customer charge. With respect to its capital equipment audit, Staff states that it first compared the transactional details within Duke's continuing property records (CPR) and its historical annual Rider AU filings. Staff found that the CPR showed an amount that was \$130,557 less than the amounts reported in Duke's annual Rider AU filings, which the Company was unable to explain in response to Staff's subsequent inquiry. Next, in order to perform a physical inspection to verify the existence and valuation of the capital assets, Staff sampled a set of transactions from the CPR transactional details provided by Duke; however, the Company stated that it was unable to connect the capital transactions from the CPR with the locations of the capital equipment. Staff notes that Duke merely provided a listing of its capital equipment with addresses, which did not include the financial information necessary to support the locational data of the capital equipment. As a result, Staff indicates that it was unable to perform an adequate physical inspection to confirm both the existence and valuation of the capital equipment. Because it was unable to complete the audit, Staff advises that it cannot address the used and useful status of the capital equipment, as directed by the Commission in the 2018 Rider AU Case. Staff, therefore, recommends that a request for proposal (RFP) be issued for the necessary audit of Duke's capital equipment and that the cost of the audit be borne by the Company. Staff also recommends that the Rider AU charge be suspended until the audit is completed.

[¶ 10] In its reply comments, Duke states that, if the Commission orders the Company to discontinue Rider AU, the Commission should ensure that the Company can fully recover its investment, given that the Company was encouraged to complete its initial SmartGrid deployment and there has been no finding, in any of the annual Rider AU adjustment proceedings, that any of the Company's investment was imprudent. According to Duke, it would be improper for the Commission to deny the Company full recovery of costs for an investment that was prudently incurred, based on all of the information available at the time of the decision to complete the

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

initial SmartGrid deployment. *City of Cincinnati v. Pub. Util. Comm.*, 67 Ohio St.3d 523, 620 N.E.2d 826 (1993). Duke asserts that the early retirement of natural gas meters installed since March 31, 2012, should not truncate recovery of that investment and that the issue of whether the investment being recovered through Rider AU remains used and useful is not relevant to whether those costs can be recovered.

- [¶ 11] Additionally, Duke argues that the AMI transition affects both electric and natural gas infrastructure and that the accounting treatment for gas operations should not differ from the accounting treatment for electric operations. Consistent with the approach used for its electric operations in Case No. 17-32-EL-AIR, et al., Duke states that, pursuant to R.C. 4905.13, the Commission should consider the creation of a dying asset account to address, in the Company's next natural gas rate case, the recovery of the Company's natural gas operations investment in meters that are retired before the end of their useful lives. Duke also contends that an audit of the Rider AU assets is unnecessary, but adds that, if an audit is ordered by the Commission, it should occur in tandem with the Company's capital expenditure program (CEP) audit already in progress, with the auditor directed to review the Rider AU assets as well as the CEP assets. Duke concludes that its application should be approved as filed. Alternatively, Duke proposes that Rider AU be discontinued only if a dying asset account is created for the natural gas investments or if the metering infrastructure cost recovery continues through Rider CEP, following a combined audit of the Rider AU and CEP assets.

C. Commission Conclusion

- [¶ 12] Upon review of Staff's review and recommendations, as well as Duke's reply comments, the Commission adopts Staff's recommendation regarding the issuance of an RFP. In the 2018 Rider AU Case, the Commission found, based on the evidence admitted during the hearing, that Staff should examine, as part of its review of the application in the present case, whether the SmartGrid assets that Duke has deployed for its gas operations continue to be used and useful on a going-forward basis. The Commission directed Staff to conduct, as necessary, a field audit or other physical verification of Duke's AMI components for its natural gas operations. 2018 Rider AU Case, Opinion and Order (July 2, 2019) at ¶¶ 23-24. Consistent with this directive, Staff attempted to perform a physical inspection to verify the existence and valuation of the capital assets. According to Staff, Duke was unable to provide sufficient financial information to support the locational data of the assets. Duke did not dispute or even address this issue in its reply comments. We, therefore, direct Staff to distribute the attached RFP for the audit services required to complete the audit.

- [¶ 13] Although Duke requests that the audit of the Rider AU assets be combined with its current CEP audit, the purpose and scope of the CEP audit have already been defined, an auditor was selected by the Commission on October 23, 2019, and the audit is now in progress, as the Company acknowledges. While the Commission understands Duke's plea for consolidation and efficiency, we find that it is necessary to issue a separate RFP for the audit of the Rider AU assets. With respect to the question of whether the Rider AU charge should continue during the pendency of the audit, the Commission finds that collection of the charge should be suspended, as recommended by Staff. Following the completion of the audit of the Rider AU assets and a review of the audit findings, including, if necessary, an evidentiary hearing, the Commission will address the issue of Duke's recovery of its remaining AMI investment.

III. ORDER

- [¶ 21] It is, therefore,

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

- [¶ 22] ORDERED, That Duke suspend collection of Rider AU until otherwise ordered by the Commission. It is, further,
- [¶ 23] ORDERED, That Staff issue the RFP attached to this Entry and that December 30, 2019, be set as the due date for proposals in response to the RFP. It is, further,
- [¶ 24] ORDERED, That Duke bear the cost of the audit services of the auditor chosen by the Commission. It is, further,
- [¶ 25] ORDERED, That Duke and the auditor shall observe the requirements set forth herein.

