FOCUSED OPERATIONS AUDIT OF FRONTIER COMMUNICATIONS PARENT, INC.

FINAL REPORT

Case 24-C-0537

Prepared for:

New York Public Service Commission

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I. EXECUTIVE SUMMARY

Background

The New York Public Service Commission ("Commission") directed a focused operations audit of Frontier Communications Parent, Inc. ("Frontier") and its New York affiliates to investigate persistent service quality and network reliability issues. The audit evaluated Frontier's operations, management practices, and internal controls, with the objective of identifying improvements to existing processes, systems, and organizational structures.

The audit examined seven areas:

1. Customer operations Internal Controls and processes,
2. Root causes of service quality failures,
3. Preventative Maintenance Program ("PMP"),
4. Adequacy of reporting under Case 20-C-0267,
5. Accuracy of reports filed with the Commission,
6. Customer Complaints, and
7. Organizational Structure.

The data collection effort included 178 information requests ("IRs"), interviews with 19 Frontier personnel, and on-site fieldwork reviewing Frontier's repair and restoration activities.

The audit reviewed performance from 2020 through April 2025 and examined accuracy of key service metrics (Customer Trouble Report Rate or "CTRR" and Percent Out-of-Service Over 24 Hours or "%OOS>24 Hours"), accuracy of customer rebates paid for substandard service quality performance, trouble ticket handling, resource deployment, repair timeliness, accuracy and adequacy of reporting on capital investment projects undertaken under Case 20-C-0267, customer complaint handling processes, preventative maintenance practices, and organizational decision-making.

Key Findings

Audit Area 1: Customer Operations Internal Controls and Processes

- Service quality reporting and associated customer rebate calculations rely heavily on manual workarounds, creating errors.
- In determining whether service quality thresholds are met, Frontier applies an incorrect numerical standard for CTRR (3.35 instead of 3.3).
- Approximately 30% of rebate instances between 2021 and February 2025 were inaccurate, and 13% of customer rebates were issued late. Both accuracy and timeliness of customer rebate payments improved following process modifications implemented starting in December 2023.

- The use of an incorrect service quality threshold for CTRR caused Frontier to overlook a number of rebate-triggering situations between 2021 and February 2025; the overall underpayment of rebates due to the inaccurate CTRR threshold is $192,484 through February 2025.
- Inaccuracies in some customer rebate payments were caused by inaccurate rebate percentages, inaccurate per line credits, and inaccurate line counts credited. These root causes caused gross underpayment in some cases, and gross overpayment in other cases, with a net overpayment of approximately $71,779 between November 2021 and February 2025 (~4.4% of total paid rebates for the same period). For cases of underpayments, the majority of inaccuracies were during the time period November 2021-July 2022.
- Frontier's formula for calculating metric %OOS> 24 Hours is inconsistent with Consultant's reading of the Uniform Measurement Guidelines when a customer requests appointments beyond the 24-hour time frame, which materially understates the percentage of Out of Service ("OOS") troubles that are not cleared in a timely manner.
- Restatement of metric %OOS>24 Hours based on Consultant's reading of the Uniform Measurement Guidelines regarding treatment of customer-negotiated appointments triggers a need for a Remedial Plan and Frontier investing $100,000 towards service quality improvements for 4Q 2021.
- Frontier classifies some "no dial tone" troubles incorrectly as "not out-of-service" ("NOOS"). This outcome is observed when several fields of the same ticket (information collected by the agent) contain conflicting information. All "no dial tone" tickets should be classified as OOS tickets. This inaccuracy is affecting not only the accuracy of metric %OOS>24 Hours, but may also impact the priority these individual tickets receive.

<u>Audit Area 2: Root Causes of Service Quality Failures</u>

- Adoption of best practices from high-performing Local Managers could improve service quality performance.
- Additional technicians may be required in regions unable to meet service quality standards.
- Frontier's Action Plan did not achieve sustained service quality improvements.
- While overall volumes of OOS trouble tickets have declined over the audit period, their rate of decline has not kept pace with Frontier's annual access line losses meaning that on a statewide per-line basis, Frontier's rate of OOS troubles has actually increased over time.
- Declining access line counts have not compromised the CTRR metric.

<u>Audit Area 3: Preventative Maintenance Program</u>

- Frontier applied its PMP statewide, beyond what the Settlement Agreement in Case Nos. 21-M-0042/20-E-0586 required.

- Frontier's PMP spending met Settlement Agreement obligations.
- Benefits associated with the PMP are unclear; approximately 137,000 customer outage hours (since implementation of the PMP) appear linked to back-up system failures during commercial power loss.

Audit Area 4: Adequacy of Reporting under Case 20-C-0267

- Frontier exceeded its Action Plan investment commitments, spending over $20M in the 24 low-performing Central Office Entities ("COEs") and $254.5M in New York from 2021 – 2023.
- Reporting on the progress of capital projects is reasonably accurate.
- Justification for selecting and modifying Action Plan projects was insufficient.
- Investment was disproportionately concentrated in four COEs (91%), with roughly half of planned investment shifted away from the remaining 20 Action Plan COEs.

Audit Area 5: Accuracy of Reports Filed with the Commission

- Incorrect COE counts and improper treatment of customer-negotiated appointments cause Frontier to underreport CTRR by ~ 0.5% and %OOS>24 Hours by as much as 5 – 10%.
- Some "no dial tone" troubles are incorrectly treated as NOOS.

Audit Area 6: Customer Complaints

- Frontier uses a structured complaint handling system with defined processes, Key Performance Indicators ("KPIs"), and escalation procedures.
- Of the 6,183 customer complaints in New York during the audit period:
  - 91% involved residential customers,
  - 46% were repair-related,
  - 18% involved voice trouble-static/intermittent/no dial tone,
  - 3% related to extended service outages,
  - 32% involved long repair times, and
  - 58% involved poor customer service.
- Customer complaint volumes declined 55% over the audit period, slightly outpacing the 50% decline in access lines.
- Frontier does not track customer complaints by COE, operating company, or service address.
- Frontier has not consistently met its customer complaint handling KPIs.

Audit Area 7: Organizational Structure

- Frontier uses a holding company structure; New York operating companies are treated similarly to affiliates in other states.
- Many key functions supporting New York operations (e.g., engineering, network operations) are managed centrally by Frontier's shared services organization, Citizens Telecom Services Company ("CTSC").

- Field technicians and local managers have opportunities to raise service quality issues.
- Frontier takes into account New York retail service quality requirements in its decision-making and priority-setting process.
- Frontier's use of KPIs is widespread throughout the organization.
- Service quality deterioration is driven primarily by the aging copper network and limited market incentives to maintain that network, not by organizational structure alone.

Key Recommendations

A full list of actionable, implementable recommendations appears in Section X and Appendix 11. Major recommendations include:

- Automate Monthly Service Quality Reports and customer rebate-triggering conditions to reduce manual workload and error rate.
- Correct formulas for counting the number of COEs that meet the CTRR threshold to use the exact value "3.3" to align reporting with the threshold required by the Uniform Measurement Guidelines.
- Revise the COE list used in Monthly Service Quality Reporting going forward to match the list used in the Service Quarterly Quality Reports under Case 20-C-0267.
- Correct %OOS> 24 Hours calculations by removing tickets for which customer requested or accepted repairs outside the 24 hours but which cleared within 24 hours from the denominator of the formula. Seek clarification from the Commission on this issue.
- Ensure proper classification and prioritization of all no dial tone tickets as OOS tickets.
- Provide system generated CTRR and %OOS>24 Hours reports to New York Directors of Field Operations and their Local Managers.
- Use contractors to augment technician staffing until service quality stabilizes.
- Continue statewide PMP with enhancements, including retaining field technicians and local managers and periodic PMP data reviews.
- Improve customer complaint handling processes to meet KPIs, track emerging enhancements from the closed-loop feedback process, and provide weekly reports to field teams about repair-related customer complaints.
- Strengthen complaint-related KPIs, integrate them with performance evaluations, and develop a staffing plan to achieve consistent KPI compliance.

II. BACKGROUND

A. OVERVIEW

On November 20, 2024, the Commission initiated a focused operations audit of Frontier Communications Parent, Inc. and its New York affiliates ("Audit").[1] The purpose of the audit is to investigate ongoing and severe service quality and network reliability issues, including escalating customer trouble report rates, increasing complaint rates, lengthy repair durations, and localized network reliability problems, as well as problematic service quality metric reporting.[2] The Commission referenced three major service quality and network reliability improvement proceedings involving Frontier as motivating factors that led, in part, to the Commission requiring the audit, including Case 08-C-1140 (Open Market Plan), Case 20-C-0267 (Bankruptcy Restructuring), and Case 21-M-0042, et al. (Tropical Storm Isaias).[3]

At the Commission's direction, the Department of Public Service ("Department") Staff issued a request for proposals ("RFP") dated January 17, 2025,[4] seeking an independent auditor to conduct the Audit. Pursuant to its bid proposal dated February 17, 2025,[5] and the contract dated April 9, 2025,[6] QSI Consulting, Inc. (n/k/a Aperture Companies, LLC) (hereafter "Consultant") was selected to perform the Audit.

The Audit was conducted using the scope, objectives, methods, evaluative criteria, and schedule contained in the Final Work Plan dated May 14, 2025, as approved by the Department.[7]

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1 Case 24-C-0537, *Order Initiating a Focused Operations Audit,* issued and effective November 20, 2024 ("Initiating Order"). The term "Frontier" or "Company" is used in this report to refer to, collectively, Frontier Communications Parent, Inc. and the New York operating companies.

2 Initiating Order at 8-9.

3 Initiating Order at 2-7.

4 NYPSC Case 24-C-0537, Sr. No. 6, filed 04/10/2025.

5 NYPSC Case 24-C-0537, Sr. No. 7, filed 04/02/2025.

6 NYPSC Case 24-C-0537, Sr. No. 1, filed 04/29/2025.

7 Appendix 1 (Final Work Plan dated May 14, 2025). Consultant submitted a Draft Work Plan to the Department for review on May 5, 2025. Department Staff provided feedback on the Draft Work Plan on May 13, 2025. Consultant incorporated Department Staff's feedback into the Work Plan and submitted the Final Work Plan on May 14, 2025. The Department approved the Final Work Plan on May 14, 2025.

B. AUDIT SCOPE & OBJECTIVES

The primary objective of the Audit is to investigate and evaluate the operations, management, and internal controls of Frontier, with the goal of improving existing processes, practices, systems, and organizational structures to achieve better performance.[8] The Audit was guided by the principle that improvements to management practices and processes will lead to improved performance over time.

The focus of the Audit is seven specific audit areas pertaining to service quality and network reliability ("SQNR").

Seven Audit Areas	
1	SQNR #1 – Evaluate Customer Operations Internal Controls and Processes
2	SQNR #2 – Provide Root Cause Analyses for Service Quality Failure
3	SQNR #3 – Review the Preventative Maintenance Program
4	SQNR #4 – Evaluate Adequacy of Reporting on Case 20-C-0267
5	SQNR #5 – Examine the Accuracy of Reports Filed with the Commission
6	Customer Complaints
7	Organizational Structure

Specific objectives were established for each of the seven audit areas in the Final Work Plan.

Audit Area 1	**SQNR #1 – Evaluate Customer Operations Internal Controls and Processes**
Objective	Evaluate Frontier's customer operations internal controls and processes, focusing on the methods and procedures used to determine customer rebates that Frontier is required to pay when the CTRR performance threshold established in Case 08-C-1140 is not met (no more than 3.3 customer troubles per 100 access lines in at least 90% of COEs on a rolling 12 months). Evaluate accuracy and timeliness of customer rebates for failed service quality, as well as adequacy of Frontier's treatment of OOS trouble tickets for which customer requests restoration appointments beyond the required 24-hour timeframe.

Audit Area 2	**SQNR #2 – Provide Root Cause Analyses for Service Quality Failure**

[8] Appendix 1 (Final Work Plan dated May 14, 2025) at 1.

Objective	The primary motivation for undertaking this operations audit is to better understand the root causes of Frontier's deteriorating service quality and network reliability. Despite attempts to make investments and improvements over time, the trend of deteriorating performance continues. The objective for this task is to investigate and identify the root causes of the decline in Frontier's service quality and network reliability, with special emphasis on the following five issues: (a) Resource deployment and adequacy justification to meet service quality metrics; (b) Overall decline in service quality (CTRR, OOS and Service Affecting) during the last five years, after investments were made in Case 20-C-0267; (c) Overall decline in maintaining timeliness of repair; (d) Overrun time for OOS tickets even after investments in improving facilities and hiring technicians; and (e) Irreversible service quality threshold failure in COEs with fewer access lines.

Audit Area 3	**SQNR #3 – Review the Preventative Maintenance Program**
Objective	Review and evaluate Frontier's PMP resulting from the Settlement Agreement approved in Cases 21-M-0042 and 20-E-0586. The PMP was limited to three Frontier incumbent local exchange carriers ("ILECs") who were signatories to the settlement in that case, namely Frontier Communications of New York, Frontier Communications of Ausable Valley, and Citizens Telecommunications Company of New York.

Audit Area 4	**SQNR #4 – Evaluate Adequacy of Reporting on Case 20-C-0267**
Objective	Evaluate Frontier's accuracy and adequacy of reporting associated with Frontier's Action Plan adopted in the restructuring / bankruptcy Case 20-C-0267, which included investment of over $12.5 million in 24 chronically underperforming COEs.

Audit Area 5	**SQNR #5 – Examine the Accuracy of Reports Filed with the Commission**

Objective	Examine the accuracy of Frontier's reports filed with the Commission, including the systems used to generate the reports, and assess any planned changes to the reporting process. This task's scope encompasses monthly CTRR metrics, timeliness of repair metrics, project cost reporting, and the Company's retention of financial information and ability to retrieve prior years' data.

Audit Area 6	**Customer Complaints**
Objective	Examine the root causes of complaints filed with the Department, including extended service outages, slow to make repairs, and poor customer service.

Audit Area 7	**Organizational Structure**
Objective	Review Frontier's organizational structure and evaluate the extent to which it affects service quality performance, service quality data reporting, operating systems, network reliability, and customer complaints.

The Audit covered all seven Frontier ILEC affiliates and the single Competitive Local Exchange Carrier ("CLEC") affiliate in New York.[9]

Frontier New York ILECs
Frontier Telephone of Rochester, Inc.
Frontier Communications of New York, Inc.
Frontier Communications of Ausable Valley, Inc.
Frontier Communications of Seneca-Gorham, Inc.
Frontier Communications of Sylvan Lake, Inc.
Citizens Telecommunications Company of New York, Inc.
Ogden Telephone Company
Frontier New York CLEC
Frontier Communications of America

[9] Maps showing the service territories of the seven Frontier New York ILECs are provided in Appendix 2 (Service Territory Maps). The service territory of Frontier's New York CLEC is statewide.

The strategic recommendations developed by Consultant were designed to address root causes of Frontier's SQNR-related problems and seek to improve the Company's performance going forward.

C. AUDIT APPROACH

Methods for conducting the audit were established in the Final Work Plan and followed during the course of the audit. These methods called for the Consultant to:

- Analyze current and historical information for purpose of understanding the operations, management, and internal controls of Frontier's New York operating entities;
- Examine problems related to service quality and network reliability issues, including escalating trouble report rates, increasing customer complaints, lengthy repair durations, localized network reliability problems, problematic rebates, reporting errors and inconsistencies, and data reliability concerns;
- Collect relevant data and information via information/document requests, interviews, and potential field work using a 5-year study period (hereafter "Audit Period");
- Analyze data provided by Frontier for accuracy, reliability, consistency in order to identify potential computational errors, data reporting errors, etc.;
- Pursue key objectives and outcomes including identifying root causes and areas of improvement, ensuring service quality data reliability and compliance, improving customer satisfaction, and developing recommendations for future improvements;
- Draw upon data and lessons learned from prior cases, including Case 08-C-1140 (Open Market Plan), 20-C-0267 (Bankruptcy), 21-M-0042 (Storm Isaias Response), as well as ongoing docket(s) such as Case 24-C-0618 (Verizon/Frontier acquisition);
- Maintain a comprehensive audit trail consisting of workpapers, interview notes, statistical analyses, and other supporting documents in a sequentially organized electronic format;
- Develop meaningful, actionable, implementable, and well-supported recommendations;
- Utilize Benefit/Cost Analyses ("BCA") to consider potential benefits, potential risks, one-time and ongoing costs, and potential savings/efficiencies of recommendations;
- Coordinate with the Department's and Frontier's established points of contact; and
- Identify improvement opportunities and recommendations that address root causes and seek to improve performance.

The specific methods and procedures tailored to each audit area are discussed in Sections III through IX of the report below.

The audit was conducted according to a 10 phase approach, as established in the Consultant's bid proposal and Final Work Plan.

10 Phase Audit Approach	
1	Initial Data Collection and Review
2	Project Start-Up (Orientation Meetings & Work Plan)
3	Information Requests
4	Interviews and On-Site Field Work
5	Examination and Assessment of Data
6	Develop Findings, Conclusions and Recommendations
7	Prepare Benefits/Cost Analyses
8	Draft Report
9	Incorporate Feedback
10	Final Report

The primary data gathering phases (#3 and #4) included issuing IRs, conducting interviews of key Frontier personnel, and performing on-site field work in conjunction with Frontier and Department Staff. A total of 178 IRs were issued during the audit covering all audit areas.[10]

Summary of IRs by Audit Area	
SQNR #1 – Evaluate Customer Operations Internal Controls and Processes	25 IRs
SQNR #2 – Provide Root Cause Analyses for Service Quality Failure	43 IRs
SQNR #3 – Review the Preventative Maintenance Program	7 IRs
SQNR #4 – Evaluate Adequacy of Reporting on Case 20-C-0267	14 IRs
SQNR #5 – Examine the Accuracy of Reports Filed with the Commission	13 IRs
Customer Complaints	39 IRs
Organizational Structure	34 IRs
Benefit/Cost Analyses	2 IRs
Other	1 IR
TOTAL	178 IRs

Frontier's IR responses were provided on a rolling basis, covering 42 separate sets of IR responses. On average, Frontier's IR responses were submitted 9 days late, as compared to the 10-day response window. Consultant inventoried Frontier's IR responses as they

[10] A total of 11 sets of IRs were submitted: Set 1 (05/13/2025), Set 2 (05/20/2025), Set 3 (06/25/2025), Set 4 (06/30/2025), Set 5 (07/11/2025), Set 6 (07/25/2025), Set 7 (07/31/2025), Set 8 (08/08/2025), Set 9 (09/08/2025), Set 10 (09/17/2025), and Set 11 (10/14/2025).

were received and compiled a discovery database that tracks each request and response, IR set number, IR question number, issue date, due date, response date, etc.[11]

Consultant conducted 14 interviews covering 18 separate Frontier personnel at various levels in the organization, ranging from Local Managers whose day-to-day responsibilities include maintaining and repairing the Company's network in New York, to Senior Vice Presidents ("SVPs") responsible for the strategic planning and management of resources supporting the Frontier New York affiliates. The interviews were intended to gain a better understanding of Frontier's operations and organizational structure, decision-making process, and resource allocation, as well as to clarify certain information provided in Frontier's IR responses.[12]

Summary of Interviews		
Title of Interviewee	**Date**	**Topic(s)**
Vice President ("VP"), Regulatory Reporting	06/16/25	OOS, CTRR, ticket data, data sources
VP, Regulatory Reporting	06/17/25	OOS, CTRR, ticket data, data sources
Director of Operations, National Staff Support Group	06/20/25	Trouble tickets
Senior ("Sr.") Financial Analyst	06/23/25	Financial reporting, quarterly project reporting
VP, Information Technology ("IT") Development	06/25/25	Data warehouse inputs for access lines and tickets, programming, exports to Power BI
Industry Common Language & Standards Manager	06/27/25	Switch information, Common Language Location Identification ("CLLI"), exchanges, operating areas
Director of Operations, National Staff Support Group	07/18/25	Preventative Maintenance Plan
VP of Network Engineering		
Sr. Network Operations Manager		
Sr. Director of Accounting		
SVP Financial Planning & Analysis ("FP&A") and Capital Mgt & SVP of Finance and Operations	07/24/25	Network investment decision-making

[11] Appendix 3 (Master Discovery Database). This appendix inventories all IRs and responses in a sequentially organized electronic format.

[12] Appendix 4 (Interview Notes, Scripts).

Summary of Interviews		
Title of Interviewee	**Date**	**Topic(s)**
SVP Operations East Region	07/29/25	Network maintenance
Manager, Office of the President ("OOTP")	07/29/25	Customer complaint handling process
Management, Sr. Specialist Customer Relations, OOTP		
Supervisor, OOTP		
SVP Field Operations & Services Group	07/31/25	Network maintenance, trouble ticket handling procedures
SVP Construction & Engineering	08/05/25	Network maintenance, service outage response, outside plant ("OSP") damage
SVP National Architecture & Engineering	08/05/25	Network monitoring, trouble identification, outage response
Local Manager (Rochester Tel. Reporting Center)	09/03/25	OSP / field technician force management, maintenance and repair activities, service quality metrics, performance trends

Consultant conducted on-site field work on August 5, 2025 (in conjunction with Department Staff), at Frontier's offices at [redacted], [redacted]. The purpose of the field work was to "ride-along" with Frontier OSP technicians as they conducted repair visits in response to recent trouble tickets. This provided insight into how tickets translate into actual field work, how technicians interact with the Mobile Tech Portal ("MTP") that guides their ticket-driven activities, the actual facilities conditions that technicians confront, and the diagnostic and repair work they perform. The Consultant field team met with Local Managers (Central Office Manager and OSP Manager) throughout the field visit to gain a better understanding of their day-to-day job responsibilities.

D. ORGANIZATION OF THE REPORT

The remainder of this report addresses the seven audit areas and the Benefit/Cost Analyses:

- Section III: SQNR #1 – Evaluate Customer Operations Internal Controls and Processes;
- Section IV: SQNR #2 – Provide Root Cause Analyses for Service Quality Failure;
- Section V: SQNR #3 – Review the Preventative Maintenance Program;

- Section VI: SQNR #4 – Evaluate Adequacy of Reporting on Case 20-C-0267;
- Section VII: SQNR #5 – Examine the Accuracy of Reports Filed with the Commission;
- Section VIII: Customer Complaints;
- Section IX: Organizational Structure; and
- Section X: Benefit/Cost Analyses.

Each section of the report addresses the audit area's scope, work tasks, findings/conclusions, and recommendations. The Final Work Plan established a list of preliminary evaluative criteria Consultant used to analyze each audit area. Those evaluative criteria and related findings are addressed below in the "Findings & Conclusions" section for each audit area.

III. SERVICE QUALITY & NETWORK RELIABILITY #1
EVALUATE CUSTOMER OPERATIONS INTERNAL CONTROLS & PROCESSES

A. SCOPE

The scope of this audit area is to evaluate Frontier's customer operations internal controls and processes, focusing on the methods and procedures used to determine customer rebates that Frontier is required to pay when the CTRR performance threshold established in Case 08-C-1140 is not met.[13]

Evaluating the accuracy of Frontier's rebate program requires examination of numerous components, including accuracy of CTRR metrics, accuracy of the methods and procedures used to determine whether the CTRR performance threshold is met, accuracy of the COE list used in the rebate program, and accuracy and timeliness of customer rebate payments.

Consultant separately (i.e., not related to rebate payments) examined the adequacy of Frontier's treatment of OOS trouble tickets where customers request restoration appointments beyond the required 24-hour timeframe when calculating service quality metrics %OOS>24 Hours. Frontier was required to include this metric in its quarterly reports filed in Case 20-C-0267.

B. WORK TASKS

Summary of Work Tasks

The work tasks completed in this audit area are summarized below.

- Consultant reviewed the Commission's rules on service standards,[14] the Order that adopted the current customer rebates program for failure to meet the 90% COEs threshold for metric "12-months rolling average percent of COEs with CTRR at or below 3.3",[15] as well as service quality measurement rules contained in the Department's Office of Telecommunications "Telecommunications Service Quality Uniform Measurement Guidelines."

[13] The performance threshold is no more than 3.3 customer troubles per 100 access lines in at least 90% of COEs on a rolling 12 months basis.

[14] 16 NYCRR § 602.1 "Definitions" and § 603 "Service Standards Applicable to Telephone Corporations."

[15] Case 08-C-1140, Order Adopting Joint Stipulation and Agreement dated October 17, 2008 ("2008 Order").