Entry on Rehearing dated January 29, 2020

- [¶ 7] On October 25, 2019, Staff filed its review and recommendations, stating that, due to Duke's inability to provide sufficient financial information to support the locational data of its capital equipment, Staff was unable to adequately complete the audit ordered by the Commission in the 2018 Rider AU Case. Staff recommended that a request for proposal (RFP) be issued for the necessary audit of Duke's capital equipment and that the Rider AU charge be suspended until the audit is completed.
- [¶ 8] On November 21, 2019, the attorney examiner determined that the procedural schedule should be held in abeyance, pending the Commission's consideration of Staff's recommendations.
- [¶ 9] By Entry issued on December 4, 2019, the Commission directed Staff to issue an RFP for audit services to review Duke's capital assets associated with Rider AU. The Commission also directed that collection of the rider charge be suspended until otherwise ordered by the Commission.
- [¶ 11] On January 3, 2020, Duke filed an application for rehearing of the December 4, 2019 Entry.
- [¶ 12] The Commission believes that sufficient reason has been set forth by Duke to warrant further consideration of the matters specified in the application for rehearing. Accordingly, the application for rehearing filed by Duke should be granted.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

APPENDIX B: DATA REQUESTS AND INFORMATION PROVIDED

- 1.1. **Case No. 19-664-GA-RDR, Rider AU Application dated June 25, 2019:** Please provide, in Microsoft Excel format with all original cell formulas intact, the Rider AU Schedules included in the Company's application.
- 1.2. **Rider AU Schedules:** Please provide a narrative of the process used to develop the Rider AU filings and schedules. (Attach any and all Company process and procedural documents related to the process.)
- 1.3. **Unreconciled Differences between CPR and annual Rider AU filings:** Staff's Review and Recommendations dated October 25, 2019, included a finding that the CPR reviewed by Staff was \$130,557 less than the amount reported in the Company's annual Rider AU filings. Please explain the reason for the difference.
- 1.4. **Staff's Physical Inspection.** Staff's Review and Recommendations dated October 25, 2019, stated that Staff was unable to verify the existence and valuation of capital assets because "the methodology used to generate the [capital transaction detail] could not be used to link with actual addresses/coordinates as the data is maintained in a separate system."
 - a) Does the Company originally, annually, or ever confirm that the assets being recovered through the Rider AU are used and useful and that the valuation of those assets are accurately reflected in the Rider AU?
 - b) If yes, please describe the process.
 - c) If no, how would the Company recommend that the audit confirm so?
- 1.5. **Staff's Physical Inspection.** Staff's Review and Recommendations dated October 25, 2019, stated that Company provided a list of its capital equipment with addressees as a means to perform a physical verification; however, the documentation did not include any financial information.
 - a) Are there similar data fields in the two systems: (1) the one that provides addresses and (2) the one that has financial information (e.g., meter identifier) that could be used to merge and align the information in the systems?
 - b) What information can the Company provide that would reconcile the Company's Continuing Property Record with the Asset Management System and locational data.
- 1.6. **Policies and Procedures:** Please provide the policies and procedures that cover the following:
 - a) Meter purchases and accounting
 - b) Meter storage and stock keeping
 - c) Meter replacement
 - d) Asset location systems
 - e) Systems that record installation and location of assets
 - f) Systems that track costs of capital investment
 - g) Interrelationship of systems
 - h) Meter readings
- 1.7. **Rider AU Plant in Service:**

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

- a) Do all of the dollars reflected in the plant balances in Rider AU Case No. 19-664-GA-RDR represent costs of equipment that is currently used and useful?
- b) If not, please provide a list of the equipment and costs that are currently not used and useful.
- c) Please update the Rider AU schedules to reflect the retirement, additions, transfers, and adjustments so as to reflect the equipment and costs that are currently used and useful.
- d) Has the Company requested stranded cost recovery of the asset costs that were initially installed and had to be retired and replaced? If not, why not?

1.8. Change Outs/Replacements:

- a) Please provide a narrative of the issue(s) that required the initial AMI equipment installations to be changed out.
- b) Please provide a list of what equipment was changed out and when.
- c) Please provide the additions, retirements, cost of removal and any salvage, and O&M expense of the changeouts.
- d) Are these costs being recovered? If so, how?

1.9. Type of Assets Reflected in Rider AU: For each of the categories listed, please provide a description of the assets included and the FERC USOA account each is reported under in the Company's FERC Form 2:

- a) 29700 Communication Equipment Gas
- b) 20300 Intangible Gas
- c) 29101 Electronic Data Processing Equip-Gas
- d) 17001 Leased AMI Meters
- e) 19700 Communication Equipment Common

1.10. Leased AMI Meters:

- a) Are all AMI meters leased? If not all, please provide an explanation of what is leased and what is owned.
- b) Please provide the business case for the decision to lease AMI meters.
- c) Please provide the lease agreements that relate to the AMI assets.
- d) Does the lease include AMI meters that have been set and those in storage? If yes, please separate the costs by meters in use and those in storage.
- e) The FERC Form 2 for 12/31/2018, page 212, lists two capital leases:

| Name of Lessor | Description of Lease | Lease Payments for Current Year |
|--|----------------------|---------------------------------|
| 2009 Bank of America Leasing & Capital | Meters | 1,604,213 |
| 2010 Bank of America Leasing & Capital | Meters | 732,798 |

Are the AMI meters recovered through Rider AU leased from Bank of America? If so, is other equipment included in these leases?

1.11. Incremental Changes in Plant in 2015: As shown in the following summary of plant balances reported in Rider AU, the 12/31/16, 12/31/17, and 12/31/18 balances do not reflect any incremental changes. Please provide the additions, retirements, transfers, and adjustments for the following accounts recovered through Rider AU.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

| Plant | 12/31/11 | 13-1141-GE-RDR 12/31/12 | 14-1051-GE-RDR 12/31/13 | 15-883-GE-RDR 12/31/14 | 16-794-GA-RDR 12/31/15 | 17-690-GA-RDR 12/31/16 | 18-837-GA-RDR 12/31/17 | 19-664-GA-RDR 12/31/18 |
|---|----------|----------------------------|----------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 19101 Electronic Data Processing Equip-Common | - | - | - | - | - | - | - | 0 |
| 29700 Communication Equipment Gas | - | 408,219 | 12,485,521 | 13,086,288 | 12,937,396 | 12,937,396 | 12,937,396 | 12,937,396 |
| 20300 Intangible Gas | - | 11,176 | 553,985 | 553,985 | 1,483,193 | 1,483,193 | 1,483,193 | 1,483,193 |
| 29101 Electronic Data Processing Equip-Gas | - | 5,599,936 | 32,977 | 32,977 | 67,359 | 67,359 | 67,359 | 67,359 |
| 17001 Leased AMI Meters | - | 866,164 | 8,854,674 | 8,191,901 | 9,527,398 | 9,527,398 | 9,527,398 | 9,527,398 |
| 19700 Communication Equipment Common | - | 5,531,194 | 13,823,097 | 17,803,668 | 16,616,561 | 16,616,561 | 16,616,561 | 16,616,561 |
| Total Plant in Service | | 12,416,689 | 35,750,254 | 39,668,819 | 40,631,907 | 40,631,907 | 40,631,907 | 40,631,907 |
| Less Accumulated Provision for Depreciation | | (289,645) | (187,302) | (4,469,197) | (7,496,837) | (10,413,674) | (13,246,632) | -16,046,076 |
| Net Plant in Service | | 12,127,044 | 35,562,952 | 35,199,622 | 33,135,070 | 30,218,233 | 27,385,275 | 24,585,831 |
| Plant - Incremental Changes | | | | | | | | |
| 19101 Electronic Data Processing Equip-Common | | - | - | - | - | - | - | - |
| 29700 Communication Equipment Gas | | 408,219 | 12,077,302 | 600,767 | (148,892) | - | - | - |
| 20300 Intangible Gas | | 11,176 | 542,809 | - | 929,208 | - | - | - |
| 29101 Electronic Data Processing Equip-Gas | | 5,599,936 | (5,566,959) | - | 34,382 | - | - | - |
| 17001 Leased AMI Meters | | 866,164 | 7,988,510 | (662,773) | 1,335,497 | - | - | - |
| 19700 Communication Equipment Common | | 5,531,194 | 8,291,903 | 3,980,571 | (1,187,107) | - | - | - |
| Total Plant in Service | | 12,416,689 | 23,333,565 | 3,918,565 | 963,088 | - | - | - |

- 1.12. **Incremental Changes in Plant in 2015:** In Case No. 15-883-GE-RDR, the Company stated that the Company's grid modernization was completed as of December 31, 2014. The Rider RU Revenue Requirements plant-in-service filings reported significant changes from 2014 to 2015, as summarized in the following table:

| Plant | 15-883-GE-RDR 12/31/14 | 16-794-GA-RDR 12/31/15 | Change |
|---|---------------------------|---------------------------|----------------|
| 19101 Electronic Data Processing Equip-Common | - | - | |
| 29700 Communication Equipment Gas | 13,086,288 | 12,937,396 | (148,892) |
| 20300 Intangible Gas | 553,985 | 1,483,193 | 929,208 |
| 29101 Electronic Data Processing Equip-Gas | 32,977 | 67,359 | 34,382 |
| 17001 Leased AMI Meters | 8,191,901 | 9,527,398 | 1,335,497 |
| 19700 Communication Equipment Common | 17,803,668 | 16,616,561 | (1,187,107) |
| Total Plant in Service | 39,668,819 | 40,631,907 | 963,088 |

- a) If the grid modernization was completed as of December 31, 2014, please explain the changes in plant balances in 2015.
- b) Was any of this activity related to initial equipment that had to be changed out? If so, please explain what was changed and why.
- 1.13. **Incremental Changes in Plant in 2015:** The monthly incremental activity reported in Case No. 16-794-GA-RDR (Attachment PAL-1, page 4 of 17) for the year ended 12/31/2015 is different from the actual difference between the 12/31/2014 and 12/31/2015 as summarized below.

| 16-794-GA-RDR | 1/31/15 | 2/28/15 | 3/31/15 | 4/30/15 | 5/31/15 | 6/30/15 | 7/31/15 | 8/31/15 | 9/30/15 | 10/31/15 | 11/30/15 | 12/31/15 | Total | Calculated Change | Difference |
|---|----------------|------------------|---------------|--------------|----------|----------|-----------------|----------|----------------|----------|----------|----------|------------------|-------------------|------------------|
| Plant Incremental Changes by Month-2015 | | | | | | | | | | | | | | | |
| 19101 Electronic Data Processing Equip-Common | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 29700 Communication Equipment Gas | (10,777) | (136,738) | 26,406 | (224) | - | - | (27,559) | - | - | - | - | - | (148,892) | (148,892) | - |
| 20300 Intangible Gas | 889 | 11,455 | (10,343) | (6) | - | - | - | - | - | - | - | - | 1,995 | 929,208 | 927,213 |
| 29101 Electronic Data Processing Equip-Gas | - | - | - | - | - | - | - | - | - | - | - | - | - | 34,382 | 34,382 |
| 17001 Leased AMI Meters | - | - | - | - | - | - | 3,457 | - | (5,975) | - | - | - | (2,518) | 1,335,497 | 1,338,015 |
| 19700 Communication Equipment Common | - | - | - | - | - | - | - | - | (2,580) | - | - | - | (2,580) | (1,187,107) | (1,184,527) |
| Total Plant in Service | (9,888) | (125,283) | 16,063 | (230) | - | - | (24,102) | - | (8,555) | - | - | - | (151,995) | 963,088 | 1,115,083 |

- a) Please explain why the incremental monthly changes reported in the Rider AU (Attachment PAL-1, page 4 of 17) do not agree with the differences from 12/31/2014 and 12/31/2015. The reported difference from 12/31/2014 and 12/31/2015 is \$963,088, while the monthly changes total \$(151,995).
- 1.14. **Badger Gas Communication Module Replacement:** In Case No. 18-837-GA-RDR, the Opinion and Order dated July 2, 2019, ¶24, referred to a statement made by Duke witness

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

Lawler that the Company plans to replace 48,800 Badger gas communication modules during 2017–2018.