- Consultant issued IRs and conducted interviews of Frontier subject matter experts ("SMEs") to gain a general understanding of (i) Frontier's methods and procedures for determining rebate amounts under the customer rebate program adopted in the 2008 Order, (ii) sources and calculations supporting the CTRR and the 12-month rolling average percent of COEs with CTRR at or below 3.3 as used in the determination of customer rebates, and (iii) definitions of COEs.[16]
- Consultant developed a process diagram that illustrates the Company's current workflows that relate to the calculation and issuance of customer rebates for failures to meet service quality metrics.
- Consultant collected and analyzed granular tickets and line count data feeding Frontier's derivation of metrics CTTR and OOS,[17] as well as the 12-month rolling average of CTRR.[18]
- Consultant evaluated the extent to which Frontier's procedures for determining whether the CTRR performance threshold is met adheres to the 2008 Order and Uniform Measurement Guidelines, and it evaluated the impact of more appropriate alternative approaches to calculating this metric.
- Consultant evaluated accuracy of the COE list used to determine the 12-month rolling average percent of COEs with CTRRs at or below 3.3.
- Consultant evaluated the accuracy of rebate amounts by calculating Consultant-restated rebate amounts that incorporate corrected CTRRs, rebate percentages, tariff rates for basic monthly service, and granular line count data. Consultant also summarized key root causes of material differences between the Consultant-restated rebate amounts compared to the amounts of rebates paid by Frontier. Consultant also evaluated the timeliness of rebates.
- Consultant issued IRs and conducted interviews of Frontier SMEs to gain an understanding of Frontier's treatment of OOS trouble tickets for which customer requests restoration appointments beyond the required 24-hour timeframe.[19] Consultant collected and analyzed tickets data containing Frontier's derivation of metric %OOS>24 Hours for purposes of service quality reporting to the Commission.

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[16] Interviews with Vice President, Regulatory Reporting, dated June 16, 2025 and June 17, 2025; VP IT Development, dated June 25, 2025; Director of Operations, National Staff Support Group dated June 20, 2025; and Industry Common Language & Standards Manager dated June 27, 2025.

[17] These data were provided in IR Responses #34(iv) and #151.

[18] These data were provided in IR Response# IR 34(i) and (ii).

[19] VP Regulatory Reporting Interview, 06/16/2025 and 06/17/2025; VP IT Development Interview, 06/25/2025.

- Consultant evaluated the extent to which Frontier's approach adheres to the Uniform Measurement Guidelines, as well as the impact of more appropriate alternative approaches to calculating metric %OOS>24 Hours. Consultant also evaluated Staff's proposed alternative method of measuring timeliness of customer-negotiated tickets, according to which the 24-hour clock on customer negotiated appointments starts on the day of the appointment.

Detailed Description of Work Tasks

Key provisions from the Commission's 2008 Order, New York regulations, and the Uniform Measurement Guidelines that were used in the evaluation of this audit area are listed below.

The 2008 Order, Rules, and Guidelines

The 2008 Order Adopting the Joint Stipulation and Agreement on Establishing the Customer Rebate Program and Measuring % COEs meeting CTTR threshold of 3.3 per 100 lines.
Customer Rebate Program: "… customers served by central offices with poor performance receive a rebate of either 25% or 50% of the monthly basic service charge, if the companies fail to achieve a 90% customer trouble report rate (CTRR) threshold in all exchanges." Footnote 11: "If the central office has a customer trouble report rate above 3.3 per 100 access lines, the rebate is 25%; if the CTRR is above 5.5 per 100 access lines, the rebate is 50%." (2008 Order at 5)
Calculation of % COE with CTRR at or lower than 3.3 per 100 access lines: "A customer rebate system … will be based on the total number of measurement opportunities on a twelve month rolling basis … A "measurement opportunity" is the monthly Customer Trouble Report Rate (CTRR) performance of each central office. … For purposes of this rebate, the Citizens NYS ILECs currently have a total of 210 central offices. Thus the total number of measurement opportunities on a rolling 12-month basis would be 2,520." (Joint Stipulation at 7)
Rebate amount based on the tariffed rate: "A customer rebate equal to 25% of the *flat monthly basic service charge* as presented in each of the respective Citizen NYS ILECs' tariffs (this applies to retail business and residence customers that are jurisdictionally regulated with respect to retail service quality) shall be applied to customer bills when the companies fail a 90% CTRR (90% of the central office entities) with CTRR of at or lower than 3.3. per 100 access lines over a rolling 12-months average ("Performance Threshold"). The 25% rebate to customers will go to customers in the affected central office entities, will be based upon specific rate groups, and message rate customers will receive the same rebate as flat rate customers. The rebates shall be credited within 60 days of the report of failure to the Commission, which occurs on the 10th day of the month following the failure to meet the Performance Threshold(s). During periods when the Performance Threshold is missed, the rebate shall double to 50% of the monthly service charge for each central office where the CTRR measurement exceeds the higher

threshold of 5.5 CTRR per 100 access lines." Footnote 7: "This rebate will not apply to private line customers." (Joint Stipulation at 7-8) (emphasis added)
NYCRR Part 603 "Service Standards Applicable to Telephone Corporations"
Applicability of Performance Standards: The standards set forth herein relate to the quality of service under normal operating conditions. They do not establish a level of performance to be achieved during periods of emergency, catastrophe, natural disaster, severe storm or other events affecting large numbers of consumers nor shall they apply to extraordinary or abnormal conditions of operation, such as those resulting from work stoppage, civil unrest, major transportation disruptions or other events beyond a service provider's control. (NYCRR § 603.1(c))
Services tracked in Performance Metrics:(b) (2) Reports included in the Customer Trouble Report Rate are limited to troubles associated with the regulated components of residential, business, Centrex and pay telephone service of the service provider's customers, and also includes all regulated features associated with these services except voice mailboxes. (3) Customer trouble reports received as a result of any network failure are included in the report rate. (4) Separate trouble reports should be recorded and included in the customer trouble report rate for multiple-line customers, for each access line identified by the customer. (NYCRR § 603.3(b))
Rules on Measuring CTTR (Uniform Measurement Guidelines at 4-8):
Definition of a Customer Trouble Report: A "… record of when the repair office personnel receives notification of a trouble or perceived trouble by a subscriber… A trouble is an impairment of the telephone network, or a deviation from its design specifications. … An initial trouble report – The first customer trouble report associated with a specific trouble for which there is no pending customer report." (Uniform Measurement Guidelines at 5).
Formula for CTRR: "Total measured initial [trouble] reports divided by the result of the total access lines divided by 100, reported per central office entity per month. … CTRR is reported to the hundredth decimal place, using traditional mathematical rounding." (Uniform Measurement Guidelines at 7)
Measurement Entity: "A central office switch identified in the public switched network by a unique routing address, and having one or more NA-NXX codes. … Examples: Two switches serving one exchange = two measurable entities. … Remote switch serving the same exchange as the host switch = two measurable entities. One switch serving two exchanges = one measurable entity." (Uniform Measurement Guidelines at 4-5) "… [CTRR is reported] per central office entity with each entity consistently identified by a single assigned NPA-NXX. The single identifying NPA-NXX will usually be that used in the Local Exchange Routing Guide (LERG) for identifying the origination and termination of calls in the network." (Uniform Measurement Guidelines at 8*)*
Access Lines and associated initial trouble reports to be counted in CTRR: "All public switched network lines including residence, business, Centrex, Payphone, and voice-grade PBX trunks. All initial trouble reports associated with the service itself … except that noted below. Access Lines and/or trouble reports to be excluded: All subsequent reports. All employee reports. All dedicated … circuits, Wide Area Telephone Service,

Integrated Service Digital Network (ISDN), and the Special Services portion of PBX Service. … trouble reports associated with voice mailboxes … customer equipment, inside wire and payphone instruments." (Uniform Measurement Guidelines at 5-6) "… Customer trouble reports on … resold facilities … are included in the CTRR of the carrier reselling the service to the customer, and are also included in the CTRR of the carrier providing the facilities to the resale carrier." (Uniform Measurement Guidelines at 6)
Rules on Measuring % OOS>24 Hours (Uniform Measurement Guidelines at 8-10):
Definition of OOS: "Out-Of-Service - A classification of a trouble report where the customer indicates either: an inability to complete incoming or outgoing calls; or (2) the presence of interference which causes connected calls to be incomprehensible. Other service difficulties (slow dial tone, busy circuits, etc.) shall not be considered out-of-service conditions … All troubles shall be classified when received as either out-of-service or service affecting, as described by the customer. Any trouble classified as out-of-service may not be reclassified as service affecting … Only initial trouble reports will be used to determine the percent out-of-service." (Uniform Measurement Guidelines at 9)
Calculation of the 24-hour time frame: "Sundays and holidays (i.e., those holidays during which the company is generally closed) are excluded (i.e., the timeframe from the close of normal operations on the day before the excluded day until resumption of normal operations on the day following the excluded day) from calculating the length of time that a customer is out-of-service … The 24 hour clock begins when the out-of-service condition is reported by the customer. If a service affecting trouble report is reclassified to an out-of-service condition, the clock for the out-of-service condition begins at the time of reclassification." (Uniform Measurement Guidelines at 9-10)
Treatment of OOS trouble reports for customers requesting appointments outside the 24-hour time frame: "OOS trouble reports for customers who have requested or accepted repairs outside of the 24 hour standard shall be excluded from the calculation of out-of-service troubles not cleared within 24 hours." (Uniform Measurement Guidelines at 10)[20]
Calculation of the Metric %OOS>24 Hours: "It is the number of measured initial customer out-of-service trouble reports not cleared within 24 hours divided by the total number of initial customer out-of-service trouble reports in a given month, … ." (Uniform Measurement Guidelines at 10)

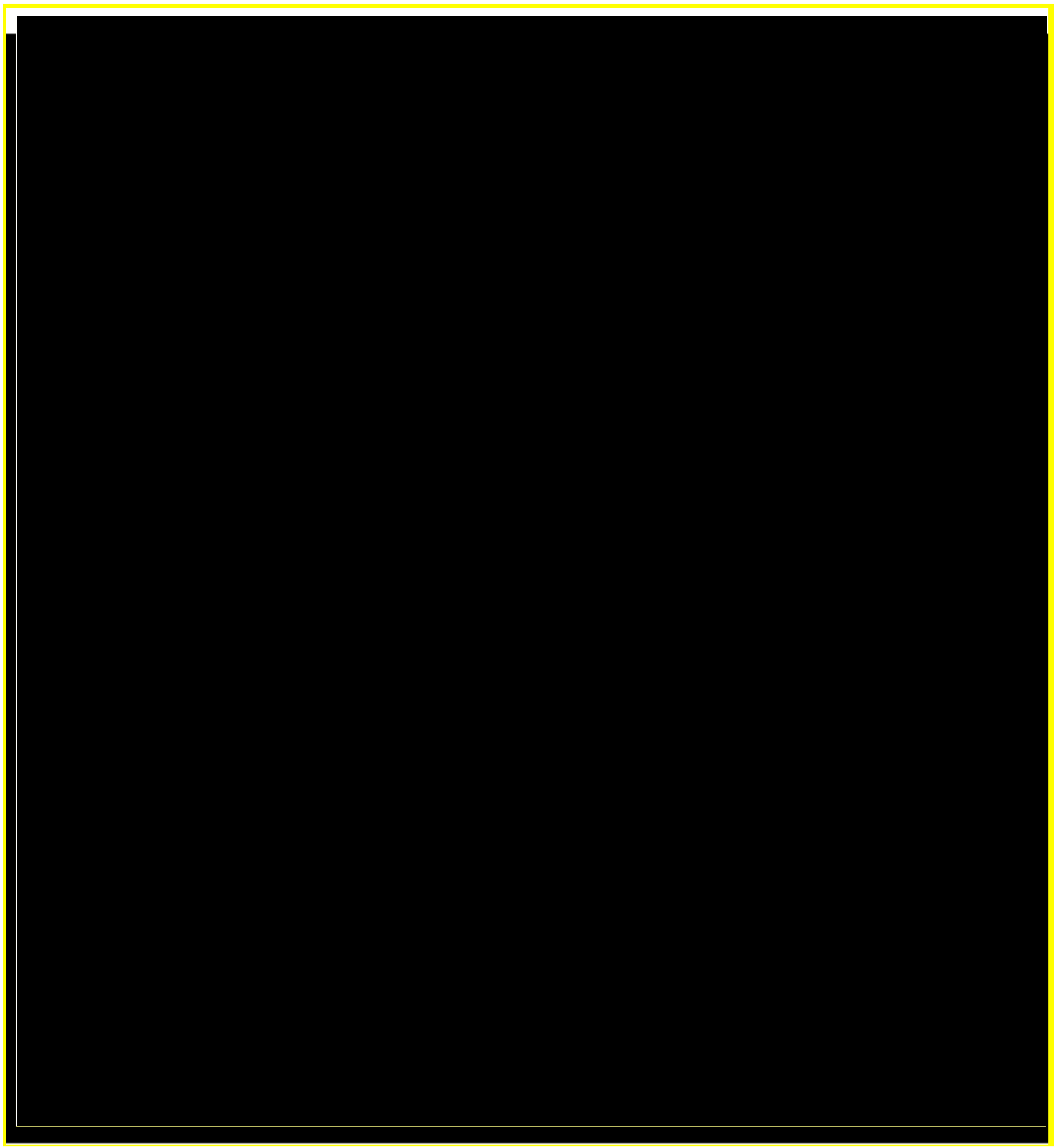
[20] According to Frontier data provided on or about November 5, customer-negotiated tickets represented approximately 11% of all network tickets in 2023. In addition, OOS tickets accounted for roughly 43% of network tickets during the same period. Accordingly, ensuring that these data are retained and made available for review by Department Staff upon request appears both reasonable and beneficial.

Frontier's Procedures

The following flow diagram depicts Frontier's procedures for developing the CTRR metrics for purposes of determining customer rebates.[21] Roman numerals and rectangular shapes are used in the flow diagram to denote steps in calculating CTRR and rebates.

[21] The Consultant developed this process diagram based on analysis of IR Response #25, #27, #28, #32-34, and VP Regulatory Reporting Interview, 06/16/2025 and 06/17/2025. Frontier indicates in its IR Response #28 that it does not have workflow charts or manuals for determining customer rebates.

[redacted]



The key steps in Frontier's process for calculating the CTRR metrics that triggers customer rebates are as follows:

- The process starts with a monthly download of granular (customer-level) line counts and tickets data into Microsoft Excel (See, Roman Numeral I). The rest of

the data processing is performed in a series of Microsoft Excel files using semi-manual processes that utilize pivot table summaries, as well as copying and pasting of ticket and line counts into downstream workbooks. This process also includes a manual "scrub" of data in cases where the same COE has slightly different spellings in different tables, and inexplicably, does not utilize CLLI codes, which are the industry standardized codes to identify specific central office switches.

- The same granular (customer-level) line counts and tickets data are the basis for the rebates and the Monthly Service Quality Reporting form compiled under the Open Market Plan Case 08-C-1140 ("Monthly Service Quality Reports"), and Quarterly Service Quality Reports under Case 20-C-0267 ("Quarterly Service Quality Reports"). However, CTRRs in the Monthly Service Quality and Quarterly Service Quality Reports are not directly comparable for Frontier of Rochester because it uses different geographic units in these two reports: In the Monthly Service Quality Reports, Frontier of Rochester compiles the data by rate center (61 active[22] entities), and in the Quarterly Service Quality Reports by exchange (47 entities). Rate centers do not aggregate directly into exchanges.
- The key step in producing monthly ticket and line counts by COE is depicted by the box labeled Roman numeral II. Here, the data are summarized in two ways. The first version (by rate center for Frontier of Rochester, and exchange for other ILECs) produces a list of COEs that appear in the Department's Monthly Service Quality Reporting form under the Open Market Plan docket (Roman numeral III). The second version (by exchange for all Frontier ILECs) produces a list of COEs that appear in Quarterly Service Quality Reporting under Case 20-C-0267 (Roman numeral V).
- Determination of whether rebate conditions are triggered in a certain month, and if so, which COEs and customers would be subject to rebates, and the calculation of

[22] Monthly Service Quality Reports also include a 62nd entity containing no line or trouble counts, which is labeled "JEFFERSON RD*No longer active." For the Consultant verification workbook, see Workpaper 1 (SQ 4&5 - 1. Verification of CTRR in Monthly reports).

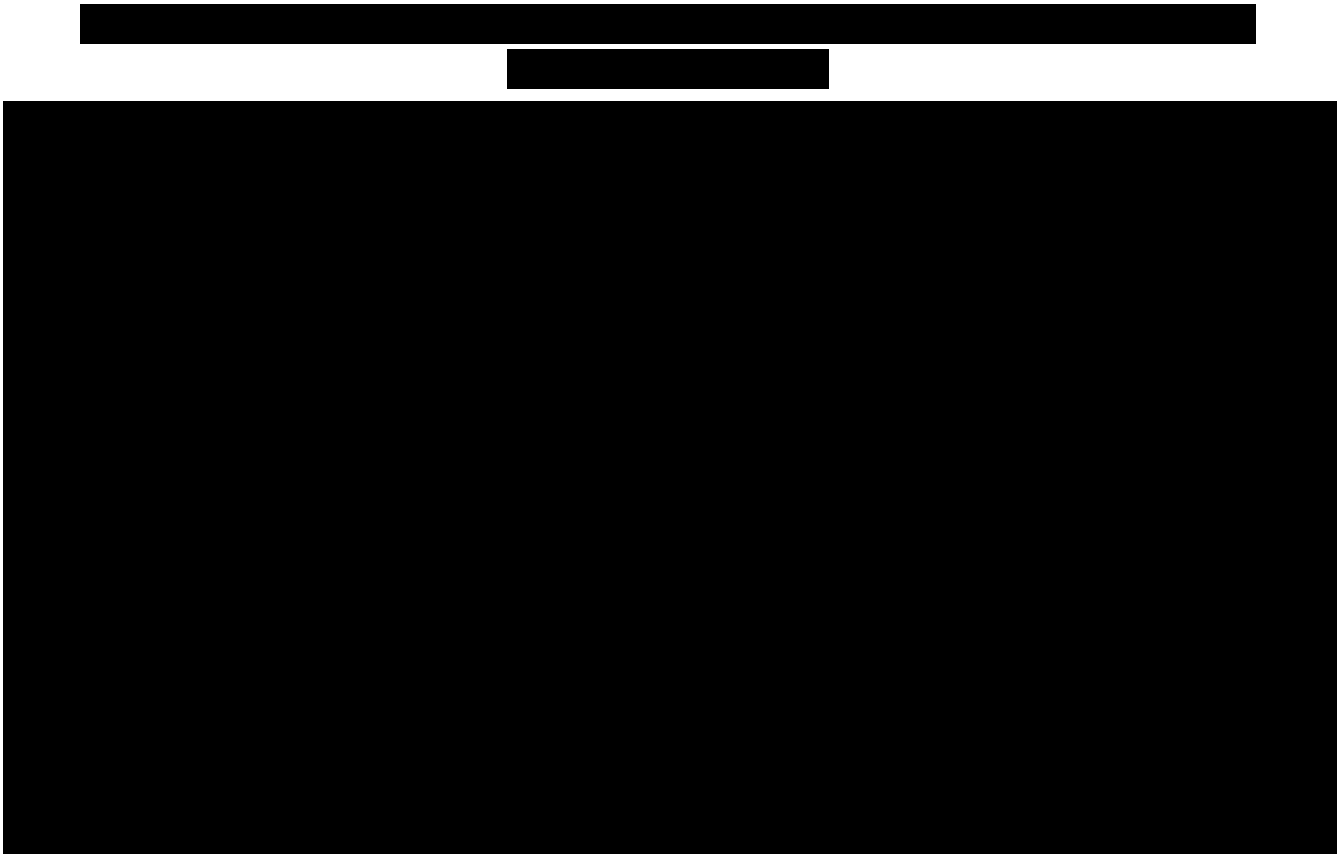
amounts of rebates are done semi-manually in separate Microsoft Excel files[23] (Roman numerals IV, VI and VII).

Accuracy of CTRR Metrics Used in the Customer Rebate Program

For each month between January 2021 and April 2025, the Consultant restated CTRRs by collecting granular tickets and line count data and summarizing the data according to the logic described by Frontier.[24] The following table summarizes the observed discrepancies in line and ticket counts. This table reports the sum of absolute values of discrepancies so that negative discrepancies (cases where counts derived from granular data are less than counts reported in Monthly reports) do not cancel out positive discrepancies.

[23] IR Response #27 explains these steps as follows: "The CTRR for each individual COE is then copy/pasted into another excel file that tracks the overall 12 month rolling average percentage of COEs with CTRR<3.3.... An excel file is then created that identifies the COEs with a CTRR over 3.3... The access line details, including customer name and telephone number, for those COEs are added to the file in individual tabs and the file is handed off to another regulatory compliance employee. This regulatory compliance employee refers to the current rebate "cheat sheet".... The appropriate dollar amount of the credit is added to the detailed access line tab at the customer level and then the file is handed over to Frontier's bill verification team. ... The Bill Verification team creates a .csv that is audited by a second team member and then processed into production with the assistance of the Bill Tables team. When the customers' next bill is created, Bill Verification randomly verifies and documents accounts to ensure the credit appears on the bill statement, and the bill message has been applied...". In IR Response #168, when evaluating Consultant's recommendation on automation, Frontier stated that "The automation will identify when a COE qualifies for customer rebates under the OMP penalty. This automation would not automatically calculate the rebate amounts as the credits rely on hundreds of tariffed access line rates across Frontier's NY COEs. ... To build and maintain a table of all of NY access line rates in the data warehouse would add complexity and require constant maintenance when access line rates are changed, potentially leading to miscalculation of customer credits."

[24] VP Regulatory Reporting Interview, 06/16/2025 and 06/17/2025, and workbooks provided in IR Responses #25, #38(iv), and #151.



The first two sections of the table above show that the discrepancies in line counts were observed in most months prior to 2024,[25] and discrepancies in the ticket counts were observed in several months between January 2021 and April 2025. The one case with the high level of discrepancies in the ticket counts is August 2022. Here, the discrepancies were driven by two somewhat unrelated factors: (a) incomplete granular data for Frontier Telephone of Rochester, Inc.; and (b) what appears to be a mix up of the July and August data during compilation of the ticket counts for the Monthly Reports.[26] The last section of the table contains a count of instances where corrections to line and/or tickets counts altered the qualitative conclusion on whether a specific COE passed or failed the CTRR threshold in a given month. These counts are based on analysis of 52 months and 210

[25] As explained in Frontier Response to IR #151 (in which Consultant requested then-missing granular line count files for January – October 2021, August-December 2022 and all months in 2023) "[a]ccess line details were not consistently downloaded prior to January 2024. …Frontier submitted a request to the IT department for the archived details of access lines requested….There may be some minor differences to line counts due to timing of pulling the data as well as IT attempting to replicate the historical Spotfire queries that are no longer available due to expired licenses."

[26] Consultant concluded that the July and August data columns were mixed up because the numerical discrepancy in July is the same in August but with opposite sign for a large number of COEs of Citizens Telecommunications Company of New York, Inc. and for most COEs of Frontier Communications of Seneca-Gorham, Inc.

COEs, resulting in 10,920 data points. There were only a few "material" differences between CTRRs in the Monthly Service Quality Reports and Consultant-restated CTRRs; that is, only 13 months/COEs combinations out of 10,920 changed the CTRR result qualitatively (i.e., "flipping" from being below the service quality threshold of 3.3 customer troubles per 100 access lines to being above this threshold, or vice versa). However, these corrections did not affect the metric that triggers rebates in specific months (which is the 12-month rolling average percent of COEs with CTRR at or below 3.3).

The Consultant noticed one minor inaccuracy in Frontier's procedure for compiling line counts and tickets for Monthly Service Quality Reports metrics: Frontier's procedure includes Integrated Service Digital Network ("ISDN") line counts in the total line counts, while the Uniform Measurement Guidelines require these ISDN lines to be removed from the CTRR numerator and denominator. This is a minor issue due to a relatively small number of ISDN line counts.[27]

Accuracy of Methods and Procedures Used to Determine whether the CTRR Performance Threshold Triggering Rebates is Met

The trigger that determines whether customer rebates are due in a specific month is the 12-month rolling average percentage of COEs with CTRR exceeds 3.3.[28] If Frontier fails to achieve this threshold in 90% of COEs, rebates are due to customers.[29] Frontier provided in discovery[30] a worksheet that develops the 12-month rolling average percent of COEs with CTRR at or below 3.3. The Consultant noticed that Frontier's formulas for counting the number of COEs that meet the 3.3 threshold is inaccurate because it uses the mathematical expression "<3.35," as opposed to a precise mathematical expression of

[27] Specifically, using year 2022 as an example, total monthly counts of ISDN lines ranged between 1,177 and 1,249 statewide, or equivalently, less than 1% of total access lines included in Monthly Service Quality Reports. At an individual COE level, ISDN lines constituted less than 4% of total lines in all but one COE. The only COE with significant relative and absolute numbers of ISDN lines was Norwich with around 540 lines, or equivalently, 20% of total lines; however, CTRR metrics in this COE were consistently low (less than 1.10 in 2022 and less than 1.70 in all months between January 2021 and April 2025). Therefore, removal of ISDN lines from the denominator of CTRR in the Norwich COE did not change the qualitative outcome of whether the CTRR metric was met or failed at this COE (even without a corresponding adjustment to the numerator to remove tickets associated with ISDN lines, if any). Likewise, removal of ISDN lines from the denominator of CTRR in other COEs did not "flip" the CTRR result in any of the COEs in 2022.