- a) Please provide a list of what was replaced and when.
- b) Provide the additions, retirements, cost of removal and any salvage, and any O&M expense associated with the replacement.
- c) Were there any other changeouts of equipment beyond the 48,800 Badger communication models?

1.15. AMI Equipment:

- a) Please provide a list of Rider AU assets that are in the field along with pictures or other schematics that can be used to identify each different type of equipment the Company initially installed.
- b) Please describe and provide pictures or schematics of what needed to be replaced en masse due to obsolescence.
- c) Please provide a list and pictures or schematics of the replacement equipment.
- d) Is the replacement visible without disassembling the equipment? If not, how can the auditor confirm what was removed and what was replaced?

1.16. Equipment List:

- a) For all plant being recovered through Rider AU, please provide a list of equipment with serial numbers (or other identifiers) and their physical locations. Provide the information in Excel format that will allow us to sort the information by equipment and/or location. Identify the source (system) that is providing the information (e.g., CIS, CPR, etc.)
- b) Please provide a reconciliation of the equipment included on the list above to the amount of plant being recovered in Rider AU.
- c) For each type of equipment on the list, provide the average installed capital cost of that equipment. Please indicate what is included in installed cost and if the Company uses actual installed cost or a standard installed cost. If the Company uses a standard installed cost, please explain what it is.
- d) Identify any equipment on the list that is no longer used and useful.
- e) For the equipment that is no longer used and useful, was it retired? If not, why not?

1.17. Continuing Property Records (CPR):

- a) Provide the CPR detail that supports the 12/31/2018 \$40,631,907 plant-in-service balance as reflected in Case No. 19-664-GA-RDR.
- b) Reconcile the CPR records to the FERC Account balances reported in Rider AU schedules as of 12/31/2018 as reflected in Case No. 19-664-GA-RDR.

1.18. Meter Purchases:

- a) How does the Company account for the purchase of SmartGrid meters?
- b) How does the Company account for the purchase of non-SmartGrid meters?

1.19. Stock Replacement:

- a) Does the Company stock replacement modules or any other Rider AU assets?

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

- b) If so, where are they stored, and how are they accounted for?
 - c) Please provide an inventory count as of the most recent month available for each type of equipment in stock.
 - d) Are the meters in storage reflected in Rider AU?
- 1.20. **Meter Inventory Systems:** Does the Company use a meter inventory system for either installed meters or meters in stock? If so, please, describe what is included in that system and what if any other systems it links with (e.g., CPR and CIS systems).
- 1.21. **Active Meters:**
- a) As of 12/31/2018, provide an exception report of inactive meters that are in the field and have not been retired.
 - b) How does the Company treat meters that have been turned off for nonpayment or for vacancies? Are these meters considered used and useful?
 - c) At what point is an inactive meter pulled from the field? When that happens is the meter retired or put back into stock?
- 1.22. **Meters:**
- a) Are all the Company's gas customers on the AMI/SmartGrid system?
 - b) If not, how does the Company identify gas customers that are on AMI/SmartGrid versus those that are not?
 - c) How does the Company read (electronically, manually, or other) each type of meter?
- 1.23. **Gas vs. Electric Equipment:**
- a) Provide a list of systems and/or equipment that is shared between gas and electric SmartGrid.
 - b) Please confirm that the Electric SmartGrid assets are reflected in rate base effective with the Commission's order in the most recent electric base rate docket.
 - c) How does the Company split the capitalized cost of the shared assets between gas and electric?
- 1.24. **Systems:**
- a) Please describe the various systems that record the installation, track by location, and account for the capital investment of equipment related to the Company's SmartGrid installations.
 - b) Please explain how the systems are interconnected.
 - c) If information is not shared among the systems, how does the Company reconcile the information to ensure accurate reporting?
- 1.25. **Continuing Property Record (CPR):** Please explain what level of detail is maintained in the CPR record for the equipment included in Rider AU.
- 1.26. **Customer Information System (CIS):** Please explain what level of detail is maintained in the CIS (customer) system for the installed equipment included in Rider AU.
- 1.27. **Retirements:**

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

- a) When a meter or other equipment is removed from service, what is the process to retire the equipment?
- b) Does the Company use the same process to track and record the retirement of meters and/or other equipment that is recovered through the Rider AU? If not, why not?
- 1.28. **FERC and Other Regulatory Audits:** Please provide a copy of all FERC and/or other regulatory audit reports, if any, that were issued during 2018 and 2019 related to Rider AU and/or SmartGrid. Also provide the Company's response to any findings and the ultimate resolution of those findings.
- 1.29. **Internal Audits:** Please provide a list of internal audits performed or in progress in 2018 and 2019 related to Rider AU and/or SmartGrid. List the name of the audit, scope, objective, and when the work was performed. For in-progress audits, list the expected completion dates.
- 1.30. **SOX Compliance Audits:** For any system that provides Rider AU asset or SmartGrid data, please provide any SOX Compliance audits performed in 2018 and 2019. List the name of the audit, scope, objective, and when the work was performed. Include whether the controls passed or failed and, if failed, the severity and impact of the failure.
- 1.31. **Depreciation:**
 - a) Please provide a copy of the most recent approved depreciation accrual rates.
 - b) If depreciation rates have been changed, please explain for each change when the change was made, what the change was, and whether it was approved by the Commission.
- 2.1. Follow-up to Data Request response Blue Ridge DR 01-020. The Company response said that the Meter Tracking system (MTS) is linked to the Customer Management System (CMS)
 - a) What Data is included in the MTS system?
 - b) Does the MTS system include any assets other than Distribution meters? If so, please explain what is included.
 - c) Please confirm that, when distribution meters are purchased, they are included and tracked in the MTS system by number. If not, how are they tracked?
 - d) When a meter is removed from stock and set in the field, what information passes back to the CMS system to link the meter to the customer?
 - e) What information is passed either from the MTS or CMS systems to the CPR record so that the meter (or other hardware) is transferred from FERC 154 (M&S) to FERC 101 (UPIS)?
- 2.2. Follow-up to Data Request response Blue Ridge DR 01-025. The Company response indicates that the CPR record contains Communication Equipment (Gas Transmitter Module). Please indicate what other equipment or software is included in the CPR record related to Rider AU.
- 2.3. Follow-up to Data Request response Blue Ridge DR 01-029. Audit 218027 – OpenWay IT Security Review Issued 1/21/2019.
 - a) Please provide the summary findings and recommendations for this audit along with any remediation that resulted from the audit findings.
 - b) Does OpenWay perform any functions other than collecting energy usage? If so, what are those functions?

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

2.4. Follow-up to Data Request response Blue Ridge DR 01-030. The Company response said that an opinion on Internal Controls over Financial Reporting is provided as part of the Company's annual financial statement audit each year. That response did not fully answer the request. For SOX compliance audits performed in 2018 and 2019 for Rider AU, please list the name of the audit, scope, objective, and when the work was performed. Include whether the controls passed or failed and, if failed, the severity and impact of the failure.

3.1. Donald Schneider direct testimony in Case No. 17-32-EL-AIR (electric rate case). In that case, Witness Schneider indicated the following:

Rather than upgrading the communication nodes to 4G and perpetuating the support concerns the Company is already confronting in the near-term, the Company proposes to transition entirely from the AMI node environment to the AMI mesh environment. The estimated total cost of the Ohio AMI Transition effort is approximately \$143.4 million, most of which will be capital costs. The work would begin in 2019 and conclude by the end of 2022. [emphasis added] (page 13)

Please explain the current status of the upgrade.

- a. What has been spent to date?
- b. What has been replaced?
- c. What is the percentage of completion of the project in terms of equipment replacements and total dollars spent?
- d. What is the current expected completion date of the project?
- e. When the project is complete, will the same number of meters be read through the smart grid system? If not, what will be the difference and why?
- f. Will the upgrade change any of the common assets that the Company shares with Electric? If so, what will change?

3.2. RESCINDED

3.3. Follow-up to Data Request response Blue Ridge Dr-01-009 regarding type of assets reflected in Rider AU. Please provide the FERC account associated with the following accounts.

1. 29700 Communications Equipment Gas
2. 20300 Intangible gas
3. 29101 Electronic Data Processing Equip-gas
4. 17001 Leased AMI Meters
5. 19700 Communication Equipment Common

4.1. Schedule 1 – Revenue Requirement. Explain why the ADIT balance at December 31, 2017 on Line 8 (\$4,811,155) does not reconcile to the sum of the vintage balances on Schedule 5, Line 18 (\$4,661,679).

4.2. Schedule 1A – Revenue Requirement Credit Summary. Explain why the ADIT balance at December 31, 2017 on Line 8 (\$3,412,400) does not reconcile to the sum of the vintage balances on Schedule 5, Line 38 (\$2,198,174).

4.3. Schedule 3 – PISCC on Plant Additions. Provide the amortization schedule for the PISCC Regulatory Asset from inception through to completion by total and common/PMO.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

- 4.4. Schedule 3 – PISCC on Plant Additions. Why did the monthly PISCC Regulatory Asset amortization increase beginning April 2018 from \$24,332 to \$26,620 on a total basis and from \$16,522 to \$17,695 on a common/PMO basis?
- 4.5. Schedule 4 – ADIT on PISCC and Deferred O&M. Explain why the December 31, 2017 balances on Lines 5, 9, 17 and 22 do not reconcile with the December 31, 2017 balances on Schedule 9.
- 4.6. Schedule 5 – ADIT on Liberalized Depreciation. How are federal EDIT benefits being return to customers? Please cite the relevant Orders and rate mechanisms.
- 4.7. Schedule 5 – ADIT on Liberalized Depreciation. Provide supporting documentation for the following 2018 MACRS rates reflected in the tax depreciation calculations by vintage on Lines 8 and 28.

| | | <u>Schedule 5</u> | <u>IRS Table A1</u> | <u>Difference</u> |
|---------------------|-----------|-------------------|---------------------|-------------------|
| Vintage 2012 | 3-Year | 0.000% | 0.000% | 0.000% |
| | 5-Year | 0.000% | 0.000% | 0.000% |
| | 7-Year | 8.925% | 8.930% | 0.005% |
| | 10-Year | 8.740% | 6.550% | -2.190% |
| Vintage 2013 | 3-Year | 0.000% | 0.000% | 0.000% |
| | 5-Year | 5.761% | 5.760% | -0.001% |
| | 7-Year | 8.925% | 8.920% | -0.005% |
| | 10-Year | 8.739% | 7.370% | -1.369% |
| Vintage 2014 | 3-Year | 0.000% | 0.000% | 0.000% |
| | 5-Year | 11.518% | 11.520% | 0.002% |
| | 7-Year | 8.925% | 8.930% | 0.005% |
| | 10-Year | 8.740% | 9.220% | 0.480% |
| Vintage 2015 | 3-Year | 7.419% | 7.410% | -0.009% |
| | 5-Year SG | 11.517% | 11.520% | 0.003% |
| | 7-Year | 12.495% | 12.490% | -0.005% |