[28] 2008 Order at 5, including Stipulation at 7.

[29] 2008 Order at 5, including Stipulation at 7.

[30] IR Response #34(i) and (ii) file IR1 Q#34i and ii CTRR 12 months rolling average Jan 2018 to 2025 CONFIDENTIAL.

"<=3.3" that is consistent with the stipulated rebates mechanism.[31] This Consultant correction identifies 57 COE/month combinations overlooked by Frontier where rebates should have been paid,[32] including an additional month when customer rebates should have been triggered (October 2021; 32 COEs) and 25 individual cases in other time periods when Frontier paid rebates in other COEs.[33]

The following table quantifies the impact of this inaccuracy by estimating rebate amounts that Frontier failed to identify and pay due to the use of the incorrect threshold "3.35."[34] The overall underpayment of rebates due to this inaccuracy is [redacted] through February 2025,[35] which is approximately 12% of the total amount of rebates paid during the same time period.

[redacted]

Accuracy of the COE List

According to the Uniform Measurement Guidelines (at 4-5), the measurement entity for the CTRR is a "central office switch identified in the public switched network by a unique routing address and having one or more NA-NXX codes." Likewise, the Department's form for reporting monthly CTRR results instructs reporting of the data "by switch" and notes that "A switch is designated by its unique CLLI. [Past versions of this form used an NPA-NXX (i.e., an Area Code and Exchange) as a unique identifier for a switch.]"[36] The Department's form instructs the reporting company to "list every switch," and its data layout table contains columns "Switch Name" and "CLLI Code," which are populated by

[31] Per the Uniform Measurement Guidelines at 7, CTRR is reported to the hundredth decimal place, using traditional mathematical rounding. Therefore, CTRR should first be rounded to two decimal places and then compared to the exact threshold of 3.3.

[32] Workpaper 2 (SQ1 - 1. Line Counts Tr Reports compiled from IR 25 & 129 Tab "COEs >3.3 CTRR Rebate Periods).

[33] One of the 25 individual cases (Nunda in December 2023) is missing for an unknown reason (its CTRR was 4.81, and therefore, its omission is not driven by Frontier's use of the incorrect threshold 3.35).

[34] Developed by combining Frontier's data provided in IR Responses #28, #31 (rebate workbooks), #25 (CTRR from Monthly Service Quality Reports), #38(iv) and #151 (granular line counts). For the native table, see Workpaper 3 (SQ1 - 3. Composite FR Credits Detail (from IR1 Q#32) with Consultant Restatements, Tab "Summary Tables for Report" at row 45).

[35] February 2025 is the last data point for which the Consultant received data on rebates.

[36] Cited from version 01.18 of this form. Frontier provided filed versions of this form in IR Response #25.

the reporting company along with the Number of Access Lines and Number of Trouble Reports.

As noted above, Frontier's process for compiling monthly service quality reports from granular line count and trouble ticket data is not based on central office switches as required. Instead, for Frontier of Rochester, the Company compiles the data by rate center. By design, this approach results in an inaccurate list of COEs because a "central office switch" is not the same as a "rate center." Numerically, this method produces 210 COEs in the Monthly Service Quality Reports versus 195 COEs observed in the Quarterly Service Quality Reports.[37] To be clear, the Stipulation adopted in the 2008 Order envisioned a rebate mechanism that was based on the 210 COEs as currently used by Frontier. Consultant raises the issue of the COE list not as a flaw in Frontier's implementation of the rebate mechanism, but as a recommendation on how to make the COE list used in the rebate program more consistent with the Uniform Measurement Guidelines going forward. In terms of geographical boundaries, there is no direct correspondence between rate centers and exchanges. For example, when mapping Frontier of Rochester's rate center Bushnell's Basin to exchanges, a portion of it maps to exchange "E. Rochester, NY," while another portion maps to exchange "East Rochester/ Pittsford, NY," to which three other rate centers are also mapped.[38]

Consultant recommends using the list of 195 COEs in the rebate mechanism as a matter of compliance with the rules. While this recommendation applies only going forward, Consultant tested its potential numerical impact using historical data. Because the rebate-triggering measure is the <u>percent of total COEs</u> that meets the CTRR service quality standard on a 12-month rolling average, the overall number of COEs (210 versus 195), as well as the associated differences in geographic boundaries, may affect the determination of whether rebates are triggered in a given month. To evaluate sensitivity of rebates to the "definitions" of COEs, the Consultant tested the impact of using Quarterly Service Quality Reports, instead of Monthly Service Quality Reports, in the calculation of the 12-month

[37] The list of 210 COEs in the Monthly Service Quality Reports include one COE for Frontier's CLEC company Frontier Communications of America, which is not included in the Quarterly Service Quality Reports. Therefore, the exact "apples-to-apples" comparison is 209 COEs in the Monthly Service Quality Reports versus 195 COEs in the Quarterly Service Quality Reports.

[38] Frontier provided a "mapping" of COEs contained in the Monthly Service Quality Reports to COEs in the Quarterly Service Quality Reports on June 11, 2025 (file "FTR CTRR report mapping to Quarterly reports wire centers") per verbal request to the Vice President, Regulatory Reporting. As explained by VP Regulatory Reporting, the mapping is based on NPANXX codes, so that in some cases portions of a rate center are mapped to more than one exchange.

rolling percentage of COEs with CTRR at or below the standard. The results of this hypothetical analysis are shown below.[39]

[redacted]



The key observations from the chart are:

- The 12-month rolling average percentage based on Quarterly Service Quality Reports would have consistently produced less favorable results (lower percentage of COEs that meet the CTTR standard) than the 12-month rolling average percentage that is based on Monthly Service Quality Reports.
- If the rebate program was based on the COEs in Quarterly Service Quality Reports (which is not the case today but which is Consultant's recommendation), there would be four additional months when rebates would have been triggered: August 2022, September 2022, October 2023 and November 2023. These four data points

[39] For the native chart, see Workpaper 1 (SQ 4&5 - 1. Verification of CTRR in Monthly reports, Tab "CTRR – M SQ Reports" at row 232). This workbook also utilizes data in Workpaper 4 (SQ 4&5 - 2. Verification of CTRR in Case 20-C-0267 quarterly reports).

are marked on the chart with data labels that show individual values. For example, the August 2022 rolling average based on Monthly Service Quality Reports was 90.52%, which did not trigger rebates because this value is greater than 90%. However, if Quarterly Service Quality Report figures were used, the 12-month rolling average would be 89.32%, which would have triggered rebates.

- Since both Monthly and Quarterly Service Reports are based on the same granular line count and trouble ticket data, the observed difference in the 12-month rolling average percentage curves are driven by the difference in the COE list (with Monthly Service Quality Reports using rate centers rather than exchanges when summarizing the data for Frontier of Rochester).

Department Staff flagged for the Consultant one specific COE of Frontier Communications of Sylvan Lake, LaGrange. Staff observed that this company has two exchanges, Hopewell Junction and LaGrange, but Frontier's Service Quality reports list only one COE, Hopewell Junction. The Consultant determined that the LaGrange office does not have any NPA-NXXs assigned to it and is, therefore, correctly omitted from Frontier's list of COEs (with the Hopewell Junction switch being the COE serving customers in the LaGrange area). For additional discussion of this topic, please see Section III(E) "Additional Technical Details" below.

Accuracy of Customer Rebate Payments

The Consultant collected and reviewed historical data on actual rebate payments under the program established in Case 08-C-1140 and Frontier workbooks developing rebate calculations.[40] There were two distinct periods during which Frontier was making payments under the customer rebate program.

- The first period started in November 2021, when, according to Frontier, rebate payments were first triggered, and rebate-triggering conditions lasted through July 2022 ("Period 1").
- The second period started in December 2023 when rebate-triggering conditions were observed again by Frontier, and continue through present (or at least April 2025, which is the last month for which CTRR data was provided) ("Period 2").

Based on the rebate payment data, Frontier had difficulties identifying rebate amounts in a timely fashion during Period 1, with only 49% of rebate instances issued timely (i.e., within 60 days after rebate-triggering service quality failure).[41] In contrast, 100% of rebate

[40] Data provided in IR Response #26-33. The Consultant analysis of rebate payments described in this section is contained in Workpaper 3 (SQ1 - 3. Composite FR Credits Detail (from IR1 Q#32) with Consultant Restatements).

[41] Summarized from Frontier data provided in IR Response #32. See Workpaper 3 (SQ1 - 3. Composite FR Credits Detail (from IR1 Q#32) with Consultant Restatements, Tab "Aperture Evaluative Criteria" row 11).

payments made in Period 2 were timely.[42] As explained by Frontier in IR Response #27, Frontier's current process for issuing rebates is slightly different from the process it used during Period 1, and inaccuracies observed in Period 1 were taken into account to improve the process used presently.[43] To account for the differences in rebate payment processes used during the two periods, the Consultant preserved separation of the two periods in the analyses of rebate accuracy. The following table summarizes the amounts Frontier paid as customer rebates under the program established in Case 08-C-1140.[44] The data presented in the table ends in February 2025 because that is the last month for which rebates were paid in the data set provided to the Consultant.[45]

[redacted]

Frontier paid a total of [redacted] in customer rebates under the program established in Case 08-C-1140, including [redacted] during Period 1 and [redacted] during Period 2. On an average monthly basis, these figures translate into approximately [redacted] per month during Period 1 and [redacted] per month during Period 2.[46] The average number of COEs

[42] Summarized from Frontier IR Response #32.

[43] More specifically, Frontier's IR Response #27 explains that "[w]hile the process was much the same as the current process to identify the COEs that required rebates, the Frontier regulatory compliance team did not create the customer list with the associated credit. Rather a list of NPA/NXX and the associated residential and business rebate amount were handed off to the Frontier IT team for them to apply the rebates to customers in the associated NPA/NXX. Inaccuracies of this process were identified, and effective December 2023 when Frontier triggered the credit requirement under the OMP, Regulatory Compliance takes the more detailed manual approach and develops the customer list and associated credit that it currently uses rather than relying on IT to identify the customers and the applicable rebate."

[44] Summarized from IR Response #32.

[45] The native form of this table is contained in Workpaper 3 (SQ1 - 3. Composite FR Credits Detail (from IR1 Q#32) with Consultant Restatements, Tab "Summary Tables for Report" at row 6).

[46] Calculated by dividing period totals by the number of months (9 months in Period 1, and 15 months in Period 2).

receiving payment also increased in Period 2 compared Period 1 – i.e., approximately 18 COEs received payments in Period 1 compared to 30 COEs in Period 2.[47]

The Consultant evaluated the accuracy of the formulas and logic in the Frontier workbooks used to develop the rebate calculations[48] against the rebate formula adopted in Case 08-C-1140. The Consultant checked each component of the formula that feeds into Frontier's rebate calculations, including (i) the above discussed rebate-triggering CTRR measures, (ii) rebate percentages (which should be 25% of basic monthly service if the CTRR in a COE is above 3.3 per 100 access lines, and 50% if CTRR exceeds 5.5 per 100 access lines), (iii) basic monthly service rates used to calculate per line rebate amounts (which should be based on then-current tariff rates), and (iv) retail residential and business line counts receiving rebates.

To put the following discussion of inaccuracies in a proper context, Frontier provided and Consultant examined the rebates data that had already been corrected by Frontier following Staff's review (which had already resulted in Frontier issuing additional rebates and true ups). The Consultant noted that, in some cases, the rebate percentage is inaccurate – either not agreeing with the value of the CTRR in Frontier's rebate workbooks,[49] or derived from an inaccurate value of CTRR used in the rebate workbooks.[50] In some cases, the per line credit is inaccurate,[51] including both cases of under- and over-statements. The total number of inaccuracies related to two particular causes – the rebate percentage and per line credits – are relatively small. A more frequent inaccuracy is

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47 Calculated by counting the number of distinct COEs/months combinations in the rebate payment workbooks provided in IR Response #32 and dividing them by the number of months (9 months in Period 1, and 15 months in Period 2).

48 Summarized from IR Response #32.

49 For example, based on IR1 Q#32 Credit Detail for 2022.xlsx, rebates were paid for December 2021 in the Cato exchange at the level 25% of basic service rates and totaled [redacted] However, the CTRR in this COE was 3.19 (below the level that triggers rebates). The Consultant verified that the Frontier-listed value of CTRR as 3.19 was accurate and concluded that Frontier *over*paid rebates in this COE in the amount of [redacted]

50 For example, based on IR1 Q#32 Credit Detail for 2022.xlsx, for a true up associated with April 2022 in COE Slaterville Springs, Frontier listed the CTRR at 4.40, and the associated rebate percentage as 25% to calculate rebates for [redacted] customers. However, the original (as opposed to true up) row for the same COE and month lists a different CTRR, 7.58 and associated rebate percentage of 50%, to determine rebate payments for [redacted] customers. The Consultant verified that value 7.58 is the correct level of CTRR for this month and concluded that Frontier *under*paid rebates for the [redacted] customers that were paid rebates during the true up.

51 For example, based on IR1 Q#32 Credit Detail December 23 through April 25.xlsx, the per line business credit for the Guilford COE for January 2024 was listed as $10.05, while the correct amount corresponding to the 25% level of rebates should have been $7.53 (per IR1 Q#28 CTRR Credits By Company 2020 to 2024.03.31.xlsx and verified by the Consultant based on tariff pages provided in IR Response #31). The Consultant determined that because of this inaccuracy, Frontier *over*paid rebates in this COE and month in the amount of approximately [redacted]

related to the line counts receiving credits. The Consultant made this observation after cross-checking customer counts that received rebate credits with the line counts contained in Monthly Service Quality Reports[52] and the granular line count data.[53] There are two types of inaccuracies related to the line counts – in some cases, line counts receiving rebates are less than retail line counts in the granular line count files (suggesting that not all lines were credited).[54] In other cases, the reverse was true, suggesting that some lines received duplicative credits.[55] The table below summarizes instances in which line counts in the rebate workbooks differ from the Consultant line counts somewhat materially (by more than 10 lines in absolute value).[56]

[52] These counts include wholesale lines, while rebates are paid on retail lines, meaning that line counts in the Monthly Service Quality Reports serve as an upper boundary for line counts subject to rebates.

[53] Workbooks provided in IR Responses #25, #38(iv) and #151 and utilized by the Consultant to verify line counts in the CTRR metrics. For this comparison, the Consultant counted only retail lines.

[54] For example, for COE [redacted], reporting month February 2025, Frontier's rebate workbook IR1 Q#32 Credit Detail December 23 through April 25.xlsx contains the following line counts: [redacted] retail residential lines, [redacted] retail business lines and [redacted] wholesale lines, which sum to [redacted] retail and wholesale lines. In the Monthly Service Quality Reports Frontier reported a total of 326 lines. The granular line count data agrees with the figure in the Monthly Service Quality Reports; based on the granular data, the retail line count should be [redacted] retail residential lines [redacted] more lines than in the rebate workbook) and [redacted] retail business lines [redacted] more lines than in the rebate workbook).

[55] For example, for COE Pixley Rd, reporting month January 2024, Frontier's rebate workbook IR1 Q#32 Credit Detail December 23 through April 25.xlsx contains the following line counts [redacted] retail residential lines, [redacted] retail business lines and [redacted] wholesale lines, which sum to [redacted] retail and wholesale lines. In the Monthly Service Quality Reports, Frontier reported a total of [redacted] lines [redacted] fewer lines compared to the rebates workbook). The granular line count data agrees with the figure in the Monthly Service Quality Reports; based on the granular data, retail line count should be 1,008 retail residential lines ([redacted] fewer lines than in the rebate workbook) and [redacted] retail business lines (same figure as in the rebate workbook).

[56] The native version of this table is contained in Workpaper 3 (SQ1 - 3. Composite FR Credits Detail (from IR1 Q#32) with Consultant Restatements, Tab "Summary Tables for Report" at row 101).

[redacted]

In many instances (i.e., COE/months combinations) rebates were paid based on inaccurate line counts. This issue affects both residential and business customers and is observed in both periods. Both cases of understated and overstated line counts are also observed. However, Period 2 differs from Period 1 in terms of the prevalence of overstated line counts, particularly with respect to residential line counts. Specifically, residential line counts in the rebate workbooks differ from the Consultant-calculated line counts by more than [redacted] lines in [redacted] instances (28% of cases). Out of these [redacted] instances, [redacted] instances are cases of overstatements (indicating duplicative credits).

To evaluate the dollar impact of the above-discussed observed inaccuracies, the Consultant developed an independent calculation (restatement) of rebates.[57] The table below contains the comparison of the Consultant-restated rebate amounts to the historical rebate amounts issued by Frontier.[58] Note that the rebate period in the Consultant restatement starts in October 2021 rather than November 2021 because, as

[57] See, Workpaper 3 (SQ1 - 3. Composite FR Credits Detail (from IR1 Q#32) with Consultant Restatements, Tabs "Credit DB thru (07-2022)," "Credit DB thru (02-2025) and "Rebate cases overlooked by FT").

[58] The native version of this table is contained in Workpaper 3 (SQ1 - 3. Composite FR Credits Detail (from IR1 Q#32) with Consultant Restatements, Tab "Summary Tables for Report" at row 71).

explained above, Frontier failed to identify rebate-triggering conditions in October 2021 due to its use of an incorrect CTRR threshold 3.35 (instead of 3.3).

[redacted]

The overall net difference between customer rebates actually paid by Frontier compared to customer rebates under the Consultant's restatement is an *under*payment of [redacted], including an underpayment of [redacted] in Period 1 and an underpayment of [redacted] in Period 2.

The table below categorizes net under (over) payments of customer rebate amounts by root cause. In this table, inaccuracies that caused over-payment (lines 1-3) are listed separately from inaccuracies that caused under-payment (lines 4-6 and 8). Line 7 contains the net impact of inaccuracies for cases (i.e., COE/months combinations) for which Frontier paid credits, and line 8 is under-payment for rebate-triggering cases overlooked by Frontier (the use of an incorrect CTRR threshold 3.35 instead of 3.3). [59]

[59] The native version of this table is contained in Workpaper 3 (SQ1 - 3. Composite FR Credits Detail (from IR1 Q#32) with Consultant Restatements, Tab "Summary Tables for Report" at row 101).

[redacted]

Inaccuracies within the COE/months combinations on which Frontier paid credits (line 7) "net out" as an over-payment of [redacted]. However, when cases overlooked by Frontier are added (line 8; [redacted]), the overall result is a net *under*payment of [redacted].

Separate from the above-discussed restatement of Frontier's rebate workbooks, the Consultant cross-checked the data contained in Frontier's rebate workbooks against customer bills. The Consultant drew a statistical random sample of 30 from the universe of COE/months combinations in the rebate workbooks. At the Consultant's request, Frontier provided one residential and one business bill for each selected COE/month combination. The Consultant verified that each bill contained a credit corresponding to the rebate instances listed in Frontier's rebate workbooks.[60]

OOS Trouble Tickets when Customer Requests or Accepts Restoration Appointments beyond 24 Hours

The Consultant gained an understanding of Frontier's treatment of OOS trouble tickets when a customer requests or accepts restoration appointments beyond the required 24-hour timeframe via written IRs and an examination of granular tickets data containing Frontier's derivation of metric %OOS>24 Hours. In its Response to IR #104, Frontier

[60] Credits on the bills were inclusive of taxes and fees that were not separately listed, and therefore, dollar amounts on the bills were not the same (but always higher than) dollar amounts in the rebate workbooks.

provided a narrative description of its derivation of metric %OOS>24 Hours, stating that "Tickets that are identified as 'customer negotiated' for an appointment outside the 24 hours are excluded from the numerator and the denominator."[61] However, when providing the step-by-step description of how the "raw" monthly tickets data are manipulated to generate the numerator and the denominator of the monthly metrics, Frontier indicates that some customer negotiated OOS tickets are actually included in this metric. Frontier includes customer-negotiated OOS tickets that were repaired within 24 hours (these tickets flow into the denominator of the OOS metric), but excludes customer-negotiated OSS tickets that missed the 24-hour interval (without this exclusion, these tickets would flow into the numerator of the OOS metric).[62] Frontier confirmed that customer-negotiated OOS tickets are excluded if not cleared within 24 hours, and included if cleared within 24 hours in its response to IR #168: "Currently, if a customer requests an appointment outside of 24 hours and the trouble is cleared outside of 24 hours, it is excluded from the numerator in the OOS > 24 hours calculation and excluded from the OOS> 24 hrs. denominator. In some cases, a customer requests an appointment greater than 24 hours, but Frontier has opportunity to pull the ticket forward and clear the trouble within 24 hours. This ticket is therefore completed within 24 hours and the customer has the benefit of faster restored service (for which Frontier should be able to count). Frontier counts this ticket in the OOS >24 denominator and treats the trouble as being cleared in 24 hours."

The Consultant examined Frontier's monthly raw tickets data files, which contained the derivation of %OOS>24 Hours[63] and verified (by analyzing the formulas in Microsoft Excel columns BR and BS) that tickets with customer-negotiated appointments outside the 24-hour time frame are excluded if not cleared within 24 hours, and included if cleared within 24 hours, in Frontier's calculation of metric %OOS>24 Hours.[64] According to Consultant's reading of the Uniform Measurement Guidelines, all OOS tickets for which customers have requested or accepted repairs outside of the 24 hour standard should be excluded from the calculation of metric %OOS>24 Hours (regardless of whether the ticket was cleared within or outside the 24 hour timeframe). The Commission's January 31, 2011 Notice of Revised Uniform Measurement Guidelines in Case 97-C-0139 that accompanied issuance of the above referenced version of the Uniform Measurement Guidelines explained that "The revisions to the Guidelines provide that repairs for customers who request or accept repairs outside of the standard repair intervals shall be excluded for purposes of timeliness of repair performance measurements." This explanation does not distinguish between repairs that were done within and outside the 24 hour interval. Likewise, a January 18, 2013 Order in Case 10-C-0202 (a Verizon case that prompted this revision, as explained on

[61] IR Response #104(ii).

[62] Per IR Response #104(iv), step (e), a customer-negotiated OOS ticket is excluded only if "the ticket was customer-negotiated *and* missed the 24-hour interval." (emphasis in original).

[63] These data were provided in IR Response #38(iv), see, e.g., file 2021 NY tkt details v5.xlsm.

[64] See Section III(E) "Additional Technical Details" describing how Frontier includes tickets with customer-negotiated appointments outside the 24-hour time frame in the denominator of metric %OOS>24 Hours.

p. 1 of the Uniform Measurement Guidelines) summarized this revision by stating on page 5 as follows (emphasis added): "Verizon was permitted to exclude from its repair timeliness performance measurement **all instances** where a customer, offered a repair appointment within the 24- or 48-hour interval requested or accepted an appointment outside the window period."

Frontier argues that it should be able to take credit for customer-negotiated OOS tickets that were repaired within 24 hours because it is an incentive for fast service restoration (as these tickets help lower metric %OOS>24 Hours). Consultant observes that "customer-negotiated tickets" include tickets for which customer "accepted" (rather than requested) a longer repair interval, meaning that in some cases the longer interval may be caused by workload of Frontier repair technicians. Consultant is concerned that Frontier has an incentive to place tickets in this category because it is "risk free" under Frontier's algorithm for metric %OOS>24 Hours – i.e., untimely repairs are not counted, while timely repairs are counted (even though Frontier made no commitment to repair timely within 24 hours).

The issue of whether to include or exclude OOS tickets for which customers have requested or accepted repairs outside the 24 hour period but that Frontier cleared within 24 hours has a material impact on service quality measurements. For example,[65] Frontier reported in November 2021 metric %OOS>24 Hours for the Goshen wire center as 33.33%, while the Consultant's restatement of the denominator increased this metric to 66.66%. When the Consultant made this restatement for all COEs in 4Q 2021, the overall quarterly result changed from "met" to "failed" target for metric %OOS>24 Hours, as shown in the table below.[66]

[65] This example is developed in Workpaper 5 (SQ1 – 5. Exhibit 1 - CONFIDENTIAL Frontier NY 4Q2021 Service Quality Results RESTATED OOS) and discussed in detail in Section III(E) "Additional Technical Details."

[66] For the native form of this table, see Workpaper 5 (SQ1 – 5. Exhibit 1 - CONFIDENTIAL Frontier NY 4Q2021 Service Quality Results RESTATED OOS, Tab "Table Impact- CustNeg in Denom").

[redacted]

In the above example from 4Q 2021, the Consultant's restatement of metric %OOS>24 Hours had qualitative implications because Frontier reported that it met in this quarter both the OOS and CTRR targets in the 24 COEs,[67] and no Remedial Plan was filed. Per Consultant's restatement, Frontier failed to meet the OOS target in this quarter, which should have triggered the filing of a Remedial Plan.[68] Because Frontier also failed the service quality targets in the previous quarter,[69] the Remedial Plan would be required to include an additional $100,000 towards service quality improvements.[70] While the above described Frontier's treatment of OOS tickets with customer negotiated repair intervals is a systemic methodology issue (present in all reporting periods), there were no implications on the Remedial Plan in any other quarters.[71]

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67 Frontier's Quarterly Report for 4Q 2021 in Case 20-C-0267 is contained in IR Response #IR 38, file "2022-1-14 Frontier NYPSC Quarterly Compliance Filing for filing Chapt11."

68 Case 20-C-0267, Order Approving Joint Petition with Conditions dated November 16, 2020, at 21.

69 This is explained in Frontier's Remedial Plan for 3Q 2021 filed in Case 20-C-0267 at 2 (provided in IR Response #38, file 2021-11-15 Frontier NY 3Q 2021 CONFIDENTIAL Remedial Plan Filing).

70 Case 20-C-0267, Order Approving Joint Petition with Conditions dated November 16, 2020, at 21.

71 The only other quarter where a Remedial Plan was not triggered per Frontier's calculations was 1Q22. Consultant restated metric % OOS>24 Hours by excluding all customer-negotiated tickets and verified

During the Scope Meeting held on April 25, 2025, Department Staff indicated that the preferred method of treating customer-negotiated OOS tickets would be the one that includes these tickets in metric % OOS>24 Hours but tracks their timeliness starting from the date of the appointment (rather than from the trouble report date as done currently). While this approach would incent Frontier to timely repair OOS tickets with customer-negotiated appointment times, the Uniform Measurement Guidelines prescribe that customer-negotiated tickets be excluded from both the numerator and denominator of metric %OOS>24 Hours. Likewise, the Guidelines state (on page 10) that the 24-hour clock begins when the OOS condition is reported by the customer.

Separately, Department Staff suggested that it would be beneficial if Frontier tracks and reports OOS tickets not cleared within 24 hours, as well as NOOS tickets not cleared within 48 hours. Consultant observes that Frontier's monthly raw tickets data files, which contained the derivation of %OOS>24 Hours[72] already contain the formulas that flag these types of tickets, and therefore, Frontier should be able to produce these metrics with minimal effort.

Other Inaccuracies with OOS Ticket Counts

The Consultant noticed an additional inaccuracy with Frontier's identification of tickets that are OOS type tickets. Frontier's procedure for identifying OOS tickets in the universe of all tickets is based on a combination of two fields in the "raw" ticket data,[73] fields (1) "Trbl Ticket Type Ds" (a description of the Trouble Ticket Type) and (2) "Out of Service Ind" (an indicator if service was completely down).[74] For some tickets, these two fields appear to contain conflicting information, especially if taken in combination with a third field "Report Cd Ds" (a description of the Report Code). Examples of conflicting information are contained in the table below, which summarizes residential tickets data for December 2021 that contained the same report code "No Dial Tone - No dial tone after lifting receiver."[75]

that the qualitative result (that triggers Remedial Plan) had not changed – i.e., Frontier had met then-current threshold for % OOS>24 Hours.

[72] These data were provided in IR Response #38(iv), see e.g., file 2021 NY tkt details v5.xlsm.

[73] These data were provided in IR Response #38(iv) (5/28/25), attachment "2021 NY tkt details v5.xlsm," Tab "Dec tkts" Excel columns P and S.

[74] These field descriptions are taken from Frontier file Access Line Codes and Trouble Tickets Report Column Definitions - 06232025.xlsx provided to the Consultant on 6/25/25 in conjunction with the VP IT Development Interview, 06/25/2025.

[75] For the native form of this table, see Workpaper 5 (SQ1 – 5. Exhibit 1 - CONFIDENTIAL Frontier NY 4Q2021 Service Quality Results RESTATED OOS, Tab "Table to Report NOOS Dec tkts").

[redacted]

The first data row shows that the majority of tickets with Report Code description "No dial tone" were classified as OOS in Frontier service quality reports. The Consultant agrees with this classification because no dial tone in a traditional landline service indicates customer's inability to make a call.[76] Yet, Frontier classified other "no dial tone tickets" as NOOS, including [redacted] tickets that were coded as Trouble Ticket Type "Res OOS" and another [redacted] tickets coded "Yes" under Out of service indicator field. Frontier was unable to explain these examples of conflicting information, noting that all three columns are part of "what's known at the time the customer calls in" (as opposed to information a technician obtains

[76] See for example, Cisco, Voice Network Signaling and Control, December 4, 2008 (https://www.cisco.com/c/en/us/support/docs/voice/digital-cas/14007-net-signal-control.html): "The off-hook phase occurs when the telephone customer decides to make a phone call and lifts the handset from the telephone cradle. The switch hook closes the loop between the CO switch and the telephone set and allows current to flow. … The CO switch generates a dial tone only after the switch has reserved registers to store the incoming address. Therefore, the customer cannot dial until a dial tone is received."

in the field)[77] and "we're going off what the agent is hearing when they speak to the customer." According to the Uniform Measurement Guidelines (at 11), "[a]ll troubles shall be classified when received as either out-of-service or service affecting, as described by the customer."

As shown in the example above, [redacted] residential OOS tickets were classified by Frontier as NOOS in December 2021, or equivalently, [redacted] of OOS tickets. When considering all customer types (including tickets associated with business, wholesale and residential customers), there were [redacted] tickets in December 2021 that Frontier classified as NOOS despite the fact that their ticket types or/and the ticket report codes indicated "no dial tone." These [redacted] tickets constituted 4.8% of OOS tickets identified by Consultant.[78] To evaluate the impact of these tickets on service quality metrics, Consultant reclassified these tickets from NOOS to OOS. The resulting metric %OOS>24 Hours improved only slightly compared to the "as filed" version (as shown in the last two rows of the table).[79] This example suggests that this inaccuracy does not appear to introduce bias into the metric. However, inaccurate classification of OOS tickets as NOOS by the customer service agents may have a real impact on service quality because, per the Uniform Measurement Guidelines, OOS troubles should receive repair priority over NOOS troubles.

C. FINDINGS & CONCLUSIONS

This section provides an assessment of the evaluative criteria established for this audit area in the Final Work Plan.

Evaluative Criterion #1	Do customer operations internal controls and processes facilitate or impede accurate tracking of customer line counts, trouble tickets, and timely issuance of rebate amounts?

Service Quality reporting and determination of customer rebates are error-prone because they involve significant manual work (such as copying and pasting from different Excel workbooks). Manual workarounds affect accuracy and efficiency of tracking of customer

[77] VP Regulatory Reporting Interview, 06/16/2025.

[78] The figures were similar in two other months restated by Consultant: 76 (4.0%) OOS tickets in November 2021 and 102 (4.5%) OOS tickets in October 2021 across all COEs. See Workpaper 5 (SQ1 – 5. Exhibit 1 - CONFIDENTIAL Frontier NY 4Q2021 Service Quality Results RESTATED OOS, Tabs "Dec tkts," "Nov tkts" and "Oct tkts.")

[79] The impact in October was a small increase in metric %OOS>24 Hours, and in November a small increase, causing the overall 4Q2021 figure to increase by 0.2 percentage points compared to Frontier's "as filed" figures. See Workpaper 5 (SQ1 – 5. Exhibit 1 - CONFIDENTIAL Frontier NY 4Q2021 Service Quality Results RESTATED OOS, Tab "24 WC OOS - Dec NOOS restated.")

line counts, trouble tickets, and service quality metrics, and impede accurate and timely issuance of rebate amounts.

Evaluative Criterion #2	Do the processes and logic of Frontier's systems used to generate rebates comply with the rebate formula adopted in Case 08-C-1140?

No. In determining whether rebate-triggering service quality conditions exist, Frontier uses an incorrect threshold for service quality (3.35 instead of 3.3).

Evaluative Criterion #3	What percentage of rebates for service quality issues were accurate?

Approximately 70% of rebate instances (weighted by lines, i.e., counting one customer line with credit as one unit) were accurate, including 66% during Period 1 when rebates were issued using an older process, and 73% during Period 2 when the rebate-issuing process was modified to account for prior errors.

Evaluative Criterion #4	In case of inaccurate rebates, what was the average error (underpayment or overpayment of rebate per customer in dollars)?

For cases in which the Consultant-restated rebate amounts differ from Frontier paid rebates by more than 5% in absolute value, the average under-(over) payment per line is shown in the table below[80] separately for Period 1 (under the old process) and Period 2 (under the current process).

[80] For the native form of this table, see Workpaper 3 (SQ1 - 3. Composite FR Credits Detail (from IR1 Q#32) with Consultant Restatements, Tab "Summary Tables for Report" at row 144).

[redacted]

Evaluative Criterion #5	Are there rebate-triggering service quality failures for which the Company did not provide customer rebates?

Yes, [redacted] COE/month combinations were overlooked by Frontier (where rebates should have been paid), including an additional month when customer rebates should have been triggered (October 2021; [redacted] COEs) and [redacted] individual cases in other time periods when Frontier paid rebates in other COEs. These cases relate to Frontier using an incorrect threshold for service quality (3.35 instead of 3.3), which caused an underpayment of approximately [redacted] between October 2021 and February 2025.

Evaluative Criterion #6	What percentage of rebates for service quality issues were timely?

Rebates for approximately 87% COE/months combinations were timely, including 49% during Period 1 (under the old process) and 100% during Period 2 (under the current process).

Evaluative Criterion #7	In case of untimely rebates, what was the average duration of the delay?

The average duration of delays was approximately 21 months.[81] Untimely rebate payments occurred in Period 1 (through July 2022), and the majority of them were true-up payments made in 2024.

[81] A majority of true ups (delayed payments) were issued during April and May 2024. They were correcting rebates that should have been paid for the months November 2021 through July 2022. Consultant's measure of average duration of delays weighs each untimely payment by the affected line count and factors in the requirement that credit is to be issued 60 days after the month for which this rebate was

Evaluative Criterion #8	Is Frontier's adjustments to OOS trouble tickets when a customer requests or accepts appointments beyond the 24-hour time frame reasonable? Are these tickets accounted for in service quality metrics? What are the consequences of this treatment on Frontier's service quality metrics and incentives for better performance?

No, Frontier's formula is inconsistent with Consultant's reading of the Uniform Measurement Guidelines. While Frontier removes these tickets that missed the 24-hour repair interval from the calculation of metric %OOS> 24 Hours, it fails to remove tickets that were repaired with 24 hours from the metric, which materially understates the percentage of OOS troubles that are not cleared in a timely fashion. In 4Q 2021, this understatement affected Remedial Plans under Case 20-C-0267: Frontier reported that it met in this quarter both the OOS and CTRR targets in the 24 COEs, and therefore, no Remedial Plan was filed. Per Consultant's restatement, Frontier failed to meet the OOS target in this quarter, which should have triggered the filing of a Remedial Plan containing an additional $100,000 towards service quality improvements.

Evaluative Criterion #9	Are there any other inaccuracies within Frontier's calculation of metric %OOS>24 Hours?

Yes, Frontier classifies certain "no dial tone" tickets as Not OOS, while the Consultant contends that all "no dial tone" tickets should be OOS tickets. This outcome is observed when several fields of the same ticket (information collected by the agent) contain conflicting information. The impact of this inaccuracy on metric %OOS>24 Hours appears to be small and does not appear to bias the metric. However, inaccurate classification of OOS tickets as NOOS by the customer service agents is likely affecting service quality because, per the Uniform Measurement Guidelines, OOS troubles should receive repair priority over NOOS troubles.

Evaluative Criterion #10	Does data recording in the course of day-to-day operations (such as trouble tickets) permit accurate tracking of service quality issues and rebate calculation?

Yes, with some exceptions. For example, Frontier classifies certain "no dial tone" tickets as NOOS, while the Consultant contends that all "no dial tone" tickets should be OOS tickets. This outcome is observed when several fields of the same ticket (information collected by the agent) contain conflicting information. Inaccurate classification of OOS

triggered. For additional detail, see Workpaper 3 (SQ1 - 3. Composite FR Credits Detail (from IR1 Q#32) with Consultant Restatements, Tab Credit DB thru 07-2022 Restated column BQ).

tickets as NOOS by the customer service agents is likely affecting service quality because, per the Uniform Measurement Guidelines, OOS troubles should receive repair priority over NOOS troubles.

Evaluative Criterion #11	Are data on rebates for failed service quality properly retained?

Yes, Frontier provided to the Consultant its rebate calculations workbooks, rebate "cheat sheet" tables, historical tariff pages containing rates for basic service, CTRR workbooks that determine whether rebates were triggered, granular line count and tickets data, and copies of customer bills. This permitted the Consultant to study the accuracy of Frontier's calculations.

Evaluative Criterion #12	Are the COE lists, customer and line counts, and CTRR metrics used to calculate customer rebates accurate?

No, this data is not always accurate or consistent with the rules. While the COE list is the list referenced in the Joint Stipulation that was adopted by the 2008 Order and set up the rebate mechanism, this list is inconsistent with the rules because the data for one ILEC, Frontier of Rochester, are reported by rate center instead of a switch as required by the Uniform Measurement Guidelines (resulting in 210 COEs instead of 195 COEs). In contrast, Quarterly Service Quality reports under Case 20-C-0267 use a consistent COE unit for all Frontier ILECs, resulting in 195 COEs. Because the rebate-triggering measure is the percent of total COEs that meets the CTRR service quality standard on a 12-month rolling average, the overall number of COEs (210 versus 195) matters, as shown by Consultant in the following hypothetical. If the rebate program was based on the COEs in Quarterly Service Quality Reports, there would be four additional months when rebates would have been triggered: August 2022, September 2022, October 2023 and November 2023. For that reason, Consultant recommends that, going forward, Frontier update the list of COEs on which the rebate program relies.

CTRR metrics (and the associated line counts and trouble ticket counts) within Monthly Service Quality reports are mostly accurate. Only 0.12% (less than 1%) of CTRR metrics between January 2021 and April 2025 containing material inaccuracies (i.e., "flipping" from being below the service quality threshold of 3.3 customer troubles per 100 access lines to being above this threshold, or vice versa). However, these corrections did not affect the metric that triggers rebates in specific months (which is the 12-month rolling average percent of COEs with CTRR at or below 3.3).

Line and customer counts used in rebate payments appear to be inaccurate in a significant number of instances (i.e., COE/months combinations). This issue affected both residential

and business customers and was observed in both periods (before and after the current improved process for processing rebates was implemented). Cases of both understated and overstated line counts were observed. However, Period 2 differs from Period 1 in terms of the prevalence of overstated line counts, particularly with respect to residential line counts. Specifically, residential line counts in Frontier's rebate workbooks differ from the Consultant-calculated line counts by more than [redacted] lines in [redacted] instances (28% of cases). Out of these [redacted] instances, [redacted] instances are cases of overstatements (indicating duplicative credits).

Evaluative Criterion #13	To what extent inaccuracies in CTRR metrics and rebate amounts are caused by limitations of its legacy back-office IT systems and/or the use of manual work-arounds that are prone to errors and inconsistencies?

Consultant found a large number of errors and inconsistencies in Frontier's determination of rebate amounts. The Consultant identified root causes of inaccuracies that relate to inconsistencies with underlying granular data – inaccurate rebate percentage, inaccurate (understated or overstated) per line credit, and inaccurate (understated or overstated) line counts credited. These root causes caused gross overpayment in some cases, and gross underpayment in other cases, netting to an overpayment of approximately [redacted] between November 2021 and February 2025 (which is approximately 4.4% of total paid rebates for the same period). The majority of cases of underpayments were in Period 1.

D. RECOMMENDATIONS

The table below presents the Consultant's proposed recommendations for this audit area.

No.	Finding	Impact	Recommendation
1	Service Quality reporting and determination of customer rebates are error-prone because they involve significant manual work.	Rebate payments and reported service quality metrics are sometimes inaccurate.	Automate generation of Monthly Service Quality Reports as well as the detection of customer rebate-triggering conditions under program Case 08-C-1140 to reduce manual workload and error rate.
2	In determining whether rebate-triggering service quality conditions exist, Frontier uses an incorrect threshold for	The Consultant estimated that Frontier failed to identify rebate-	Correct the formulas for counting the number of COEs that meet the 3.3 threshold to use the exact

No.	Finding	Impact	Recommendation
	service quality (3.35 instead of 3.3).	triggering situations, amounting to [redacted] unpaid rebates between October 2021 and present.	threshold as identified in Uniform Measurement Guidelines ("<=3.3") instead of Frontier's current formula, which uses the mathematical expression "<3.35."
3	While the COE list behind Frontier's Monthly Service Quality Reports and customer rebate program is the list referenced in the Commission-approved Joint Stipulation that set the customer rebate program in 2008, this list is inconsistent with the rules. Contrary to the Uniform Measurement Guidelines, the CTRR Service Quality data (the basis for the rebate program) for Frontier of Rochester is reported by Rate Center rather than Switch or Exchange as done for other Frontier ILECs (210 COEs). In contrast, the list of COEs used in the Quarterly Service Quality Reports in Case 20-C-0267 (195 COEs) is consistent with the Uniform Measurement Guidelines. Because the rebate-triggering measure is the percent of total COEs that meets the CTRR service quality standard, the overall number of COEs matters. In addition, the presence of two COE lists increases the manual workload of the Frontier regulatory team.	Based on historical 2021-2025 data, the COE list used in the rebates program (210 COE) is producing more favorable service quality metrics than the more consistent COE list used in the Quarterly Service Quality Reports. If the rebate program was based on the COEs in the Quarterly Service Quality Reports, there would be four additional months when rebates would have been triggered: August 2022, September 2022, October 2023 and November 2023.	Revise the COE list on Monthly Service Quality Reports by adopting the COE list used in the Service Quarterly Quality Reports under Case 20-C-0267 to increase the accuracy of Service Quality reporting and rebate program, and to reduce the manual workload of the Frontier regulatory team. This change would align service quality reporting for Frontier of Rochester with the rules, which prescribe that reporting is done by Switch or Exchange rather than Rate Center. In the alternative, if keeping the COE list currently used in Monthly Service Quality Reports, remove the Jefferson road COE that is marked inactive.

No.	Finding	Impact	Recommendation
4	Frontier's procedure for deriving line counts for the denominator of CTRR includes ISDN line counts in the total line counts, while the Uniform Measurement Guidelines direct removal of these lines from the CTRR numerator and denominator.	This is a minor issue due to a relatively small number of ISDN lines.	Regarding the procedure for compiling line counts and tickets for Monthly Service Quality Reports metrics: remove ISDN lines from considerations as directed by the Uniform Measurement Guidelines.
5	Regarding OOS trouble tickets when a customer requests or accepts an appointment beyond the 24 hour time frame: Frontier's treatment of these tickets is inconsistent with Consultant's reading of the Uniform Measurement Guidelines. The Guidelines prescribe removal of these tickets from metric %OOS>24 Hours, while Frontier removes only customer-negotiated tickets that were not repaired within 24 hours, but keeps customer-negotiated tickets that were repaired within 24 hours.	By keeping tickets with customer-negotiated appointments that were cleared within 24 hours, Frontier understates metric %OOS>24 Hours.	Correct the denominator in the Frontier formula for %OOS> 24 Hours to remove tickets with all customer-negotiated appointments regardless of whether these tickets were cleared within or beyond the 24-hour time frame. Given Frontier's position that it should be able to take credit for tickets for which customer requested or accepted repairs outside the 24 hours but which were cleared within 24 hours, seek clarification from the Commission on the treatment of these tickets in metric %OOS>24 Hours.
6	Frontier's procedure for identifying OOS tickets in the universe of all tickets fails to identify certain "no dial tone" tickets as OOS (and instead classifies them as NOOS). This happens because more than one field in each ticket records describe the ticket types, and in some cases those fields	The main impact is to the customer and repair intervals: A "No dial tone" ticket may not receive proper priority treatment if Frontier fails to identify it as OOS. In terms of service	Regarding Frontier's classification of tickets into OOS and NOOS in general trouble ticket databases: (i) Review and revise the formula for identifying OOS tickets to make sure all tickets describing out of service situations in field "Report Cd Ds" (a description of the Report

No.	Finding	Impact	Recommendation
	contain conflicting information.	quality metrics, the Consultant estimates that the impact on the accuracy of the metrics is small.	Code) are counted as OOS; (ii) Improve trouble ticket creation process, develop guidelines and conduct training for customer agents, Interactive Voice Response ("IVR"), online chat bots / Artificial Intelligence ("AI") assistants who receive and record information on customer troubles to make sure OOS tickets are properly classified and given repair priority.

E. ADDITIONAL TECHNICAL DETAILS

Accuracy of the COE List

Department Staff flagged for the Consultant one specific COE of Frontier Communications of Sylvan Lake, LaGrange. Staff observed that this operating company has two exchanges, Hopewell Junction and LaGrange, but Frontier's Service Quality reports list only one COE, Hopewell Junction. The Consultant determined that the LaGrange office does not have any NPA-NXXs assigned to it and, therefore, is correctly omitted from Frontier's list of COEs, with Hopewell Junction switch being the COE serving customers in the LaGrange area. Specifically, according to the North American Numbering Plan Administration ("NANPA"), five NPA-NXX codes are assigned to Frontier Communications of Sylvan Lake: 845/221, 223, 226, 227 and 592.[82] Frontier's information provided in response to IR #144 shows that all five NPA-NXX codes are served by the Hopewell Junction switch HPJTNYXBRS0. Likewise, according to the National Exchange Carrier Association ("NECA") Tariff FCC No. 4, which is an industry source that contains information on wire centers providing access services nationwide, all five NPA-NXX codes assigned to Frontier Communications of Sylvan Lake are listed under the Hopewell Junction wire center. Further, while the

[82] NANPA, https://www.nanpa.com/reports/co-code-reports/cocodes_assign, section "CO Code (Prefix) Status - Excel Spreadsheet Files" file for Eastern Region, OCN 0128 accessed on October 3, 2025. The list of NAP/NXXs assigned to Frontier Communications of Sylvan Lake stayed the same for at least the last 10 years, as confirmed by an archived year 2015 version of the similar NANPA file from the Consultant's archives.

LaGrange wire center appears in this tariff under the company's code (OCN 0128), no NPA-NXX codes are listed under the LaGrange wire center as shown below:

Figure 1: Excerpt from Tariff NECA FCC No. 4 (Hopewell Junction Wire Center)

```
NATIONAL EXCHANGE CARRIER ASSOCIATION, INC.          TARIFF F.C.C. NO. 4
DIRECTOR, TECHNICAL PLANNING & IMPLEMENTATION   392ND REVISED SECTION  44
80 S. JEFFERSON RD.                      CANCELS 391ST REVISED SECTION  44
WHIPPANY, N.J.   07981-0918                                  PAGE   67

ISSUED: AUGUST 16, 2019                    EFFECTIVE: SEPTEMBER 01, 2019

               WIRE CENTER AND INTERCONNECTION INFORMATION

SERVING WIRE CENTER V AND H COORDINATE INFORMATION - NEW YORK

LOCALITY                  CLLI         WCV   WCH   CC   LATA OFFICE TYPE
---------NPA/NXX---------- ------------ ----- ----- ---- ---- -- -- -- --
HOPEWELL JUNCTION         HPJTNYXBRS0 04829 01494 0128  133 AA BA DA GC
   845/221,223,226,227,592(3000-3999)                        GD GR
```

Figure 2: Excerpt from Tariff NECA FCC No. 4 (LaGrange Wire Center)

```
NATIONAL EXCHANGE CARRIER ASSOCIATION, INC.          TARIFF F.C.C. NO. 4
DIRECTOR, TECHNICAL PLANNING & IMPLEMENTATION   392ND REVISED SECTION  44
80 S. JEFFERSON RD.                      CANCELS 391ST REVISED SECTION  44
WHIPPANY, N.J.   07981-0918                                  PAGE   73

ISSUED: AUGUST 16, 2019                    EFFECTIVE: SEPTEMBER 01, 2019

               WIRE CENTER AND INTERCONNECTION INFORMATION

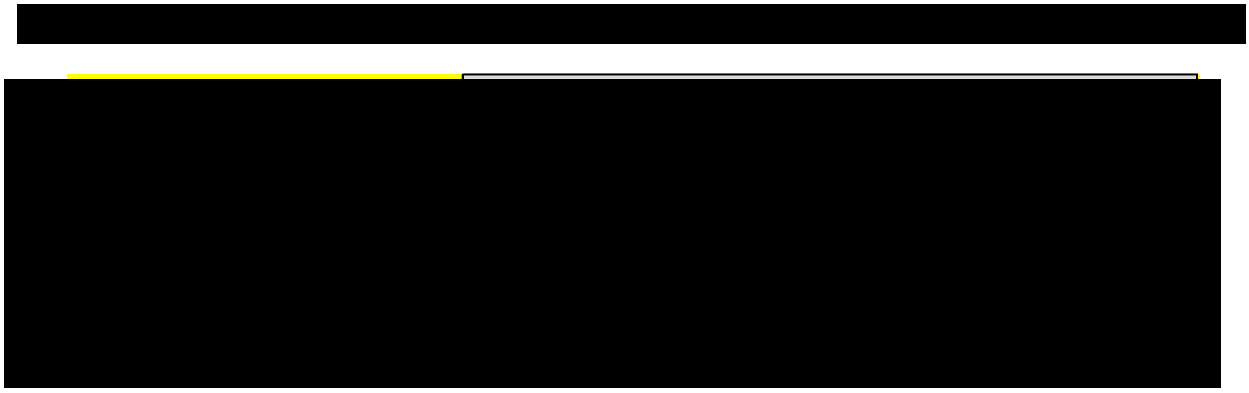
SERVING WIRE CENTER V AND H COORDINATE INFORMATION - NEW YORK

LOCALITY                  CLLI         WCV   WCH   CC   LATA OFFICE TYPE
---------NPA/NXX---------- ------------ ----- ----- ---- ---- -- -- -- --
LA FARGEVILLE             LFRVNYLERS0 04579 02115 5130  136 DA G4 G5 GK
   315/658(2000-2999),658(4000-4999)                         HB HH HI JD
                                                             PC PL RA RH
                                                             SV TC
.....................................................................
LAFAYETTE                 LFYTNYLFRS0 04821 01964 5130  136 DA G4 G5 GK
   315/677(3000-3999),677(5000-5999),677(9000-9999)          HB HH HI JD
                                                             PC PL RA RH
                                                             SV TC
.....................................................................
LAGRANGE                  LGVLNYXARS0 04814 01497 0128  133 DA GC GD GM
   ___/___
.....................................................................
```

Regarding the listing of the LaGrange switch in NECA Tariff No. 4, Frontier's SME on CLLI codes indicated during an interview[83] that: there is no switch in LaGrange, it should be removed from NECA Tariff No. 4, and Frontier has already updated its NECA FCC No. 4 database to remove it. Further, Consultant observed that LaGrange is no longer listed separately in Frontier's local exchange tariff PSC No. 14. Specifically, Section 1 Leaf 3 was modified in Revision 6 (effective October 3, 2024). Prior to this revision, this leaf contained rate tables in which the first column was labeled "Exchange Name" and contained two separate rows, Hopewell Junction and LaGrange. Starting with Revision 6, all rates are listed for a single geographic area labeled "Hopewell Junction and LaGrange."[84] In addition, Leaf 5 of the same section (Revision 0 effective February 28, 2015),[85] subsection "Rate Base Boundaries" contains only one entry that reads as follows: "Hopewell Junction (221,223, 226,227) The entire Hopewell Junction Exchange Area."