- 4.8. Schedule 7 – Annualized Depreciation Expense. Follow up to the response to BlueRidge-DR-01-031 requesting Commission-approved accrual rates.
- The most recent approved depreciation accrual rates show “various” for account number 203 Intangible Gas. The Company has used 20% in Rider AU for account 20300. Please provide the Commission approval that authorized the use of that rate.
 - The most recent approved depreciation accrual rates do not include account number 170001 Leased AMI Meters. Please provide the Commission approval that authorized the use of that rate.
- 4.9. Schedule 7 – Annualized Depreciation Expense. Provide workpapers or supporting documentation underlying the “Fully Depreciated” asset values as of December 31, 2018.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

- 4.10. Schedule 9 – Deferred O&M. Provide the amortization schedule for the Deferred O&M Regulatory Asset from inception through to completion by total and common/PMO.
- 4.11. Schedule 9 – Deferred O&M. Why did the monthly Deferred O&M Regulatory Asset amortization decrease beginning April 2018 from \$115,210 to \$98,321 on a total basis and from \$109,551 to \$97,296 on a common/PMO basis?
- 4.12. Schedule 9 – Deferred O&M. Explain how the Company tracks and identifies O&M expense subject to deferral under Rider AU in its financial records.
- 4.13. Schedule 9 – Deferred O&M. Describe the “Common O&M - Meter. Communication, & Info Tech” the Company continues to defer on a monthly basis. Additionally, provide supporting documentation for the monthly deferrals reflected on Lines 2 and 26.
- 4.14. Schedule 10 – Annualized Property Taxes. Provide supporting documentation for the Percent Good (Line 4), Valuation Percent (Line 6), and Property Tax Rates (Line 20) by vintage.
- 4.15. Schedule 12 – Calculation of Rider AU Charges. Provide supporting documentation for the customer bill counts reported on Lines 2 and 3.
- 5-1. **Retirements:** Follow-up to Data Request response Blue Ridge-DR-01-007. Attachment A.
 - a. Please explain the reason for the 2017 retirements of \$(11,173.63) and the incremental retirement in 2018 of \$(21,799.92) for a total retirement of \$(32,973.55) as of 12/31/2018.
 - b. Were these retirements part of the change out of gas communication modules that were no longer fully functional?
 - c. Were the retired assets replaced with other equipment? If so, please provide a list of the replacements, when the replacements went into service, and the costs of those replacements.
 - d. Please confirm that the costs of the retired assets were not reflected in the Rider AU balance as of December 31, 2018, as presented in the Company’s application in Case No. 19-664-GA-RDR?
- 5-2. **Transfers/Adjustments** Follow-up to Data Request response Blue Ridge-DR-01-007. Attachment A.
 - a. Please explain the reason for the 2016 transfers/adjustment of \$(13,537.62) in account 17001.
 - b. Identify the account and/or entities that the assets were transferred to.
 - c. Provide a list of the equipment transferred and their initial costs.
 - d. At what value were the assets transferred (i.e., initial purchase price, net book value, fair market value), and why were the values selected determined to be appropriate?
 - e. Did the transfers result in a retirement on the Company books? If not, why not?
 - f. Please confirm that the costs of the transferred assets were not reflected in the Rider AU balance as of December 31, 2018, as presented in the Company’s application in Case No. 19-664-GA-RDR?

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

- 5-3. **Transfers/Adjustments** Follow-up to Data Request response Blue Ridge-DR-01-007. Attachment A.
- a. Please explain the reason for the incremental 2017 transfer/adjustment of \$(9,513,860.38) for a total transfer as of 12/31/2018 of \$(9,527,348.00) in account 17001.
 - b. Provide a list of the equipment transferred and their initial costs.
 - c. At what value were the assets transferred (i.e., initial purchase price, net book value, fair market value), and why were the values selected determined to be appropriate.
 - d. Did the transfers result in a retirement on the Company books? If not, why not?
 - e. Were the costs of the transferred assets reflected in the Rider AU balance as of December 31, 2018, as presented in the Company's application in Case No. 19-664-GA-RDR?
- 5-4. **Leased Meters:** Follow-up to Data Request response to BlueRidge-DR-01-007 and BlueRidge-DR-01-010 CONFIDENTIAL. The Company states the Company leased the gas meters in 2018 (DR-01-010 CONFIDENTIAL, e). However, the revised balance of 12/31/2018, for Account 17001 Leased AMI meters, is 0 following the transfer of \$9,527,398 (DR-01-007). Please explain how gas meters are reflected in the revised Rider AU balances as of 12/31/2018.
- 5-5. **Functionality of Assets as of 12/31/2018:** Follow-up to Data Request response to BlueRidge-DR-01-007. After removing the retirements and transfers, the adjusted plant balance is \$31,071,535.45 as of December 31, 2018. Were the assets included within this revised balance of \$31,071,535.45 as of 12/31/2018 in use and useful and fully functional based upon their original intended functionality. If not, please explain what assets were not and the costs of those assets reflected in the plant balances included in Rider AU.
- 5-6. **System change out:** Case No. 17-32-EL-AIR et al., Direct Testimony of Donald L. Schneider. On page 10 of his testimony, Mr. Schneider indicated that the Company planned to upgrade the communication nodes to 4G and transition from the AMI node environment to the Mesh environment. That effort was to start in 2019 and end in 2022 with an estimated cost of \$143.4m.
- a. Please explain the current status of the gas asset transition.
 - b. What Rider AU assets have been replaced and when?
 - c. What is the value of retired Rider AU assets by FERC account?
 - d. What has been spent to date by FERC account by year?
 - e. What is the estimated percentage of completion as of the most recent date available?
- 5-7. **Follow-up** to Data Request response Blue Ridge DR-01-007, Blue Ridge DR 01-014, and Blue Ridge-DR 01-008, b. The Company removed Badger AMI modules and Ambient communication nodes during 2017–2018.
- a. How many total Badger AMI modules and Ambient communication nodes were changed out and when?
 - b. Did those modules and nodes replace assets included in Rider AU?
 - c. If so, were the Rider AU assets retired from the CPR record? Please provide a list of the retirements reflected in the CPR.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