OOS Tickets: Example of Frontier Treatment

As noted above, Frontier includes tickets with customer-negotiated appointments outside the 24-hour time frame in the denominator of metric %OOS>24 Hours if these tickets were repaired within 24 hours. The following example of metric %OOS>24 Hours for the Goshen, NY wire center in November 2021 illustrates Frontier's treatment of tickets with customer-negotiated appointments outside the 24-hour time frame and compares this calculation to the Consultant's method. Frontier's Quarterly Report for 4Q2021 filed in Case 20-C-0267 reported for this wire center a total of six OOS tickets, including two tickets that were not cleared within 24 hours, as shown in the table below.



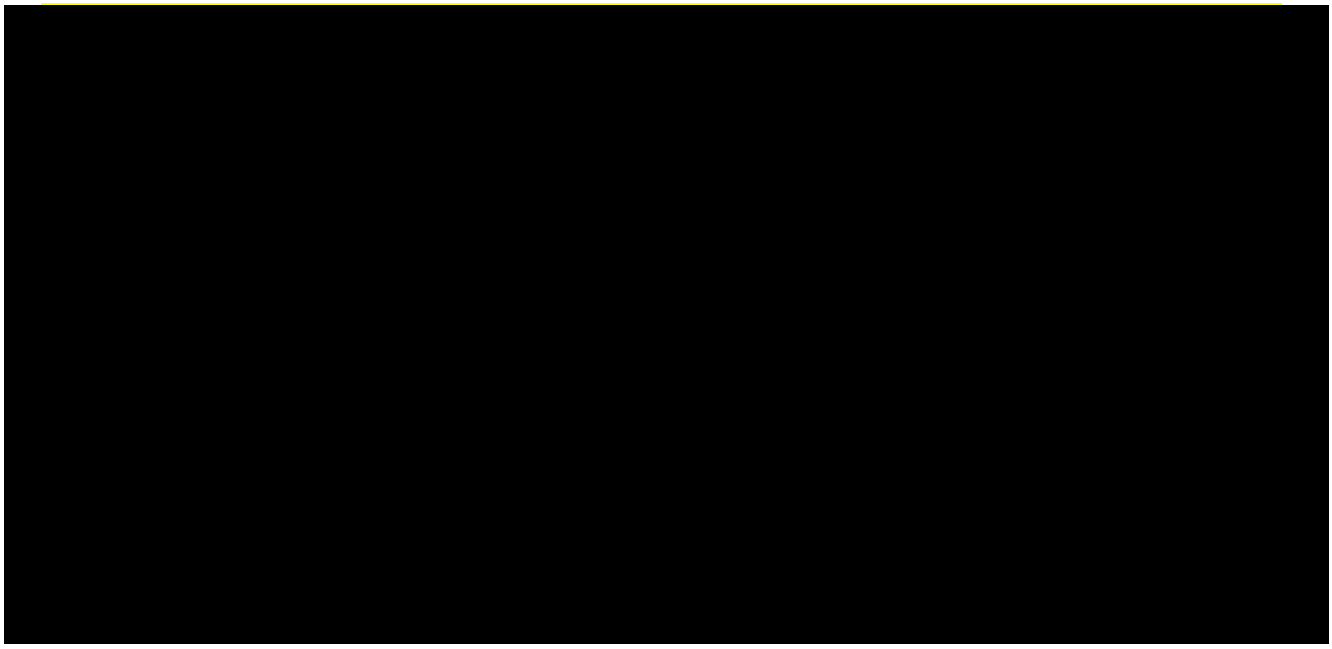
The table below is an excerpt from Frontier's "raw" tickets Tab for November 2021 containing all OOS tickets for the Goshen wire center.

[83] Industry Common Language & Standards Manager Interview, 06/27/2025.

[84] Frontier provided historical versions of this tariff page in Response to IR #31.

[85] This leaf is included in the current version of Frontier's tariff available on its public web site at link https://carrier.frontiercorp.com/crtf/tariffs/u/153/NY/local/SYLVAN%20LAKE%20TARIFF28.pdf.

[redacted]



As shown in column (b), there was a total of [redacted] OOS tickets at Goshen wire center in November 2021 (lines 1-8), including [redacted] tickets for which there was no customer-negotiated appointment date (lines 1-3), and [redacted] tickets for which appointments were customer-negotiated (lines 4-8). A total of [redacted] tickets were missed (column (c)), including [redacted] tickets for which the customer negotiated appointments. Frontier excluded these [redacted] later tickets (lines 7 and 8) from the count of "missed" OOS tickets, as shown in column (d). However, Frontier did not exclude the remaining [redacted] tickets with customer-negotiated appointments (tickets shaded in yellow in column (f)). According to the Uniform Measurement Guidelines, all tickets with customer negotiated appointments should be excluded from both numerator and denominator, regardless of whether they missed or met the 24-hour threshold for repairs – meaning that the denominator of metric %OOS>24 Hours should be equal to [redacted] (not [redacted], as calculated by Frontier).

This example illustrates that the issue of whether to include or exclude OOS tickets for which customers have requested or accepted repairs outside the 24 hour period but that Frontier cleared within 24 hours has a material impact on service quality measurements (in this example, reporting %OOS>24 Hours as [redacted], while the Consultant calculates this metric as [redacted]).

IV. SERVICE QUALITY & NETWORK RELIABILITY #2
PROVIDE ROOT CAUSE ANALYSES FOR SERVICE QUALITY FAILURE

A. SCOPE

A motivating factor for conducting this Audit is to better understand the root causes of Frontier's deteriorating service quality and network reliability. Despite Frontier's investments and attempts to make improvements over time, the trend of deteriorating performance continues. The objective for this audit area is to investigate and identify the root causes of the decline in Frontier's service quality and network reliability, with special emphasis on the following five issues:

i. Resource deployment and adequacy justification to meet service quality metrics;
ii. Overall decline in service quality (e.g., CTRR, OOS and Service Affecting) during the last five years, after investments were made in Case 20-C-0267;
iii. Overall decline in maintaining timeliness of repair;
iv. Overrun time for OOS tickets even after investments in improving facilities and hiring technicians; and
v. Irreversible service quality threshold failure in COEs with fewer access lines.

B. WORK TASKS

Summary of Work Tasks

The work tasks completed in this audit are summarized below.

1. Consultant requested, obtained, and reviewed Frontier's records of all trouble tickets for its regulated local telephone services in New York over the past five years. Consultant analyzed this data focusing on the timing, geographic distribution, time to repair, and tech-entered cause codes and ultimate disposition/closure of those tickets. This data provides a means to validate the Company's filed reports with respect to network trouble tickets, as well as valuable insights into the patterns underlying OOS (and Service Affecting) trouble in Frontier's network.
2. Consultant examined the information obtained during the review of the Organizational Structure audit area (see, Section IX) to understand Frontier's decision-making procedures and criteria with respect to network investment, maintenance and repair activities, and associated technician labor forces. That baseline of information was supplemented as needed by additional research and IRs to Frontier, focusing on how field technicians interact with local managers – in particular the information on network conditions that flows upward in those relationships, and the priorities flowing

downward from management. Consultant also requested and reviewed five years' worth of Frontier data on employment levels by job function related to COE/OSP operations, disaggregated by local units.

3. Consultant interviewed selected Frontier personnel that were identified as responsible for the most relevant job functions pertaining to issues examined in this audit area. These interviews provided insight into the strengths and weaknesses of Frontier's existing network maintenance procedures and policies as experienced on the ground by its technician workforce and its customers.

4. Consultant examined whether and to what extent Frontier is dedicating sufficient resources, both financial and labor, to adequately maintain its public switched telephone network ("PSTN") in New York. In so doing, the Consultant:

   (A) Identified the factors that drive Frontier's network investments, including overall funding limitations imposed by the parent company's management, how aging and potentially failing network facilities are identified, and the Company's procedures for undertaking facilities repair, rehabilitation, and repair activities.

   (B) Examined the degree to which Frontier actively performs preventative maintenance of its network, including such things as regular plant inspections, proactive analysis of patterns in its trouble tickets and customer complaints, and incentivizing its field techs to report problems they see during their workdays.

   (C) Evaluated whether Frontier's field technician workforce is sufficiently sized for its ongoing and future work levels, and whether that workforce is being allocated most efficiently along the dimensions of geography, changing service demand patterns (e.g. access line losses), and prioritization of their work tasks.[86] This analysis is intended to better understand the Company's overall trend of declining timeliness of repairs and to identify potential remedies.

5. Consultant considered whether statistical analyses could be devised to compare: (A) the influences of the financial inputs (both capital investments and non-capitalized expenditures), labor inputs (technician workforce hours and activities performed), and managerial inputs (decision-making criteria applied and resulting decisions made) to the PSTN over time, versus (B) the observed outputs of service quality and network reliability as expressed in Frontier's reported performance on its metrics over time. Consultant ultimately concluded that the available data was inadequate to support this type of multi-factor statistical analyses.

6. Consultant integrated into its analysis of these issues all findings on root causes of service quality deterioration identified in the course of other audit areas.

[86] That is, how Frontier prioritizes the tasks of new telephone service installations, restoration of telephone service after an OOS condition or service impairments, installations of broadband service for internet access, and performance of preventative maintenance work on the Company's aging copper-based OSP.

7. Consultant examined Frontier's claim of "irreversible SQ threshold failure in COEs with fewer access lines" and developed findings concerning whether adjustments should be made to the CTRR threshold in COEs with very small volumes of access lines.

Overview of Frontier's Telephone Service Quality (SQ) Performance Trends for 2020-2025

A prerequisite to understanding the root causes of the deterioration in Frontier's regulated telephone service quality over the Audit Period is an accurate picture of the Company's actual service quality performance (e.g., CTRR, %OOS>24 Hours) in New York over that timeframe. For that accurate picture to take shape, context is important, such as the substantial year-over-year decreases in Frontier's regulated telephone service access line counts (shown below).[87]



[87] Workpaper 6 (Confidential SQ2-1. Lines-Tickets-CTRR Trends.xlsx, tab *Chart 3, Line Loss Trend*).

Frontier's annual line loss over the Audit Period has ranged from between [redacted]) and [redacted]), with the highest attrition rate occurring in 2024. In total, Frontier's regulated access line count has dropped nearly [redacted] during the Audit Period.[88]

An examination of the trend in Frontier's trouble ticket volumes over the Audit Period (without accounting for access line loss), as shown in the chart below, shows gradual improvement, with ticket volumes generally decreasing over time.

[redacted]

With the exception of the pronounced spike in trouble tickets in July 2021, ticket volumes have trended downward over the Audit Period, with notably lower levels over the last six months of this timeframe (Oct 2024 through March 2025). However, given the substantial, consistent decreases in Frontier's regulated access line counts over this period, all other things being equal, one would expect ticket volumes to decline commensurately.

[88] That is, (97,058 – 218,861) / 218,861 = 55.7%. See *id.* at data table, row 61.

[89] Workpaper 6 (Confidential SQ2-1. Lines-Tickets-CTRR Trends.xlsx, tab *Chart 4, Trouble Tickets Trend*).

By comparison, on a statewide basis, ticket volumes have dropped about [redacted] between 2020 and 2024 annual totals, while access lines dropped [redacted] over that same timeframe.[90] In other words, despite the observed drop in trouble tickets, the more pronounced drop in access line counts means that there are more trouble tickets generated for a smaller pool of access lines. Therefore, when put in proper context, the downward trend in Frontier's trouble ticket volumes is not a sure sign of service quality improvements.

The two charts below are intended to illustrate this issue by expressing trouble tickets as a percentage of access lines.[91] The first chart below presents the overall trend in tickets as a percentage of lines for the 24 Action Plan COEs, treated as a group. In addition to plotting the month-to-month values, the chart includes a simple linear trend line calculated from that data series, which suggests that there has been some slight improvement in this measure of service quality over the period (given that the line has a slight downward slope).[92]

[90] The specific values are [redacted] and [redacted], respectively. See Workpaper 6 (Confidential SQ2-1. Lines-Tickets-CTRR Trends, tabs *Chart 3, Line Loss Trend* and *Chart 4, Trouble Tickets Trend*). When the 1Q2025 line counts are included, Frontier's total line loss has been nearly [redacted].

[91] While this data is conceptually similar to the CTRR metric, it is not comparable to CTRR. CTRR is intended to apply to individual COEs, and not larger aggregations as is done in these charts. The data in these charts should not be confused with CTRR measurements because the aggregated data in the charts can mask the impacts on individual COEs that CTRR is intended to identify. Another distinction is that the CTRR is presented in unit number terms, e.g. 3.3 (per 100 lines), rather than the % of lines basis used in these charts (e.g., 3.3%).

[92] Given the high volatility and apparent seasonality in the original data series, the trend line has little explanatory power (its R-squared is close to zero), which would require application of a much higher-order regression equation to address.



The second chart below presents the same type of data series, but for the remaining Frontier COEs in New York (approximately 170 in total, excluding the 24 Action Plan COEs). This "Non-Action Plans" COE grouping clearly exhibits a rising trend over the Audit Period, both in the data-series itself and the derived linear trend line. That trend indicates that service quality deterioration has been occurring in these other COEs when considered as a group.

[93] Workpaper 6 (Confidential SQ2-1. Lines-Tickets-CTRR Trends.xlsx, tab *Charts 5-6, Tickets per Line Trend*).

[redacted]



The Telecommunications Service Quality Uniform Measurement Guidelines require Frontier to determine and report its service quality via certain metrics on a COE-specific basis. The two primary metrics are CTRR and %OOS>24 Hours.[95] The definitions of these metrics are provided below.

- CTRR: "This is composed of two metrics. The first metric is defined as the number of initial customer trouble reports per hundred access lines per month and has a performance threshold of 5.5 or less for each central office. The second metric is applicable to service providers with 7 or more central offices, and is defined as the

[94] *Id.*

[95] The Uniform Measurement Guidelines also contain several other metrics, including Percent Service Affecting Over 48 Hours (%SA>48 Hours), Service Installation Metrics, Network Performance Metrics, and Answer Time Performance Metrics. These have not been a focus for the Commission's actions in Case 20-C-0267 and Frontier's resulting Action Plan, and are not part of the Final Work Plan.

percentage of a service provider's total central office entities that perform at or below 3.3, and has a performance threshold of at least 85%."[96]

- %OOS>24 Hours: "This metric is defined as the monthly percentage of customer trouble reports classified as service which are not cleared within 24 hours. The performance threshold for each administrative entity is 20.0% or less."[97]

The Uniform Measurement Guidelines provide more detail on how key terms are to be defined and applied for these metrics, including what constitutes an "access line," the "measurement entity" (COE), "trouble report," etc. Frontier has also been subject to different, more stringent service quality requirements related to these two metrics as part of the Action Plan approved and implemented pursuant to the Commission's decisions in Case 20-C-0267 (the Frontier Chapter 11 restructuring docket). The analysis below focuses on Frontier's performance on these two service quality metrics on a COE-basis in the context of that Action Plan.

Evaluation of Frontier's Case 20-C-0267 Action Plan and its Impacts on SQ

In its October 2020 Order in Case 20-C-0267, the Commission approved Frontier's Joint Petition and Chapter 11 restructuring plan subject to conditions.[98] One such condition relates to Frontier's commitments to address and improve its regulated telephone service quality, including a commitment to invest $9 million in incremental capital improvements in certain New York operating companies.[99]

Frontier filed an Action Plan in January 2021 that identified 24 COEs to be targeted for service quality improvement, and established a detailed implementation plan for numerous capex projects to meet the $9 million commitment, as well as service quality metrics, targets, and reporting timeframes to which the Company would adhere.[100] Given the short time period available to create the plan, Frontier's operations and engineering teams developed a high-level plan identifying projects with high-level budget estimates. The Action Plan targeted a mix of projects, including central office and OSP across the 24 COEs, and including fiber-to-the-premises build-outs in four of the COEs. The Frontier plan filed with the Commission ultimately included [redacted] million in capex projects, which exceeded the Company's $9 million commitment.[101] The Plan stated that this spending would occur during the three years 2021-2023, although some of the specific projects

96 Uniform Measurement Guidelines at 4, citing Commission Rule Part 603.3(b)(1).

97 *Id.*

98 Case 20-C-0267, Order Approving Joint Petition with Conditions, October 16, 2020.

99 *Id.* at page 15. See also Frontier's Supplemental Filing in Case 20-C-0267, dated 10/2/2020.

100 Case 20-C-0267, Frontier Action Plan, filed 1/14/2021. The Confidential version of the Action Plan was supplied to Consultant in the Amended IR Response #38(i)-(iii) filed on 5/29/2025. The specific 24 COEs are identified in the Action Plan-related tables below.

101 Action Plan (Confidential version) at page 16.

listed in the Action Plan might be subject to change: "these projects may be modified, or new projects added over the next 3 years, as the work actions are implemented."[102] Frontier's Action Plan described the goals as follows:

> The objectives of the Plan are to (1) improve CTRR and OOS >24 hours in these 24 COEs and (2) implement a focused program of capital investment and proactive maintenance aimed at reducing the number of troubles experienced by customers served by these 24 COEs.[103]

The Action Plan also included the following provisions regarding Frontier's service quality commitments:

> **Metrics.**
> Commencing the quarter that begins on July 1, 2021 and ends September 30, 2021 and ending 8 quarters later Frontier shall meet the following Targets for the 24 COEs:
>
> - A customer trouble report rate Target of 3.3 per 100 access lines in 90% of the 24 identified COEs' results per quarter (24 monthly results x 3 months = 72 quarterly results).
> - Restore out-of-service troubles to meet the OOS>24 Target in aggregate for the 24 COEs per quarter.
>
> - This Target will be calculated based on the aggregate results of these 24 COEs for the 4 quarters (aggregate total of OOS>24 tickets divided by total OOS tickets in the 24 COEs over the 12 month period) for the period beginning July 1, 2019 and ending June 30, 2020 and will show a five percentage point improvement during the 4 quarters beginning July 1, 2021 and ending June 30, 2022, and an additional five percentage point improvement during the 4 quarters beginning July 1, 2022 and ending June 30, 2023. The actual results for OOS>24 in these 24 COEs for the 12- month period beginning July 1, 2019 and ending June 30, 2020 was 30.33%.
>
> - For the 4 quarters beginning July 1, 2021 and ending June 30, 2022 the quarterly OOS>24 Target in aggregate for the 24 COE is 25.33%.
>
> - For the 4 quarters beginning July 1, 2022 and ending June 30, 2023 the quarterly OOS>24 Target in aggregate for the 24 COE is 20.33%.

[102] Action Plan at page 7.

[103] Action Plan at page 2.

The Action Plan makes no mention of any consequences in the event that Frontier fails to achieve these targets. However, when the Commission approved the Action Plan, it specifically cited certain steps for remediation and supplemental network investments upon any failure to meet the targets, which had been agreed to by Frontier and set forth in the Commission's October 2020 Order.

> Should Frontier's quarterly results not meet the CTTR Target or the OOS>24 Target in a given quarter, Frontier will submit and discuss a remedial plan to Department Staff. If quarterly results are not met for the CTRR Target and/or OOS>24 Target for two consecutive calendar quarters, Frontier will invest an additional $100,000 in capital investment and/or operating expense to be expended over the subsequent two calendar quarters.[104]

Frontier began its work under the Action Plan in 1Q 2021, and provided an overview and certain details about the status of its capex projects in its progress reports filed after every quarter of the year. Several of these reports stated that "Frontier expects to remain on track with the successful completion of projects" as it moved towards the next quarter.[105] However, beginning with its 1Q 2021 progress Report, Frontier began to refer to supply chain issues as delaying some of its capex projects,[106] and its progress reports for the last three quarters of 2022 all refer to that issue and also "local permitting issues" in the context of delays in its battery replacement projects and fiber-to-the-home ("FTTH") deployments. Frontier's progress reports for 2023 continue to indicate more projects are being completed. Then, by the end of 2023, the Company reports that out of its total planned projects, which numbered approximately 200 (excluding FTTH deployments), more than forty remained in progress, i.e. beyond the anticipated completion date. Even as of April 2025, the Company's capex tracking for these projects indicate that the Company had largely completed spending its committed funds on projects in the 24 COEs by that time, but that there were still projects that remained uncompleted.[107] While

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[104] Case 20-C-0267, Order Approving Action Plan, May 2021, at page 13. These remedial plan conditions were triggered on nine occasions and resulted in additional investments of nearly $1 million. See IR Response #38(i)-(iii), which includes nine original Remedial Plans, one Supplemental Plan (for 1Q 2023) and one Amended Plan (for 4Q 2023).

[105] See, e.g., Frontier's Quarterly Reports for 3Q 2021, 1Q 2022, 3Q 2022, and 4Q 2022.

[106] Frontier's Quarterly Report for 1Q 2021 states, "[d]uring the first quarter of 2022, Frontier anticipates the completion of 9 battery replacement projects originally slated for 4Q2021 completion that are being held up due to supply chain issues."

[107] See, IR Response #73, file "IR1 Q#73 Exhibit 2 - CONFIDENTIAL Frontier NY Project Status Apr 25.xlsx", at the Status column in each of the five tabs listing the projects by category (CO battery, FTTH, OSP, Remote Offices, and Operating Expense Projects). For example, out of 125 Remote Office projects for those COEs, 121 were marked Completed, 3 were still Active, and 1 was Pending. Out of 11 originally planned Central Office Battery projects, 10 were marked Completed and 1 had been dropped. All 14 listed OSP rehab projects have been marked as Completed in the Comments column of the tracking spreadsheet (which Frontier indicated updates the Status column, in which 10 were marked Completed, 3 were still Active, and 1 Pending).

Frontier may have legitimate reasons to have experienced delays for some of the Action Plan projects, the lack of a definite end-date to the Action Plan's investments was considered in our approach to evaluating its service quality impacts.

The Action Plan's Overall Service Quality Results as Reported by Frontier in its Quarterly Service Quality Metric Filings

The table below summarizes Frontier's overall service quality results for the Action Plan COEs, as it reported them in its Exhibit 1 filings made as part its Quarterly progress reports.[108]

[redacted]

This table includes all the results from all 17 Action Plan Quarterly Report filings made during the Audit Period. However, because the Commission's order approving the Action Plan was issued in May 2021, the first two quarters of 2021 were not subject to the specific targets prescribed by the Commission in its order approving Frontier's Action Plan. For that reason, those results are marked as "N/A" in the table. Also, when seeking to isolate the impacts of Frontier's incremental network investments on service quality, it is somewhat arbitrary to select a timeframe to segregate the "before" and "after"

[108] Workpaper 7 (Confidential SQ2 - 2. Table of Frontier's Action Plan Results for 24 COEs.xlsx).

timeframes. This is because many of those investments were completed early within the nominal 2021-2023 span of the Action Plan,[109] while other projects were not completed until year-end 2023 – with some limited investments continuing into 2024[110] and 1Q 2025.[111]

The most reasonable course is to consider year-end 2023 as the "before/after" dividing line and compare the 12 quarters prior to 2024 as "before" and the 5 quarters of 2024 and 1Q 2025 as the "after" timeframe for evaluating potential service quality impacts of the Action Plan's network investments. On that basis, as shown on the left-hand side of the table, Frontier passed the applicable CTRR metric in three out of the five "after" quarters (60% of the time), and failed the other two (40% of the time). That performance was worse than Frontier's CTRR performance during the ten quarters for which the metric was formally applied (2Q 2021-4Q 2023), in which it passed during 7 quarters (70% of the time). The performance is also worse than the 75% passing rate that would have occurred had 1Q 2021 and 2Q 2021 been subject to the metric.

For the %OOS>24 Hours metric, Frontier passed two out of five quarters in the "after" period (i.e., 40% of the time), and it passed two out of ten quarters (i.e., 20% of the time) in "before" quarters when this metric applied.

The results for the CTRR metric appear very favorable. The reason is that for the six months prior to the start of the plan (July-December 2020), more than half of the selected 24 COEs (fifteen) had zero misses of the CTRR metric, and their average monthly CTRR levels were below the 3.3 standard. This is illustrated in the table below, which is based on Frontier's reported monthly CTRR data for year 2020.[112]

[109] For example, the majority of expenditures for Frontier's CO Battery and OSP Rehab projects were completed by the end of 2022. IR Response #73, Confidential Exhibit 2 project status spreadsheet.

[110] For example, under 10% of Remote Office project expenditures occurred in 2024.

[111] The 1Q 2025 expenditures were only for FTTH projects, which are a special case. Frontier reported spending [redacted] million on FTTH build-outs in four Action Plan COEs by year-end 2023, compared to the [redacted] million it had committed to in its Action Plan. However, it has continued to make substantial FTTH investments throughout New York in 2024 and 2025, including in the same Action Plan COEs where the [redacted] million was spent. While these subsequent FTTH investments will likely produce service quality benefits to the customers who migrate to the Company's unregulated fiber-based services, they do not appear to be "incremental" to its statewide FTTH initiative as already budgeted in its capital planning. In addition, because the service quality metrics at issue are focused only on regulated local telephone service, such service quality benefits will not be directly reflected in these metrics.

[112] Workpaper 6 (Confidential SQ 2.1, Lines-Tickets-CTRR Trends.xlsx, tab *Table 13, AP COEs, Ranked 2020*). East Rochester is a COE in the Action Plan but not in Monthly Reports; its figures are derived by Consultant from the corresponding COEs in Monthly Service Quality Reports.

[redacted]

For purposes of this table, the 24 Action Plan COEs were sorted in order of worst-to-best CTRR performance, based on their CTRR averages over the six month period July-December 2020.[113] As shown above, there are 16 COEs among the 24 that did not exceed the 3.3 CTRR threshold over these six months (those shown with CTRR statistics in green

[113] To evaluate the consistency and accuracy of Frontier-provided data over time, Consultant compared the data used to develop this table (which was supplied by Frontier in discovery) to the data Frontier provided to Staff in monthly reports back in 2020. Consultant found significant discrepancies within the first half of 2020, and none thereafter. Specifically, 302 discrepancies in line counts and well over 500 discrepancies in trouble ticket counts were identified within the months of January through May 2020. Consequently, data for the first half of 2020 are omitted in Table 13 and Table 14. These discrepancies underscore how human involvement can introduce inconsistencies in critical data. As noted in this report, CTRR and %OOS>24 Hours reporting should be automated to the fullest extent possible.

font). Those COEs also had average CTRR levels over that period that were well below 3.3, ranging from between 2.44 ([redacted]) and 0.72 [redacted].[114]

One of the goals of the Action Plan was to "improve CTRR" results. Yet, Frontier was already meeting the prescribed CTRR standard in many of the Action Plan COEs, while there were other COEs that were not selected for targeting that had far worse CTRR performance. For example, the table below presents the 25 "worst" CTRR performers among all of Frontier's COEs that were not selected for the Action Plan, based on the same ranking criteria used above.[115]

[redacted]

All of these COEs had substantially worse CTRR performance than did any of the 16 well-performing (green font) COEs that were chosen for Action Plan targeting, when considering

[114] Workpaper 6 (Confidential SQ 2.1, Lines-Tickets-CTRR Trends.xlsx, tab *Table 13, AP COEs, Ranked 2020*).

[115] Workpaper (6 Confidential SQ 2.1, Lines-Tickets-CTRR Trends.xlsx, tab *Table 14, Non-AP COEs, Ranked 2020*).

the number of months for which the CTRR standard was missed and their average CTRR levels during the second half of 2020.[116]

One consequence of including the well-performing COEs into the Action Plan group is that they boost the Action Plan COEs' service quality performance so that the Action Plan COE group appears to have performed better than it otherwise would have in terms of its rate of troubles as a percentage of lines. This may also partially explain the notable disparity between service quality trend lines for Action Plan COEs (slightly declining or improving) versus Non-Action Plan COEs (increasing, or worsening), as presented above.

Evaluation of the Action Plan 24 COEs at the Individual Level (CTRR Trends)

Appendix 5 contains five tables presenting the Action Plan 24 CTRR results for the remaining four years of the Audit Period (2021-2024) and the first quarter of 2025.[117] To illustrate the information contained in the tables, the table for year 2024 is reproduced below.

[redacted]

Appendix 5 also contains time-series charts for each of the 24 Action Plan COES taken individually, along with the CTRR 3.3 benchmark line and a linear trend line calculated from the month-to-month results, indicating the overall trend (with downward slope indicating improvement).[118] Two COEs from this group are discussed below to underscore some of the service quality trends that particular Action Plan COEs have been experiencing.

[116] *Id.*
[117] See Appendix 5 at tab "Yr-by-Yr CTRRs for AP24 COEs."
[118] *Id.* at tab "CTRR Charts f-AP24 COEs."

[redacted] a COE with less than 250 access lines (a Frontier-Rochester Tel exchange), is one of the worst-performing COEs in Frontier's statewide territory. As shown below, [redacted] exhibits high volatility related to the CTRR metric and frequently exceeds the CTRR threshold, sometimes by several multiples (e.g., by a factor of 10 in August 2024). However, the trend line indicates very slight improvement, which appears to be a result of lower CTRRs since October 2024.

[redacted]

[redacted], a COE with less than 150 access lines (a [redacted] exchange), has experienced high CTRR levels and volatility, but has shown marked improvement since late 2023, with sixteen months of superior CTRR performance and greatly reduced volatility. This improvement is illustrated by the downward sloping trend line.

[redacted]

Examination of the Distribution of Network Projects and Associated Investments Among the 24 Action Plan COEs

The table below presents the Action Plan's completed network investment projects by type, along with the expenditures through year-end 2023. Not all COEs were recipients of a significant project, and the OSP and FTTH projects were particularly limited in their distribution among the COEs.[119]

[119] Workpaper 17 (Confidential SQ2 – 3. Source file for Tables 16 and 17 (Action Plan projects and capex).xlsx).

[redacted]

Finally, there are four COEs for which Frontier completed substantial FTTH build-out projects: [redacted], [redacted], [redacted], and [redacted].[120] The table below provides further details about those investments and locations passed.[121]

[120] The Confidential Action Plan investment tracking spreadsheets that Frontier filed along with its Action Plan Quarterly Reports list several FTTH projects under "Fairport exchange" within the geographic area of [redacted]. Frontier explained to Consultant that these projects were mislabeled and in reality correspond to locality [redacted] that is part of the [redacted] COE.

[121] Workpaper 17 (Confidential SQ2 – 3. Source file for Tables 16 and 17 (Action Plan projects and capex).xlsx).

[redacted]

The potential benefits of these projects are challenging because, although the number of fiber service locations is known, two key factors remain (a) how many of the locations were previously copper-served Frontier customers that would have had the option to migrate to unregulated VoIP service by 3Q 2023, and (b) how many Frontier customers might have simply left Frontier altogether during the timeframe. One notable observation from this table is that Frontier's expenditure on these FTTH projects, [redacted], was more than ten times the amount of expenditures made for the five COEs in which the Company completed OSP cable rehabilitation projects ($[redacted]).

Examination of the Action Plan's COEs on the %OOS>24 Hours Service Quality Metric

The table below presents Frontier's reported results for the %OOS>24 Hours metric as supplied in Exhibit 1 of the Company's Action Plan Quarterly Reports during the Audit Period.[122] A larger (more legible) version of this table is provided in Appendix 5, but the version below serves to illustrate the severe difficulty Frontier experienced in satisfying the %OOS>24 Hours metric during most of the Audit Period, as evidenced by the red-shaded results denoting months in which the metric was missed. Frontier's reported performance on this metric changed markedly in the last two quarters, 4Q2024 and 1Q2025 – with far fewer missed months and large decreases in the "deltas" over the applicable threshold.[123]

[122] Workpaper 18 (Confidential SQ2 – 4. Source file for Tables 18 and 19 (Action Plan COEs, %OOS>24Hrs).xlsx).

[123] For example, [redacted], [redacted], and [redacted] reported significant improvements on this metric in those two quarters, reaching [redacted] results in 1Q2025, respectively, after missing the standard for eight or more of the previous quarters.

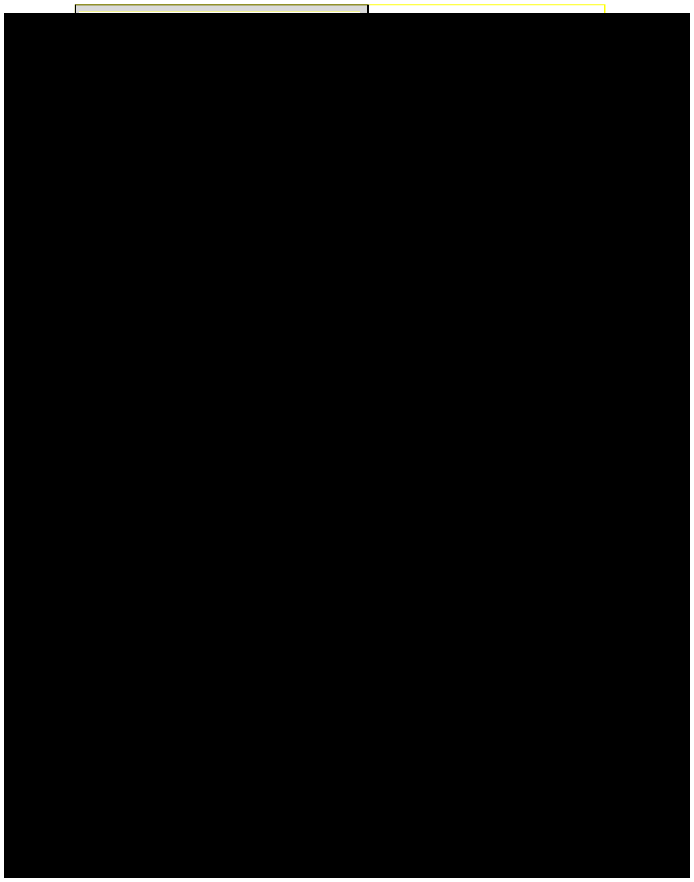
[redacted]

In order to understand whether the performance in 4Q2024 and 1Q2025 reflect temporary improvements only or a more permanent shift towards improved service quality on Frontier's timeliness for repair intervals, Consultant requested and obtained two additional quarters of the Company's metric results,[124] which Frontier has continued to provide to the Department on a voluntary basis. The table below presents Frontier's %OOS>24 Hours results for the second and third quarters of 2025, spanning April 1st through September 30th.[125]

[124] These results were provided in Frontier's Response to IR #172 provided on 10/17/2025.

[125] Workpaper 18 (Confidential SQ2 – 4. Source file for Tables 18 and 19 (Action Plan COEs, %OOS>24Hrs).xlsx).

[redacted]



The results suggest that either the improvements in 4Q2024 and 1Q2025 were temporary or that significant seasonality impacting time to repair can be an issue because the most recent two quarters reverted back to having more than two-thirds of the Action Plan COEs ([redacted] out of [redacted] failing to meet the 20% standard.

Moreover, the CTRR results for the second and third quarters of 2025 do not show evident improvement from the general pattern that occurred over the Audit Period. There continued to be significant numbers of CTRR misses for several of the historically worse-performing COEs in the upper half of the Action Plan group,[126] and [redacted] ([redacted] in August) over that period for the lower half of the group, which have exhibited substantially better CTRR performance over the Audit Period.[127]

Consultant examined whether Frontier's field technician workforce in New York is sufficiently sized for its ongoing and future work levels, and also whether that workforce is

[126] For example, [redacted] exceeded the 3.3 threshold in [redacted], and [redacted].

[127] See the updated version of the tab "Yr-by-Yr CTRRs for AP24 COEs" in Appendix 5 for the Year 2025 chart.

being allocated most efficiently along the dimensions of geography, changing service demand patterns (e.g., access line losses), and prioritization of their work tasks. This task was chiefly intended to help understand the Company's overall trend of declining timeliness of repairs and to identify potential remedies.

The following table provides an overview of Frontier's FTE-equivalent headcount for field techs over the Audit Period.[128]

[redacted]

Frontier's field technician workforce in New York experienced several increases and also reductions from 2020 through about 1Q2023, at which point head count appears to have leveled. Overall headcount decreased by [redacted] during the Audit Period. During that same time, Frontier's trouble ticket volumes fell by roughly [redacted] and access lines fell by nearly [redacted].[129]

Another consideration is that field technicians' work is not limited solely to responding to trouble tickets and making repairs, but also performing local telephone service installations, installations of broadband service for internet access, and performance of additional maintenance/rehab work (that is separate from trouble tickets). While shifts in

[128] Workpaper 19 (Confidential SQ2 – 5. Source file for Chart of Field Tech Headcounts by Quarter, 2020-2025.xlsx).

[129] Note that the [redacted] figure includes only 2020-2024 and not 1Q2025; therefore, it is a conservative estimate with respect to the entire Audit Period.

the relative volumes and mixes of these tasks over time make it difficult to generalize, all other things being equal, Consultant expects that the stable size of Frontier's workforce, in the context of decreasing trouble tickets and line counts, should lead to the Company's ability to respond more quickly to trouble tickets. Consequently, one would expect the Company's performance on the %OOS>24 Hours metric to be improving – particularly as Frontier's interviewed personnel have repeatedly stated that restoration of regulated local telephone service lines receives the highest priority among these work categories. However, Frontier's performance in this regard is not improving.

One factor that might explain this trend is that it may be difficult to quickly re-prioritize existing workloads if there is a surge of trouble tickets within a short timeframe. Such surges can occur during winter storms or summer rain/flooding events. A closely-spaced series of trouble reports appears to be a fairly common reason for missing the %OOS>24 Hours metric, particularly in rural reporting centers that have smaller exchanges and few technicians on hand to respond to these incidents.

The [redacted] exchange (located just west of [redacted]) is one of four exchanges managed within the [redacted] reporting center. Since technician force levels stabilized in 2021, this rate center has had just [redacted] assigned field technicians. In the third quarter of 2023, [redacted] had [redacted] OOS tickets for basic telephone lines, all of which failed to be restored within the 24 Hours standard. However, examination of the trouble tickets database output demonstrated that [redacted] of those tickets had been reported within a three-day span (Sept 15-18th of that year), and had the same underlying cause – coded as "Card Trouble" (and plant type Circuit Equipment), "Equipment Malfunctioning" and a Common Cause ticket indicator (meaning that they were flagged as related incidents). The service was restored for all [redacted] customers on the same day (September 25) by replacing the faulty cards. If those customers had problems with their line that had manifested across a wider timeframe, Frontier's techs might have had less difficulty with the troubleshooting necessary to make timely repairs compared to this type of situation in which multiple tickets were assessed and managed in a short period of time with fixed labor resources. Consultant has observed that experienced Local Managers can play a significant role in resolving these types of situations by quickly responding to them by finding ways to adjust schedules of available technicians, apply overtime, etc. Consultant's recommendation to utilize outside contract labor in order to maintain service quality commitments is supported by the data provided above.

Examination of the Root Causes of Frontier's Trouble Tickets Occurring During the Audit Period

Frontier creates trouble tickets in response to customer notifications of service outages or other impairment on telephone access lines. The Company maintains detailed records of the status and disposition of those trouble tickets as its field technicians respond and attempt to restore service. Those records include basic data such as customer name,

address, telephone number of the impacted line, serving wire center, and details of the trouble, including its start date/time, the date/time it was cleared, and the elapsed time of the problem (repair interval). An important resource for the examination of the root causes of access line troubles are the following trouble ticket fields which are filled in by field technicians as they are on site attempting to diagnose and fix the problem:

- Plant Item Type: the specific type of facility that appears to be the source of the trouble; examples include Network Aerial (cable), Network Buried (cable), Connector, X-Connect;
- Cause Type: the field tech's entry diagnosing the problem, which ordinarily is chosen out of a categorization scheme with dozens of potential issues listed;
- Fault Type: another field which can supplement the Cause Type with additional details about the nature of the problem and
- Action Type: the field tech can enter into this field an action to resolve the problem, e.g., "Changed Cable Pair," "Re-loaded Config[uration]", "Replaced Ground" etc.[130]

The analysis of a trouble tickets dataset over time affords a very detailed view of the causes, frequency, and geographic distribution of access line outages and line impairments and how they are impacting individual customers, as well as the Company's performance in resolving them.

The chart below presents a frequency distribution "pie chart" of the causes of Frontier's New York trouble tickets, for OOS conditions, based on the Cause Codes that the Company's field technicians entered for those tickets. This chart is for year 2020; additional charts for the remaining four years are included in the workpaper supporting Consultant's root cause analysis.[131]

[130] Frontier's 6/11/25 Amended IR Response #47 provided the Company's current set of "disposition codes."

[131] Workpaper 20 (Confidential SQ2 – 6. Tickets Database Output File w- Cause Code Analysis charts and tables.xlsx).



The table below presents the ticket counts by Cause Code type and their frequency (% of total tickets) that were used to generate the pie chart above.[132]

[132] *Id.*

[redacted]

Analyzing Cause Codes typically involves grouping together certain codes that are related to aging and/or poorly maintained copper OSP facilities, which in this case included Bad Cable Pair ([redacted] tickets), Bad Section ([redacted] tickets), and Corrosion ([redacted] tickets), or [redacted] total tickets in year 2020.[133]

Consultant's principal findings from analyzing Frontier's trouble Cause Code entries on a New York-wide basis are:

1. Deteriorated Outside Plant conditions dominate the causes for trouble tickets for the Company's regulated telephone lines over the Audit Period, accounting for [redacted] to [redacted] of all trouble tickets depending on the year considered; and
2. The share of trouble tickets related to Deteriorated Outside Plant as a percentage of all ticket causes has grown to approximately half ([redacted]) over the most recent five quarters of the Audit Period (2024-1Q2025).

[133] Other Cause Codes such as Moisture, Shorted, Worn, and Damaged may often refer to copper OSP as well, but not exclusively. So, to be conservative Consultant limited the Deteriorated Plant categorization to the three Cause Codes cited above, which generally have much higher ticket counts than these additional causes.

As evidence for that growth, the chart and associated table below present the frequency distribution for the most recent OOS tickets data in the Audit Period, 1Q2025.[134] The overall percentage for Deteriorated OSP causes has increased from [redacted] in 2020 to [redacted] in 2025, and that increase has largely been driven by Corrosion, which has increased from [redacted] to [redacted] during that timeframe.[135]

[redacted]



[134] Workpaper 20 (Confidential SQ2 – 6. Tickets Database Output File w- Cause Code Analysis charts and tables.xlsx, tab *Cht1-OOS Cause 1Q2025*).

[135] See *id.* at the 2020 and 1Q2025 tabs for these percentages. Note that Corrosion is a sub-category of the Deteriorated Plant category and its percentages are listed separately in the tables within this source file.



While there are many other issues that can cause a problem over a telephone access line and generate a trouble ticket – including severe weather, trees (typically branches falling on aerial lines), contractors working (damaging buried cables), and fiber cuts – these occur less frequently than Deteriorated Plant conditions.[136] In addition, Frontier's coding system includes two entries that can span a broad range of conditions, namely Damaged (generally in the [redacted]% range, and [redacted]% in 1Q 2025) and System Issue ([redacted]% of all tickets), the latter referring mostly to COE-related issues rather than OSP.[137]

In sum, deteriorated copper OSP facilities is the leading cause of Frontier's trouble tickets over the Audit Period. Moreover, this leading cause has grown in terms of its relative share of total OOS tickets during the most recent five quarters.

CTRR Metrics for COEs with relatively fewer access lines

The Final Work Plan includes examination of the issue of potential "Irreversible service quality threshold failure in COEs with fewer access lines."[138] The focus of this issue is that

[136] Another more frequently-encountered cause code is for damage caused by Animals/Insects/Birds intrusion into OSP, which constitutes 6-9% of all tickets over the Audit Period.

[137] *Id.*

[138] Final Work Plan at Task 4, SQNR#2-Root Cause, Objective at issue (e).

as the number of regulated telephone lines served by Frontier's smallest COEs continues to decline, so too does the absolute number of trouble tickets that can trigger a failure to meet the CTRR standard of 3.3 customer troubles per 100 access lines. Frontier expresses its concern about this issue as follows:

> The SQ Uniform Measurement Guidelines sets the CTRR benchmark to 3.3. The real issue that should be addressed is the fact that the number of access lines in each of Frontier's 210 COEs has plummeted significantly (on average by more than 54%) since YE 2020 as a result of competition and the cutting of the cord for traditional telephone service. As of August 2025, more than half of the 210 COEs have less than 275 access lines, and as this number grows the number of COEs missing the benchmark will likely grow. As a result, a small number of troubles in any month (less than 10 tickets in a COE with 275 or less access lines) will result in the Company not meeting the 3.3 CTRR standard. The Company believes COEs should be consolidated into a smaller number of reporting areas each with at least 1000 access lines for purposes of evaluating the CTRR performance.[139]

The table below illustrates the mathematics for how smaller-sized COEs (as measured in terms of their counts of regulated telephone lines) might be affected by this issue given the 3.3 CTRR benchmark level.[140]

Table 22: CTRR Performance Effects on COEs with Fewer Access Lines

Illustrative Access Line Counts	Unrounded Miss Count when Exactly at 3.3 Upper Bounds	Upper Limit of Allowable Misses, to Stay =/< 3.3%	Miss Count that Will Exceed Upper Limit	Calculated CTRR When 1 Miss > Allowable Limit	Calculated CTRR if 1 Miss is Subtracted for WCs of the Indicated Size
Formulas-->	*=3.3*B12/100*	*=TRUNC(C12,0)*	*=D12+1*	*=100*E12/B12*	*=100*(E16-1)/B16*
1000	33.00	33	34	3.40	3.30
750	24.75	24	25	3.33	3.20
500	16.50	16	17	3.40	3.20
250	8.25	8	9	3.60	3.20
100	3.30	3	4	4.00	3.00
75	2.48	2	3	4.00	2.67
50	1.65	1	2	4.00	2.00
30	0.99	0	1	3.33	0.00

[139] IR Response #168 (re: BCA Recommendation #3), 9/18/2025.

[140] Workpaper 21 (Confidential SQ2 - 7. Source file for Tables 22 and 23 (Small COEs Analysis).xlsx).

As the table above shows, there is a greater effect on the calculated CTRR as line counts in a COE decreases, with the extreme example being that a COE with 30 or fewer lines will exceed the 3.3 CTRR threshold if it experiences just one trouble report in a month (see the fourth column, "Miss Count that Will Exceed Upper Limit").

This issue has been raised previously in New York, as well as other state jurisdictions. For example, Verizon formerly had a Performance Assurance Plan ("PAP") that applied certain service quality standards and potential credits to CLECs that were purchasing its wholesale telecom services. Verizon's fourth revision to its PAP, filed in December 2006 for implementation the next year, contained a mechanism allowing Verizon's wholesale service quality results to be reduced by one "miss" under certain circumstances. The rationale and formulas for that mechanism were contained in Verizon's PAP Appendix C, Performance Evaluation Methodology.[141] The excerpt below provides an overview of the rationale and formula that Verizon applied to address this issue.

> **Small Sample Benchmark Scoring Procedures**
> For Counted Variables with Benchmark standards, it is possible to have small sample sizes, such that just a single missed transaction within a report period can cause the measure to miss its Benchmark. The Plan recognizes that without an allowance for a single miss, the Plan would effectively require perfection to avoid bill credits, which would be above the designated Benchmark for the measure. Some Benchmark metrics have standards such that higher than the benchmark is better (HIB). Other Benchmark metrics have standards where lower than the benchmark is better performance (LIB). The number of observations ("n") necessary to qualify as a "small" sample on Benchmark measures for the allowable miss table is determined using the applicable performance standard in one of the following two formulas:
>
> HIB: $n < \{1/[1\text{-standard}]\}$
> LIB: $n < \{1/[\text{standard}]\}$[142]

Because the CTRR is a "lower is better" ("LIB") benchmark, assessed at 3.3 misses per 100 lines (i.e., 3.3%) the applicable number of observations to qualify as a "small sample" for an adjustment would be:

$n < 1/3.3\%$, i.e. $n < 30.303$, or expressed as a whole number, $n = 30$ or less.