- d. Are these retirements reflected in the revised plant balance of \$31,071,535.45 provided in Blue Ridge DR-01-007?
 - e. The Company stated that it has proposed recovery of the changed-out equipment in the Company's Rider CEP application in Case No. 19-791-GA-ALT. Has the Company reflected the retirement of the removed Badger AMI modules and Ambient communication nodes in its Rider CEP application?
- 6.1. In reference to Staff's fourth set data request, DR-04-001 attachment; listing of Echelon Gas Badger modules installed
- a. Please describe why 2,304 line items (of 15,402 records) had no Latitude or Longitude data provided
 - b. Please describe for those locations with Latitude and Longitudinal data, why several lat/log combinations repeated yet had different serial numbers with different EGIS County and EGIS Sub Id's.
- For example, Latitude 39.0889646, Longitude -84.23823313 repeated on 10 lines of different equipment locations, Latitude 39.2155636, Longitude -84.54937697 repeated 8 times, etc.
- 6.2. Reference: Case No. 17-32-EL-AIR , Donald Schneider direct testimony, page 10. Mr. Schneider indicates that 23,700 communication nodes were removed in 2017-2018
- a. Please indicate when those assets were retired from the CPR record and the total retirement cost either for each individual asset or in the aggregate
 - b. If possible, please provide the actual vintage year of the assets retired or how the company determined which assets to retire.
 - c. Please indicate the company and/or FERC account the communication nodes were booked to.
 - d. Were those retirements reflected in the Rider AU balance (1-007) as of December 31, 2018?
- 6.3. Case No. 18-837-GA-RDR, Opinion and Order, July 2, 2019, para 24. Company witness Lawler indicates that the company planned to replace 48,800 Badger Gas Communication Modules In 2017-2018.
- a. Please indicate when those assets were retired from the CPR record and the total retirement cost either for each individual asset or in the aggregate
 - b. If possible, please provide the actual vintage year of the assets retired or how the company determined which assets to retire.
 - c. Please indicate the company and/or FERC account the communication nodes were booked to.
 - d. Were those retirements reflected in the Rider AU balance (1-007) as of December 31, 2018?
- 6.4. Follow up to Data Request response Blue Ridge 1.007, a. The company explained that assets in accounts 197 and 297 are auto retired in Power Plan and have an average life of 15 years.
- a. Please confirm that no assets in account 197 and 297 have been auto retired as of December 31, 2018.
 - b. As assets in those accounts are removed from service, such as the 48,800 Badger Communication Modules or 24,700 communication nodes, are they are retired when they are removed from service? If not why not?

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

- c. I those assets are not retired when removed from service please confirm that they remain in the Company CPR record as of the most recent month end.
- d. Have any of the assets originally recorded to accounts 197 and 297, included in Rider AU from 2012-2015, and subsequently replaced been retired from the CPR record? If not please confirm that those assets remain the CPR as of the most recent month end.
- 6.5. Schedule 3 – PISCC on Plant Additions. Please demonstrate how the monthly amortization is computed. Provide supporting workpapers for the monthly amortization values which were hard coded on Lines 8 through 12. Include the authorized amortization with citation to the Stipulation or Order.
- 6.6. Schedule 4 – ADIT on PISCC, Deferred O&M and Carrying Cost. Follow up to BRDR-04-005. Please see computation below and confirm if the Company agrees with Blue Ridge’s revised balances.

BRDR-01-001 Attachment - Schedule 4

| | 2017 | Adjustment | 2017 | 2018 Activity | 2018 |
|---|-----------|------------|---------------------------|------------------|--------------|
| 1 PISCC | 3,849,959 | - | 3,849,959 | (312,580) | 3,537,379 |
| 2 Deferred O&M and Carrying Cost | 2,863,570 | - | 2,863,570 | (605,276) | 2,258,294 |
| 3 Deferred Depreciation & Carrying Cost | 6,807 | - | 6,807 | (6,129) | 678 |
| 4 Regulatory Asset--Net | 6,720,336 | - | 6,720,336 | (923,985) | 5,796,351 |
| ADIT - Sch1, Line 6 | | | Line 4 x 21% \$ 1,411,271 | (194,037) | \$ 1,217,234 |
| EDIT - Sch1, Line 7 | | | Line 4 x 14% \$ 940,847 | - | \$ 940,847 |