That is, if the adjustment methodology used in the Verizon PAP were applied to the CTRR, it would be applicable only to COEs with 30 or fewer access lines. This is consistent with the calculations presented in the table above. However, when we examine Frontier's actual line counts for its New York COEs and project them forward, very few would qualify for this

[141] Appendix 6 (Verizon's 2006 PAP including Appendix C).

[142] *Id.* at pages 36-37.

adjustment in the foreseeable future. The table below lists all of the Frontier COEs in New York that had less than [redacted] access lines as of 3/31/2025, the most recent data collected during the Audit. It then forecasts those COEs' access line counts by applying an annual percentage line loss of [redacted]%, based on the average annual line loss Frontier experienced in 2024 [redacted]%).[143]

[redacted]

Frontier currently has no COEs that would qualify for this adjustment, and only two COEs would be expected to reach the 30 lines level within the next three years. On this basis, Consultant concludes that there is no need to implement the adjustment at this time because it would have no significant impact on Frontier's reported CTRR results for at least the next three years.

Consultant does not agree with Frontier's suggestion that the current CTRR formula is faulty because "less than [redacted] tickets in a COE with [redacted] or less access lines…will result in the Company not meeting the 3.3 CTRR standard," or its proposed approach to consolidate its CTRR reporting into aggregations of COEs with at least 1,000 lines each. If COE results were to be aggregated into larger units such as 1,000 line groupings, such

[143] Workpaper 21 (Confidential SQ2 - 7. Source file for Tables 22 and 23 (Small COEs Analysis).xlsx).

averaging would mask the actual performance of Frontier's individual COEs, so that both the Department and the Commission would lose visibility into the geographic extent and severity of access line outages and other service-affecting troubles. To the contrary, Frontier's track record for often sub-standard and declining CTRR performance during the Audit Period, calls for more (not less) transparency into that performance.[144] For these reasons, Consultant concludes that no changes should be made to the CTRR metric or the manner in which it is calculated for Frontier at this time.

C. FINDINGS & CONCLUSIONS

This section provides an assessment of the evaluative criteria established in the Final Work Plan.

Evaluative Criterion #1	Does Frontier-NY factor in service quality metrics across its COE when making decisions about investment projects?

See Section IX of this report (Organizational Structure) for an analysis of Frontier's procedures for its network investment decision-making. Consultant finds that issues affecting regulatory requirements, including service quality metrics, are priorities built into the organizational structure. However, decision-making and budgeting for network investments are established for the organization as a whole at the national level, and not conducted specifically for any state or operating company. Numerous factors enter into that decision-making, but it does not appear that New York's specific service quality metrics (nor those of other states) are direct inputs to that centralized capex budgeting process and the network investments that result from it.

Evaluative Criterion #2	Were Frontier's expenditures to improve facilities and hire technicians properly targeted in terms of equipment / locations / work areas?

Consultant has determined that technician headcounts declined from 2021 through 2023 and have since remained relatively stable. Overall, the reduction in technician staffing was smaller than the decline in customer line counts. However, because of the way technicians are deployed and records are maintained, headcount cannot be accurately mapped to individual COEs to assess changes or determine the likely impact on service quality.

[144] It also bears noting that the CTRR metric is governed by Commission rules (Part 603.3), so that any revisions to the metric would require a rulemaking and impact other LECs in New York in addition to Frontier.

Moreover, the interview with a Local Manager in the Rochester Tel. Reporting Center indicated that service quality – particularly time to repair – can be improved through diligent oversight. As discussed in our recommendations, Frontier should strengthen best practices based on the experience of its most effective Local Managers and consider adding personnel in areas where service quality requirements cannot be met without additional technicians.

Evaluative Criterion #3	Were the dollar amounts allocated to address service quality in chronically underperforming COEs sufficient for the intended purpose?

No, dollar amounts allocated to chronically underperforming COEs were insufficient. Within the Audit Period, Frontier's primary initiative to address chronically underperforming COEs was its Case 20-C-0267 Action Plan, implemented during 2021-2023 with some investments continuing into 1Q 2025. Frontier's stated objectives for this Action Plan were "to (1) improve CTRR and %OOS >24 Hours in these 24 COEs and (2) implement a focused program of capital investment and proactive maintenance aimed at reducing the number of troubles experienced by customers served by these 24 COEs." Taken as a group, the Action Plan's 24 COEs did not demonstrate improved service quality attributable to the Plan's incremental network investments. Some individual COEs in this group exhibited rather sudden improvements in their reported CTRR levels and/or %OOS>24 Hours metric, but many did not; and for those that did, it is not clear whether they reflect sustained improvements as would be expected from meaningful network investments, or just continued volatility in the Company's results. Moreover, there are numerous other COEs that were not included in the Action Plan that historically have had equal or worse service quality problems compared to the 24 Action Plan COEs, and problems in those other COEs appear to be worsening, both individually and as a group.

Evaluative Criterion #4	Did the additional investments made have any effect on service quality (e.g., did service quality decline more slowly in COEs where investments were made)?

The data does not reflect definitive ties between the specific investments carried out in the Case 20-C-0267 Action Plan, nor the PMP program, and improvements in subsequent service quality, as measured by the Commission's two primary metrics. Some of those investments may have helped to reduce certain types of trouble reports and outages in certain geographic locations, but the scope of some investments (e.g., OSP rehabilitation projects) was quite small and local. Whereas the battery replacement investments and PMP's introduction of systematic scheduling of basic network maintenance tasks likely benefits the Company, the available data does not support identifying circumstances in which they have avoided outages that would otherwise have occurred.

Evaluative Criterion #5	Do Frontier-NY's own fiber deployments contribute to service quality deterioration by drawing away resources from maintenance of its legacy copper network?

While the obvious tension between fiber build and maintenance of the legacy copper network exists, Consultant has not found any direct evidence that demonstrates resources are explicitly drawn away from the maintenance and repair of Frontier's legacy copper facilities. The Company has consistently stated in several management and technician interviews that its policy in New York is to prioritize its responses to "regulatory mandates" including troubles on regulated local telephone service lines above maintenance needs and installation appointments for its unregulated fiber-based services (and also that its fiber construction is largely handled by outside contractors rather than its field techs).

That said, the Action Plan expenditures tracking sheets shows that Frontier has spent an order of magnitude (~10x) more capital on its Action Plan FTTH projects than on the non-FTTH projects that occurred under that Plan. This is not surprising, given that a compelling Frontier priority in New York and elsewhere across its national footprint has been to deploy fiber as fast as possible to meet aggressive build targets in support of its Building Gigabit America ® initiative. There is an inherent tension between fiber deployment and maintenance of the legacy copper network, as these two services compete for finite Company resources. This has the potential to impact service quality and network maintenance, and in turn, the Company's ability to meet retail service quality standards.

Evaluative Criterion #6	Does significant line loss in certain COEs compromise statistical accuracy of CTRR?

No, Consultant has not found that the statistical accuracy of the CTRR metric is compromised by Frontier's ongoing declines in the regulated access lines counted for purposes of CTRR calculations. Frontier has nearly 200 COEs that vary widely in size (from [redacted] to [redacted] lines each, as of 3/1/2025). However, a previous New York case addressed the issue of whether service quality metrics should be adjusted where sample sizes are small. In that case, the Commission approved Verizon's wholesale PAP with an adjustment where one miss on its service quality metrics would trigger credits to its CLEC customers. Consultant finds that if the same sample-size based adjustment formula was applied to the CTRR, adjustments would only occur for COEs with 30 lines or less. None of Frontier's New York COEs have reached that level currently, and only two COEs would reach that level over the next three years, 2026-2028. On this basis, Consultant concludes that there is no need to implement such an adjustment at this time.

We also disagree with Frontier's suggestion that the current CTRR formula is faulty because "less than [redacted] tickets in a COE with [redacted] or less access lines…will result in the Company not meeting the 3.3 CTRR standard," and its proposed approach to consolidate

its CTRR reporting into aggregations of COEs with at least 1,000 lines each. If COE results were to be aggregated into larger units such as 1,000 line groupings, such averaging would mask the actual performance of Frontier's individual COEs, thereby eliminating visibility into the geographic extent and severity of their access line outages and other service-affecting troubles. For these reasons, Consultant concludes that no changes should be made to the CTRR metric or the manner in which it is calculated for Frontier at this time.

D. RECOMMENDATIONS

The table below presents the Consultant's proposed recommendations for this audit area.

No.	Finding	Impact	Recommendation
1	Taken as a group, the Action Plan's 24 COEs did not demonstrate improved SQ (CTRR and %OOS>24 Hours) attributable to the Plan's incremental network investments. Moreover, there are numerous other COEs that were not selected for the Action Plan that historically have had equal or worse SQ problems, and only appear to be getting worse, both when viewed	Service quality continues to decline and is particularly poor in certain localized areas.	(1) Frontier should establish a formal process through which The NY Directors of Field Operations in Frontier's Field Operations and Services and their Local Managers are provided with system generated CTRR and %OOS>24 Hours reports. The NY Directors of Field Operations in Frontier's Field Operations and Services Group should work with Staff to identify the COEs that are consistently meeting the %OOS>24 Hours metric, as well as those COEs that are chronically missing that metric. (Consultant can provide initial lists based on our findings). Next, they should form a working group to establish a process by which those NY Directors and their Local Managers for field techs can share their best practices aimed at improving performance on that metric in the other COEs in NY that have been experiencing substandard performance. This process should include both (1) regular meetings (e.g. on a quarterly basis) to devise and refine these best practices, in the form of a written document; and (2) opportunities for training of Local Managers (and potentially the field techs they supervise) to impart those best practices. (2) To the extent Frontier cannot achieve compliance with existing Technician headcount,

No.	Finding	Impact	Recommendation
	individually and as a group.		it should utilize contractors to augment its current staff until it reaches compliance across its COEs. (3) Consultant also recommends human resources and/or Director of Operations be given the flexibility to provide "spot awards" to Local Managers that consistently demonstrate results compliant with state regulatory requirements and/or that have taken traditionally underperforming reporting centers to centers that meet state regulatory reporting requirements with respect to CTRR and %OOS>24 Hours. We understand NYDPS Staff prefers this approach only be considered after compliance is consistently demonstrated based on appropriate investment and also, labor force, as is noted in the recommendation immediately above.

V. SERVICE QUALITY & NETWORK RELIABILITY #3
REVIEW THE PREVENTATIVE MAINTENANCE PROGRAM

A. SCOPE

The Commission's July 15, 2021, Order in Cases 21-M-0042 and 20-E-0586 states that Frontier suffered major communications outages during Tropical Storm Isaias in August of 2020. These outages impacted thousands of customers as well as the selective router supporting connectivity to the Orange County 911 Center. As a result, customers were unable to make and receive telephone calls to the Orange County Public Safety Answering Point ("PSAP").

These outages occurred because Frontier lost commercial power during Tropical Storm Isaias and the Company's back-up systems failed during the commercial power outage. This problem is described in the Commission's Order:[145]

> On August 4, 2020, Tropical Storm Isaias made landfall across New York, including within Frontier's service territories. Frontier encountered peak outages of 5,880 outages and Frontier did not return to "Business as Usual" until August 11, 2020. Frontier experienced an elevated trouble load due to the storm and a failure of equipment to transfer to backup generators following the loss of commercial power at a critical Frontier central office in Orange County, causing a loss of communications to approximately 5,800 customers served by the central office switch, as well as the selective router providing connectivity to the Orange County 911 Center or Public Safety Answering Point (PSAP), from approximately 7:20 p.m. on August 4th until approximately 8:30 a.m. on August 5th when full restoration of the PSAP was completed.

Frontier's response to IR #64 shows that an equipment failure at a central office in Orange County caused more than 58,000 customer outage hours in August 2020. The Commission's Order further indicates that the Department investigated these customer outages and the loss of connectivity to the Orange County 911 Center PSAP. During that investigation, Frontier stated it would take steps to prevent similar failures, including: (1) replacing outdated or defective equipment, (2) exploring redundant power systems and communication paths, and (3) enhancing preventative maintenance and testing.

Preventive maintenance generally consists of proactive measures taken to avoid network failures and service outages. Pursuant to the Settlement reached in Cases 21-M-0042 and 20-E-0586 between three Frontier ILECs and the Department, those ILECs agreed to implement an Action Plan to improve network resiliency and 911 service reliability

[145] Order in Case Nos. 21-M-0042 and 20-E-0586, July 15, 2021, at p. 2.

following the outages that occurred during Tropical Storm Isaias. The Action Plan identified four primary Action Items, one of which established the PMP.

The primary objective of this audit area is to review and evaluate the PMP that the Frontier ILECs committed to implement and maintain under the Settlement Agreement.

B. WORK TASKS

Summary of Work Tasks

The work tasks completed in this Audit Area are discussed below and were established in Consultant's bid proposal.

1. Review the PMP as envisioned in the Settlement Agreement

Consultant identified and reviewed the PMP related commitments included in the Settlement Agreement attached to the Commission's July 15, 2021, Order as Appendix A. Specifically, the three Frontier ILECs who were parties to the Settlement Agreement committed to spending approximately $2.7 million over five years to improve storm outage preparation and response systems, and to report on pending and operational progress during the five-year period. The operational "Action Items" included in the Settlement Agreement include:

> (1) network upgrade and geographic diversity projects to establish E911 selective router and communications diversity in Orange, Hamilton, Fulton and Montgomery Counties, which will increase the reliability and redundancy of the E911 network in New York State, plus ongoing support for these network and geographic diversity enhancements [*Two-Million Three-Hundred Thirty-Seven Thousand Nine-Hundred Forty-Two Dollars* ($2,337,942)];
>
> ***(2) implementation of a Centralized Preventative Maintenance Program to automate scheduling of preventative maintenance for back-up generators, central office batteries, and transfer switches [Two- Hundred Thirty-Seven Thousand Nine-Hundred Fifty-One Dollars ($237,951)];***
>
> (3) enhanced communication, notification and reporting protocols to be used in preparation for and during storm and other outage events [*Ten-Thousand and Eighty Dollars* ($10,080)]; and
>
> (4) replacement of batteries and transfer switch at the Orange County Central Office that experienced backup power failure [*Eighty-Nine Thousand Four-Hundred Eleven Dollars* ($89,411)].[146]

[146] Settlement Agreement at p.5.

Action Item No.2 above contains a description of Fronter's commitment regarding the PMP. The Company initiated its PMP on October 31, 2021, less than four months after the Settlement Agreement was approved by the Commission.

2. Assess Frontier's criteria for selecting projects and measures under PMP (replace versus repair and maintenance; did service quality metrics affect those decisions).

Not Applicable. Based on Consultant's review of the Commission's July 15, 2021, Order in Cases 21-M-0042 and 20-E-0586, and the Settlement Agreement attached thereto, Frontier committed to implement several "Action Items" intended to mitigate the potential for future service failures of the type that occurred during Tropical Storm Isaias. One of the Action Items identified in the Settlement Agreement is the PMP, described as follows:

> (2) Implementation of a Centralized Preventative Maintenance Program to automate scheduling of preventative maintenance for back-up generators, central office batteries, and transfer switches [Two Hundred Thirty-Seven Thousand Nine Hundred Fifty-One Dollars (237,951)].

Frontier's IR responses and interviews indicate that the PMP has been implemented on a statewide basis. The program primarily consists of schedules for maintenance of back-up generators, batteries, and transfer switches, along with automated job assignments via [redacted] and reporting functionality through the [redacted] software that is managed on portable devices technicians carry when in the field. The plan does not require "repair or replace" determinations; rather, it ensures that scheduled maintenance activities occur as planned.

The PMP was not designed to directly improve service quality metrics, per se, but rather to strengthen the Company's network so that it can better withstand catastrophic weather events. As discussed below, Frontier developed a statewide PMP that requires scheduled maintenance and reporting to confirm maintenance has been completed on time. The plan was initiated on October 31, 2021, and has been maintained since that time.

3. Review the PMP as it was actually implemented (e.g., actual spendings, locations, types of equipment and resources acquired with the spendings).

Consultant reviewed documents detailing both the expenses Frontier estimated it would incur and the actual costs it reported after implementing the PMP.[147] Consultant also conducted interviews with company representatives to better understand how the PMP was implemented and maintained from 4Q2021 through 3Q2025.

Consultant finds that the PMP was initiated on October 31, 2021, as part of Frontier's Action Items under the Settlement Agreement. The PMP was designed to ensure that

[147] See, e.g., Frontier responses to IR Nos. 64, 66, 67-69, 158, and 159.

company technicians routinely tested power-related equipment including generators, central office batteries, and transfer switches to confirm that backup systems remained operational when not in use and were ready to be activated when commercial power failed. This preventive process is comparable to homeowners periodically testing smoke detectors and replacing batteries before failure occurs, but the scheduling and reporting of Frontier's activities were automated.

Frontier reported incurring $355,268 to establish the PMP across its New York operations, and the Company has continued to maintain the program since its inception. PMP-related expenses represent about 13% of the total costs Frontier incurred to implement and maintain all components of its Action Items under the Settlement Agreement, as summarized in the table below (and further detailed in Appendix 7).



Expenses and costs associated with the centralized PMP are roughly % higher than initially estimated in 2021. Information provided in response to IR #64 shows the PMP includes (1) the storage of information related to equipment that requires testing along with the associated due dates, (2) the transmission of testing requirements and due dates to , (3) dispatch from to technicians at the appropriate times for completion within 10 days of relevant due dates, and (4) the ability for technicians to use the to close out PMP related tickets to verify completion of scheduled PMP activities.[148] The PMP was initiated on a statewide basis on October 31, 2021, with these primary attributes. This same information shows that Frontier's plan was to further enhance its capabilities to

[148] See response to IR64, including document titled *IR1 Q#66 Memo Style PMP Costs.pdf*.

include additional integration with the [redacted] and the [redacted] These enhancements would provide technicians and supervisors the ability to review and reassign maintenance jobs for completion based on relevant factors as is routinely done with respect to typical installation and repair tickets managed via [redacted] and [redacted] functions.

4. Assess whether records on PMP implementation are comprehensive and accurate.

Consultant's review of the semiannual reports submitted by Frontier to the Commission and the Department pursuant to the Settlement Agreement confirms that these reports are descriptive and reasonably comprehensive given the requirements outlined in the Agreement.

Expense and cost estimates prepared at the time of the Settlement for all Action Items were within [redacted] percent of actuals, as shown in Appendix 7 to this report. However, expenses and costs incurred to implement the PMP on a statewide basis were approximately [redacted] percent higher than initially estimated. Consultant finds both the reported data and the original estimates to be reasonably accurate.

Consultant further finds that Frontier's ability to obtain detailed data regarding the PMP activities its technicians have performed since Q42021 is inadequate. Specifically, when asked to provide records reflecting PMP maintenance jobs that should have been performed at certain, select locations, Frontier was largely unable to provide the requested records, stating that it "performs generator routines monthly on both fixed and portable generators located in central offices…" and "battery inspections are performed monthly.." In addition, the Company states that the integration between the PMP database, [redacted] and [redacted] "was designed to streamline maintenance operations; however, the CO technicians have not consistently been utilizing the upgraded ticketing process to close out the PMP tickets in the [redacted] portal." As a result, most of the records requested by the Consultant were unavailable, and it is unclear if the required maintenance was performed on-time, if at all.[149]

Given this lack of data, Consultant was unable to discern whether Frontier maintained the PMP as rigorously as initially planned, or whether certain critical equipment may have been excluded from automated monitoring and testing processes. Consultant's recommendations seek to resolve this issue on a going-forward basis by requiring supplemental training and verification of the completeness of PMP activities on a quarterly basis.

Furthermore, data provided in Frontier's revised response to IR #64 indicate that power-related issues have resulted in more than [redacted] customer outage hours since the PMP was implemented. This finding raises questions about the program's overall

[149] See Frontier response to IR 159, dated September 4, 2025.

comprehensiveness and effectiveness. More complete data on equipment testing outcomes should be reviewed to assess whether the PMP requires adjustment. In particular, analysis should focus on determining to what extent power-related outages since Q4 2021 could have been prevented via earlier testing or maintenance, versus those that could not have been reasonably avoided.

5. Where (in which COE) was PMP deployed? What is the timing of this deployment?

Even though the Settlement only required the participation of three Frontier ILECs, Frontier implemented the PMP on a statewide basis on October 31, 2021, and it has remained a statewide program since that time. Thus, Frontier expanded the scope of its plan to include its entire New York ILEC service territory. That Frontier chose to implement this plan across all COEs in the state of New York is reasonable, and likely should have been implemented earlier than it was. Implementing the plan cost roughly [redacted]. Likely benefits resulting from implementation of the plan (i.e., limiting outages that result from the loss of commercial power) may well serve to reduce labor expenses and potential customer rebates over time.

6. Seek to isolate the impacts of the PMP versus the many other factors that could impact COE-driven service quality and trouble report rates: switch Type/manufacturer/vintage; condition; and maintenance, for example.

Not applicable. The program was implemented on a statewide basis rather than on an ILEC-specific or switch-specific basis. As a result, cross-sectional testing to isolate its impacts between operating companies or COEs cannot be performed.

Similarly, time-series testing to determine the impact of the PMP is not possible because the Company does not maintain data identifying when and where it experienced a loss of commercial power, nor does it track whether its back-up generators, batteries, and transfer switches operated as intended during such events to prevent customer outages.

Accordingly, the data is not available to quantitatively assess the precise benefits of the PMP or to compare its effects with other factors influencing service quality at the central office (COE) level.

7. Compare to a sample of the most comparable switches operated by the other Frontier ILECs where no PMP-type safeguards exist.

Not applicable. The PMP was implemented on a statewide basis.

C. FINDINGS & CONCLUSIONS

This section provides an assessment of the evaluative criteria established for this audit area in the Final Work Plan.

Evaluative Criterion #1	Was the PMP implemented as envisioned in the Settlement, or were there material deviations from the original plan causing reduced effectiveness?

The PMP was implemented largely as envisioned at the time of the Settlement and as described in Frontier's first report to the Commission in December 2021. The PMP was implemented on a statewide basis rather than being limited to the three ILECs that were parties to the Settlement Agreement approved by the Commission in Cases 21-M-0042 and 20-E-0586.

Evaluative Criterion #2	Was the dollar spending under the PMP sufficient for the PMP to reach its goals?

The Company's spending allowed it to meet its commitment "to automate scheduling of preventative maintenance for back-up generators, central office batteries, and transfer switches" under the Settlement Agreement. In that sense, the spending was adequate. However, as noted above, certain limitations make it impossible to quantitatively assess the precise benefits of the PMP or to compare the plan to other measures that could well serve to improve service quality.

Evaluative Criterion #3	Did the PMP have discernable positive impacts on Customer Trouble Report counts, i.e. by reducing the levels of trouble reports in the COEs for which the PMP was implemented?

As noted above, certain limitations make it impossible to quantitatively assess the specific benefits of the PMP or to compare its effects with other factors influencing service quality at the central office (COE) level.

Moreover, as discussed in Section IV of this report, service quality has not materially improved over the past five years. Consultant observed more than [redacted] customer outage hours since the PMP was implemented that appear directly attributable to failures of back-up systems intended to support customer services during loss of commercial power.

Evaluative Criterion #4	Was deteriorating service quality caused by factors unrelated/unaffected by PMP?

Not applicable. Cross Sectional testing cannot be performed because Frontier implemented the PMP on a statewide basis.

Evaluative Criterion #5	Is deployment of the PMP across other COEs (potentially all) in Frontier's service territory warranted, and if so, what are the benefits and costs of such expansion?

Not applicable. Frontier implemented the PMP on a statewide basis.

Evaluative Criterion #6	Does Frontier employ cost/benefit analysis or other methods for choosing where PMP funds should be spent?

No, Frontier does not employ cost/benefit analysis or other methods to choose where PMP funds should be spent. The PMP was implemented pursuant to the Settlement, and Frontier expanded upon the Settlement Agreement obligation to implement the PMP on a statewide basis. It did so without any reference to cost/benefit analyses.

D. RECOMMENDATIONS

The table below presents the Consultant's proposed recommendations for this audit area.

No.	Finding	Impact	Recommendation
1	The PMP implemented by Frontier is largely consistent with the Company's commitments under the Commission approved Settlement Agreement in Cases 21-M-0043 and 20-E-0586. The PMP reflects prudent practices, and it is likely to lower the risks of power-related customer outages when commercial power is lost for any significant length of time.	Preventative maintenance and testing included in the PMP, if adhered to, should reduce the risk of power-related customer outages when commercial power is lost for any significant length of time.	The automated PMP should remain in place on a going forward basis. We recommend updates to strengthen the PMP in items 3 and 4 below.
2	The PMP was implemented on a statewide basis, not just limited to the three ILECs that were parties to the Settlement Agreement approved by the	The benefits of the PMP's scheduled testing of generators, central office batteries, and	The PMP should continue to be managed on a statewide basis.