BRDR-01-007 Attachment B - Schedule 4

| | 2017 | Adjustment | 2017 | 2018 Activity | 2018 |
|---|-----------|-------------|---------------------------|------------------|--------------|
| 1 PISCC | 3,849,959 | (1,023,074) | 2,826,885 | (312,580) | 2,514,305 |
| 2 Deferred O&M and Carrying Cost | 2,863,570 | - | 2,863,570 | (605,276) | 2,258,294 |
| 3 Deferred Depreciation & Carrying Cost | 6,807 | - | 6,807 | (6,129) | 678 |
| 4 Regulatory Asset--Net | 6,720,336 | (1,023,074) | 5,697,262 | (923,985) | 4,773,277 |
| ADIT - Sch1, Line 6 | | | Line 4 x 21% \$ 1,196,425 | (194,037) | \$ 1,002,388 |
| EDIT - Sch1, Line 7 | | | Line 4 x 14% \$ 797,617 | - | \$ 797,617 |

- 6.7. Schedule 5 – ADIT on Liberalized Depreciation. Follow up to BRDR-04-005. Please see computation below and confirm if the Company agrees with Blue Ridge’s revised balances.

BRDR-01-001 Attach - Sch 5

| | 2012 | 2013 | 2014 | 2015 | 2016 | Adjustment | 2017 | 2018 |
|-----------------------------|-----------|------------|------------|------------|--------------|------------|--------------|--------------|
| 1 Tax Depr in Excess of Bk. | 6,815,232 | 12,471,447 | 4,322,345 | 268,536 | (611,399) | - | (1,067,692) | (1,064,348) |
| 2 Cumulative Activity | 6,815,232 | 19,286,679 | 23,609,024 | 23,877,560 | 23,266,161 | - | 22,198,469 | 21,134,121 |
| ADIT - Sch1, Line 8 | | | | | Line 2 x 21% | | \$ 4,661,678 | \$ 4,438,165 |
| EDIT - Sch1, Line 9 | | | | | Line 2 x 14% | | \$ 3,107,786 | \$ 3,107,786 |

BRDR-01-007 Attach B - Sch 5

| | 2012 | 2013 | 2014 | 2015 | 2016 | Adjustment | 2017 | 2018 |
|-----------------------------|-----------|------------|------------|------------|--------------|-------------|--------------|--------------|
| 1 Tax Depr in Excess of Bk. | 6,815,232 | 12,471,447 | 4,322,345 | 268,536 | (611,399) | (4,635,706) | (847,744) | (845,771) |
| 2 Cumulative Activity | 6,815,232 | 19,286,679 | 23,609,024 | 23,877,560 | 23,266,161 | 18,630,455 | 17,782,711 | 16,936,940 |
| ADIT - Sch1, Line 8 | | | | | Line 2 x 21% | | \$ 3,734,369 | \$ 3,556,757 |
| EDIT - Sch1, Line 9 | | | | | Line 2 x 14% | | \$ 2,489,579 | \$ 2,489,579 |

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

- 6.8. Schedule 9 – Deferred O&M. Please demonstrate how the monthly amortization is computed. Provide supporting workpapers for the monthly amortization values which were hard coded values on Lines 8 through 11. Include the authorized amortization rate with citation to the Stipulation or Order.
- 6.9. Schedule 9 – Deferred O&M. Please demonstrate how the monthly amortization is computed. Provide supporting workpapers for the monthly amortization values which were hard coded values on Lines 8 through 11. Include the authorized amortization rate with citation to the Stipulation or Order.
- 6.10. Schedule 9 – Deferred O&M. BRDR-04-014 CONFIDENTIAL requested supporting documentation for the monthly deferrals reflected on Lines 2 and 26. The Company's response refers Blue Ridge back to Lines 2 and 26. Restating the request, please provide the source documentation with detail of the "expenses for items like telecom support, Smart Grid gateway licenses, ambient node software escrow fees, and maintenance on the connected grid routers as part of the Itron OpenWay Solution."
- 6.11. Schedule 10 – Annualized Property Tax. Refer to BRDR-01-007 Attachment B. The results of the restated plant balances for retirements had no impact on annualized property tax expense. Please explain.
- 6.12. Schedule 10 – Annualized Property Tax. Please explain whether the Company incurs and remits property taxes on retired assets, regardless of the computation approach in the Rider AU schedules. Given that the Company acknowledges the retirement of certain assets which have not fully been recovered in Rider AU, please discuss whether annualized property taxes are overstated in Rider AU.
- 6.13. The ending 2017 balances in Case No. Case No. 18-837-GA-RDR reflect the opening balances in Case No. 19-664-GA-RDR. Please provide, in Microsoft Excel format with all original cell formulas intact, the Rider AU Schedules included in the Company's application in Case No. 18-837-GA-RDR.

Case No. 19-664-GA-RDR
Audit of the Plant In-Service and Used and Useful (Rider AU) for
Duke Energy Ohio, Inc.

APPENDIX C: WORK PAPERS

Blue Ridge's workpapers are available on a USB drive and were delivered to the PUCO Staff per the RFP requirements. Workpapers that support Blue Ridge's analysis are listed below.

- Duke Plant Balances .xlsx
- WP Impact of Adjustments BlueRidge-DR-01-001 Attachment 7-2-20.xlsx
- WP Recon Filing to CPR BlueRidge-DR-01-003 Attachment A.xlsx
- WP V&V Schedules BlueRidge-DR-01-001 Attachment_R3.xlsx
- WP V&V Schedules BlueRidge-DR-01-007 Attachment B_R2.xlsx

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

7/6/2020 2:22:19 PM

in

Case No(s). 19-0664-GA-RDR

Summary: Audit Audit of the Plant In-Service and Used and Useful (Rider AU) for Duke Energy Ohio, Inc. electronically filed by Mrs. Tracy M Klaes on behalf of Blue Ridge Consulting Services, Inc