No.	Finding	Impact	Recommendation
	Commission in Cases 21-M-0043 and 20-E-0586.	transfer switches extend throughout the Company's operating territory in New York.	
3	Frontier was unable to provide specific records demonstrating that PMP activities were completed at the locations and during the time periods selected by the Consultant. The Company does not retain a complete set of records and, as a result, cannot reliably verify whether PMP maintenance and testing requirements have been completed on time, if at all	Frontier cannot use its records to determine the extent to which its network is likely to withstand a loss of commercial power. Likewise, its PMP-related data cannot be reliably used for troubleshooting or for refining procedures to better ensure that customer outages resulting from commercial power loss are avoided where possible.	Frontier should retrain its field technicians and local managers to ensure that PMP tickets are properly closed out within the MTP, consistent with the procedures used for installation and trouble tickets. The Company should also review its PMP ticket data on a quarterly basis to identify and address gaps in ticket completion, thereby ensuring it can demonstrate that PMP activities are completed on time.
4	Despite its broad implementation, the occurrence of approximately [redacted] customer outage hours since the program's inception raises concerns about whether the PMP has been maintained and executed as rigorously as originally intended.	Loss of commercial power may contribute to customer outages that could otherwise be avoided.	Frontier should review the customer outage data (including related trouble tickets and technician notes identified in Appendix 8 to this report) and its closed PMP tickets to determine the extent to which outages could have been avoided through more rigorous or enhanced PMP routines. The Company should report its findings to the Department and implement any necessary changes to

No.	Finding	Impact	Recommendation
			the PMP to reduce avoidable customer outages following a loss of commercial power.

VI. SERVICE QUALITY & NETWORK RELIABILITY #4
EVALUATE ADEQUACY OF REPORTING ON CASE NO. 20-C-0267

A. SCOPE

The scope of this audit area is to evaluate Frontier's accuracy and adequacy of reporting associated with Frontier's Action Plan adopted in the restructuring / bankruptcy Case 20-C-0267. This Action Plan required investment in targeted COEs and OSP facilities in amounts exceeding $12.5 million in 24 chronically underperforming COEs, as well as Remedial Plans that are triggered if certain service quality metrics are not met. Frontier was required to file quarterly reports detailing capital projects undertaken pursuant to its Action Plan in four specified categories (1. Fiber to the Premises, 2. Central Office Backup Power, 3. Remote Terminals, and 4. OSP), as well as service quality metrics (e.g., CTRR, %OOS>24 Hours) by COE.

B. WORK TASKS

Summary of Work Tasks

The work tasks completed in this audit area are summarized below.

- Consultant reviewed materials filed in Case 20-C-0267 that established requirements for reporting, including Commission orders[150] and Frontier's Action Plan.[151]
- Consultant collected and analyzed Frontier's quarterly report filings associated with Frontier's Action Plan ("Quarterly Reports").[152]
- Consultant issued IRs and conducted interviews of Frontier SMEs to gain a general understanding of Frontier's financial reporting in Case 20-C-0267.[153]
- Consultant evaluated the accuracy of service quality metrics contained in Exhibit 1 to Frontier's Quarterly Service Quality Reports ("Quarterly Service Quality Reports") against granular tickets and line count data.[154]

[150] Case 20-C-0267, October 16, 2020 Order Approving Joint Petition with Conditions and May 13, 2021 Order Approving Action Plan.

[151] Case 20-C-0267, Frontier Action Plan dated January 14, 2021 (confidential version provided by Frontier in IR Response #38, as file IR1 Q#38i 2021-01-14 Frontier NY CONFIDENTIAL Action Plan Filing original.

[152] Frontier provided quarterly report filings with the associated exhibits, as well as Remedial Plan filings in Case 20-C-0267, in IR Response #38.

[153] IR Responses #56, #70-78 and #130-133; VP Regulatory Reporting Interviews, 6/16/2025 and 6/17/2025; Sr. Financial Analyst Interview, 6/23/2025.

[154] Granular line count and ticket count data were provided in IR Responses #38(iv) and #151.

- Consultant evaluated the adequacy of financial reporting, including Project Status reports contained in Exhibits 2 to the Quarterly Reports against reporting requirements imposed by the Commission's Orders in Case 20-C-0267.
- Consultant assessed information on whether capital investment in the projects undertaken by Frontier to meet the commitments of the Action Plan can reasonably be considered as incremental cost (as opposed to investments and projects that would have been undertaken in the absence of the Action Plan).
- Consultant evaluated the accuracy of financial reporting (including Quarterly Project Status Reports) and Remedial Plans by comparing them to more detailed information on projects included in these filings.[155] Consultant undertook an in-depth review of a sample of projects based on a stratified random sample for each type of project (i.e., Fiber to the Premises, Central Office Backup Power, Remote Terminals, and OSP) by requesting and examining detailed supporting information related to the sampled projects.

Detailed Description of Work Tasks

The Commission's Orders and Frontier's Action Plan

Key provisions from the Commission's Orders and Frontier's filings regarding reporting under the Action Plan in Case 20-C-0267 are listed below.

Case 20-C-0267 October 16, 2020 Order Approving Joint Petition with Conditions.
Frontier commits to invest an incremental $9 million in capital improvements in certain New York operating companies. In that filing, Frontier, in consultation with Staff, identified 24 COEs that warrant additional service quality enhancements (at 15) ...
4. Frontier shall **invest $9 million in incremental capital expenditures over a three-year period**, commencing in calendar year 2021, to the areas that encompass the 24 central office entities...
5. Within 90 days of the issue date of this Order, Frontier shall file, an action plan..., which will address specific measures and projects to be completed by Frontier in the 24 central office entities and how these will enhance service quality and network reliability.
6. Beginning with the first quarter of 2021, **Frontier shall file reports** with the Secretary to the Commission **on a quarterly basis** and through the subsequent 12 quarters, **highlighting the measures and projects** that have been undertaken in the previous quarter, and anticipated plans for the subsequent quarter. As part of this quarterly report, Frontier shall **include the monthly customer trouble report rate (CTRR), monthly total trouble tickets, and percent out-of-service over 24 hours (OOS>24) for all of Frontier's New York central office entities**, pursuant to the Commission's Service Standards and the Uniform Measurement Guidelines. **Additionally**, the quarterly

[155] Data provided by Frontier in IR Responses #56, #72-75, #77, #78, #132, and #163.

report shall include the monthly data and results for the CTRR Target and OOS>24 Target **for each of the 24 central office** entities as discussed in the body of this Order…"

7. Commencing with the calendar quarter that begins July 1, 2021, and ending with the quarter that ends June 30, 2023, Frontier shall, within 20 business days of the filing of the quarterly report, **present a remedial plan to Department Staff for its review and acceptance, if it does not achieve a CTRR Target of 3.3 per 100 access lines in 90% of the 24 identified central office entity** results per quarter or does not restore out-of-service troubles to meet the OOS>24 Target discussed in the body of this Order.

8. Commencing with the calendar quarter that begins July 1, 2021, and ending with the quarter that ends June 30, 2023, Frontier shall, within 20 business days of the filing of the quarterly report, file a plan with the Secretary to the Commission, subject to Department Staff's review and acceptance, describing how an additional $100,000 in capital investment and/or operating expense will be expended over the subsequent two calendar quarters if it does not achieve a customer trouble report rate Target of 3.3 per 100 access lines in 90% of the 24 identified central office entities' results per quarter or does not restore out-of-service troubles to meet the OOS>24 Target **for two consecutive calendar quarters."** (at 20-22)

Case 20-C-0267 May 13, 2021 Order Approving Action Plan

In its proposed Action Plan, Frontier states it will spend over $9 million in incremental capital expenditures during 2021-2023 on projects in the 24 COEs, with the purpose of enhancing service quality and network reliability. However, in developing the projects it intends to complete as part of the Action Plan, the Company arrived at a total estimate of more than $12.5 million of capital expenditures associated with those projects…

With expected Action Plan investments included, Frontier states **it will spend a minimum of $83.24 million in capital investments in New York during 2021- 2023**.

Frontier's Action Plan includes the following four project category descriptions and intended capital expenditures that comprise the Frontier Action Plan.

Fiber to the Premise - Frontier states it plans to provide fiber-to-the-premise network to approximately 8,000 locations as part of this improvement plan at a cost of approximately $6.4 million. …

Central Office Backup Power – Frontier will replace backup batteries at various COEs to provide improved network resiliency and reliability during periods of commercial power outages. Frontier states it plans to spend approximately $1,365,000 during 2021-2023 in these COEs to replace backup batteries. The planned breakdown by year is $885,000 in 2021, $315,000 in 2022 and $165,000 in 2023.

Remote Terminals - Frontier states it has identified over 190 projects to be completed at remote terminals within the areas served by the 24 COEs. These projects encompass upgrading remote switching equipment, installing backup power (new batteries and/or

generators), copper to fiber migrations, and other fiber span projects. The company notes that this is all intended to reduce trouble tickets in these COEs and improve service quality. The company claims these projects have an approximate cost of $3,381,060 over the three-year period.

Outside Plant - Frontier states it plans to use the history of troubles and the newly implemented ability to track troubles by lead cable in each of the 24 COEs to look at the most vulnerable sections of outside plant and take steps to rectify these proactively. In addition, Frontier plans to provide additional training to field technicians, construction employees, and contractors to look for and report outside plant in need of repair or replacement. Currently, Frontier has identified approximately $1,376,500 in cable repair projects.

The Company notes certain specific projects may be modified, or new projects added, over the next three years as the work is implemented.

(Order Approving Action Plan at 5-6)

To the extent Action Plan projects are modified (particularly downward in scope or investment), Frontier will identify such in its routine Action Plan updates, discuss such modifications with Staff, and submit replacement projects or modifications of equal or greater scope and value.

(Order Approving Action Plan at 9)

1. The "Frontier Action Plan" as filed by Frontier Communications Corporation (Frontier) ... is approved subject to the conditions described in the body of this Order.

2. **The quarterly reporting** of project progress and plans as described in Action Plan is approved, and **should include,** but not be limited to: **a listing by address of locations intended to be passed as a result of the FTTP build, and when they have been completed; a listing of central offices where battery replacement work is intended and those that have been completed; a listing of remote terminals intended to be upgraded, and those that have been completed**; and, **the status and completion of all Action Plan projects.** (Order Approving Action Plan at 15)

Frontier's Filings Under the Action Plan

Consultant reviewed Frontier's Quarterly Reports and Remedial Plans[156] filed pursuant to the reporting requirements established by the above quoted passages from the Order Approving Action Plan. The table below contains a brief summary of this review.

[156] Provided by Frontier in IR Response #38.

Reporting Requirement per Commission Orders	Met?	Note
The Quarterly Reports highlighting measures and capital projects undertaken in previous quarter under the Action Plan, and anticipated plans for the subsequent quarter (beginning 1Q21 for 12 quarters).	Yes	Obligation fulfilled with 1Q 2024 filing; Frontier continues to file reports voluntarily. Detailed information on each capital project undertaken as part of the Action Plan was reported as Exhibits 2 to the Quarterly Report filings.
The Quarterly Reports shall include service quality data, including monthly CTRR, line counts, trouble ticket counts, and %OOS >24 Hours for all Frontier COEs, and separately, for the 24 low performing COEs.	Yes	Service Quality Data was reported as Exhibits 1 to the Quarterly Report filings.
The Quarterly Reports shall include (i) a listing by address of locations intended to be passed as a result of the FTTP build, and when they have been completed; (ii) a listing of central offices where battery replacement work is intended and those that have been completed; (iii) a listing of remote terminals intended to be upgraded, and those that have been completed; and (iv) the status and completion of all Action Plan projects.	(i): Not exactly. (ii): Yes (iii): Yes (iv): Yes	On (i): Starting in1Q 2022, Frontier included the total household count (but not addresses) in areas affected by a Project.
Remedial Plans: Present a Remedial Plan if Frontier fails to achieve the CTRR target at 90% of the 24 low performing COEs or the OOS target (within 20 days of filing the Quarterly Report; beginning 3Q 2021 through 2Q 2023).	Yes	Frontier filed six Remedial Plans during mandatory reporting period 3Q 2021-2Q 2023, and three voluntary plans after that.
Remedial Plans: If Frontier does not achieve a CTTR target in 90% of the 24 COEs or the OOS target for two consecutive calendar quarters, the Remedial plan is to include an additional $100,000 in capital investment and/or operating expense over the subsequent two calendar quarters.	Yes	Frontier filed three Remedial Plans that included an additional $100,000 in spending during mandatory reporting period 3Q 2021 through 2Q 2023.

As shown above, Frontier's filings generally followed the requirements set by the Commission. The only deviation was the requirement to report "a listing by address of

locations intended to be passed as a result of the FTTP build."[157] That level of detail was not included in Frontier's Quarterly filings.[158] Instead, starting in 1Q 2022, Frontier started providing in Exhibits 2 to Quarterly filings the total household counts associated with each FTTH project, along with the broad geographic area and exchanges specified. Frontier states that it provided a listing of FTTH open for sale addresses, upon request, to the Department via email on March 16, 2024.

Accuracy of Service Quality Reporting in Frontier's Filings Under the Action Plan

The task of evaluating the accuracy of service quality reporting in Frontier's Quarterly filings was undertaken in conjunction with the similar work task performed in Section III of this report to verify Monthly Service Quality Reports under Case 08-C-1140. In short, while the majority of service quality metrics were accurate in both Quarterly and Monthly Service Quality Reports, Consultant found a higher incidence of errors in Quarterly Service Quality Reports compared to Monthly Service Quality Reports.

In addition, Section III of this report discusses two inaccuracies related to Frontier's calculation of metric %OOS>24 Hours (one of the metrics included in Quarterly Report filings). As discussed in Section III, Consultant recommends that Frontier exclude from this metric OOS tickets where customers requested or accepted repair intervals longer than 24 hours but where repairs were completed within 24 hours. Consultant's restatement of metric %OOS>24 Hours had qualitative implications because it affected the triggering (or not) of Frontier's Remedial Plans: Frontier reported that it met in 4Q 2021 both the OOS and CTRR targets in the 24 COEs, and no Remedial Plan was filed. Per Consultant's restatement, Frontier failed to meet the OOS target in this quarter, which should have triggered the filing of a Remedial Plan. Because Frontier also failed the service quality targets in the previous quarter, the Remedial Plan would be required to include an additional $100,000 towards service quality improvements.

Adequacy and Accuracy of Financial Reporting in Frontier's Filings Under the Action Plan

Actual Capital Investment versus the Action Plan

Frontier committed in the Action Plan to invest over $9 million in incremental capital expenditures during the time period 2021-2023 on projects in the 24 low performing COEs. When developing the projects Frontier planned to undertake as part of the Action Plan, the Company arrived at a total estimate of more than $[redacted] million of capital expenditures associated with those projects.[159] Based on its Quarterly Reports, Frontier exceeded this

[157] See Case 20-C-0267, Order Approving Action Plan, May 13, 2021 at 15.

[158] However, Department Staff indicated to Consultant that Frontier had provided address-level information upon request when requested as part of Department Staff's field verification of FTTH build out.

[159] Case 20-C-0267, Order Approving Action Plan, May 13, 2021 at 5.

commitment significantly, spending over $[redacted] million in the 24 low performing COEs between 2021 and 2023.

During the development of the Action Plan, Staff evaluated whether the required [redacted] million in Action Plan investment would be incremental by using as a baseline the average historical annual Frontier investment in New York and adding to it the ordered [redacted] million in incremental capital investment. The resulting figure, [redacted] million, is the minimum amount of capital investment Frontier committed to spending in New York in 2021-2023. Following the same logic, Consultant collected Frontier's total capital investment in New York (capital investment encompassing all COEs, services, and projects).[160] The total investment during the period 2021-2023 was approximately [redacted] million, including [redacted] million in the category labeled "service quality and network enhancements."[161] Because the total investment ([redacted] million) exceeds the [redacted] million minimum amount Frontier committed to spending in New York in 2021-2023, Consultant finds that the Action Plan investment meets the criterion for being "incremental" investment.

Deficiencies in Reporting

Consultant noticed the following deficiencies and inaccuracies in Frontier's quarterly reporting of the progress on these projects (i.e., deficiencies that do not affect the overall conclusion that Frontier has satisfied its Action Plan commitments).

Total Dollars Spent

The total dollars spent on capital investment projects were not consistently reported in the body of the Quarterly Reports and did not always agree with the associated Quarterly Exhibit 2 filings. These instances are captured in the table below, in which column (b) represents a verbal description of total capex in the Quarterly Reports, and columns (c)-(g) represent total capex as shown in project-level Exhibit 2 data files. Inaccuracies are shaded in yellow. This table shows that, for example, the 2Q 2023 report mischaracterized the [redacted] million in capex as spending in FTTH (while it reflected spending across all four project types).[162]

[160] Frontier provided this information in IR Response #56, file "IR1 Q#56 i and iii NY Audit 2020 - Apr 2025 CapEx spend copper.fiber split with quarter and year end totals."

[161] The derivation of this figure and the source data from file "IR1 Q#56 i and iii NY Audit 2020 - Apr 2025 CapEx spend copper.fiber split with quarter and year end totals" are contained in Workpaper 8 (SQ4 – 2. Various Summaries of Action Plan Project info, Tabs "Total NY Capex v Action Plan" and "NY Audit 56I & 56II.")

[162] Compiled from Quarterly Reports and their Exhibits 2 provided in IR Response #38. The last column is compiled from the data provided in IR Response #73. The native form of this table is contained in Workpaper 9 (SQ4. – 1. Aperture Compilation of Exhibits 2 to Q Reports, Tab "Tables to Report.")

[redacted]

Column (h) of the table pulls capital investment figures from Frontier's contemporary (April 2025) listing of the status of all capital projects undertaken as part of the Action Plan commitment, which Frontier provided in IR Response #73 ("IR 73 Project Status as of April 2025"). A comparison of this source to the totals reported in Exhibits 2 (column g) shows that they are somewhat different.[163] Specifically, while Exhibit 2 to 4Q 2023 Quarterly Report shows total capital investment for the three years totaling [redacted] the contemporary source (IR 73 Project Status as of April 2025) shows that a total of [redacted] was spent during the same time period. Department Staff indicated to Consultant that these differences were brought to Frontier's attention in quarterly meetings, and Frontier explained that they were driven by "Live to Date Adjustments" (adjustments related to the timing of certain accounting entries). The rest of the discussion in this section is based on the project capital investment figures contained in IR 73 Project status as of April 2025, which shows a total capital investment of [redacted] under the Action Plan commitment projects between 2021 and 2023.

The List of COEs in Exhibits 2

In the Action Plan, Frontier committed to spending [redacted] million on incremental capital expenditures related to projects in the 24 low performing COEs, which are listed in the

[163] The differences between cumulative amounts spent by year end in the IR 73 Project status as of April 2025 and Exhibits 2 are as follows: [redacted] in 2021 (1% spent), negative [redacted] (8% spent) in 2022 and negative [redacted] (6% spent) in 2023.

Action Plan. Starting with the 4Q 2021 Quarterly Report, Frontier's Exhibits 2 started including a 25th COE, [redacted] Exhibits 2 characterize [redacted] Exchange as being part of [redacted] Geographic Area." According to Frontier, projects listed under [redacted] in Exhibits 2 were mislabeled and in reality correspond to locality [redacted] that is part of the [redacted] COE.[164]

Cancelled Projects

The table below shows how the original commitments by project type changed compared to the actual capital spending for 2021-2023, and summarizes the value (i.e., committed dollars) of cancelled projects.[165]

[redacted]

Actual spending exceeded the Action Plan dollars by [redacted], and cancelled projects amounted to [redacted]. The Order approving the Action Plan permitted modifications to the Action Plan projects, requesting that Frontier identify such modifications in its routine Action Plan updates, discuss such modifications with Staff, and submit replacement projects or modifications of equal or greater scope and value.[166] Frontier's Exhibits 2 to its Quarterly Reports identify projects that were cancelled and added, and the modifications made resulted in an increase in total dollars invested. While Consultant does not have information on whether the modifications were discussed with Staff, Consultant was able to identify reasons for cancellations of the majority of projects from the "comments" fields of Exhibits 2. The table below summarizes these reasons.[167]

[164] Calculated as [redacted] minus [redacted].

[165] The native version of this table is contained in Workpaper 8 (SQ4 – 2. Various Summaries of Action Plan Project info, Tab "Tables to Report"). The information was compiled from Exhibits 2 to Quarterly Reports and IR #73 (Project Status as of April 2025).

[166] See Case 20-C-0267, Order Approving Action Plan, May 13, 2021 at 9.

[167] The native version of this table is contained in Workpaper 8 (SQ4 – 2. Various Summaries of Action Plan Project info, Tab "Tables to Report"). The information was compiled from Exhibits 2 to Quarterly Reports.

[redacted]

As shown in the first two rows of the table, [redacted] (approximately [redacted]% of dollars in the cancelled projects) were associated with projects cancelled, with a note that they were undertaken under some other initiative, including internal initiatives or the subsidy from the federal Rural Digital Opportunity Fund ("RDOF") to deploy FTTH. In some cases, the facility was tested and found not needing a replacement ([redacted]%). For approximately [redacted]% of the committed dollars of cancelled projects ([redacted] projects), Consultant was unable to find a reason for the cancellation. The remaining [redacted]% of cancelled commitments depicted in the last row of the table included projects marked as "scheduled 2024 FTTH Deployment" and "unable to obtain easement."

The table below compares the actual capital investment with the Action Plan capital investments by COE.[168] The purpose of this table is to examine how modifications in the Action Plan projects affected the distribution of capital projects across COEs. Given that some cancelled projects were completed under some other initiatives (as discussed in the previous paragraph), Consultant included these projects in the COE-level analysis. The data in the table below are sorted in descending order by the actual capital investment (see, Column (c)).

The listed reasons are generalized reason types formulated by Consultant based on more specific reasons included in Exhibits 2.

[168] The native version of this table is contained in Workpaper 8 (SQ4 – 2. Various Summaries of Action Plan Project info, Tab "Tables to Report"). The information was compiled from Exhibits 2 to Quarterly Reports and IR 73 Project Status as of April 2025, except that line counts and CTRR were compiled from Exhibits 1 to Quarterly Reports.

[redacted]

Column (e) of the table shows the difference between the actual capital investment (including completed Actual Plan projects, as well as canceled Action Plan projects undertaken as other initiatives) and the original Action Plan commitments. Yellow shading denotes cases in which the actual spending was less than the spending in the Action Plan. The key observations from this table are summarized below.

- For 17 of the 24 low performing COEs, the actual spending was less than the original commitments (as shown in column (e)).
- As shown in the last row, [redacted]% of the expenditures on actual Action Plan projects were in just four low performing COEs ([redacted] and [redacted]), which is much greater than their share implied in the original Action Plan commitments ([redacted]%). Likewise, their share of total expenditures is much higher than their share of total lines in the 24 COEs, which is [redacted]%.
- In the remaining 20 low performing COEs (COEs appearing in the table in lines numbered 5 through 24), actual total capital expenditures ($[redacted]) were significantly lower than the original commitment ($[redacted]).[169] Even if cancelled projects that were performed under other initiatives are counted, the net shortfall of actual expenditures in these 20 COEs compared to the initial commitments is $[redacted].[170] In other words, actual capital investment in the 20 COEs was only approximately [redacted]% of the original Action Plan commitment.[171]
- Zero actual dollars were spent in one of the 24 low performing COEs, [redacted], during the capital expenditure commitment period (2021-2023). While the specific reason for cancelling the single capital project in this office was sound ("Existing Batteries tested and do not require replacement"), Consultant expected that some amount of capital investment should have been undertaken in this office in 2021-2023 given that it was identified specifically as one of the 24 low performing COEs.[172]
- Consultant was unable to find any justification in Frontier's Quarterly Report filings for concentrating its capital investments in just four COEs, and why roughly [redacted]% of the investment initially planned for the remaining 20 COEs was essentially redistributed to the four top COEs (as shown in Column e). Likewise, neither line counts (column f), nor CTRR metrics (column g) explain or justify the observed redistribution of actual capital spendings within the 24 COEs compared to the Action Plan commitments.

<u>In-depth Examination of a Sample of Action Plan Capital Projects</u>

Based on IR 73 Project Status as of April 2025, there were [redacted] Action Plan capital investment projects with [redacted] capital expenditure in 2021-2023. Approximately half of them ([redacted]) were Remote Terminals projects, followed by Fiber to the Premises projects ([redacted]), OSP projects ([redacted]), and Central Office Backup Power projects ([redacted]). Consultant

[169] The data for these 20 COEs are summarized in the second to last row of the table.

[170] This is shown in column (e), second to last row of the table.

[171] Calculated as one minus $[redacted] over $[redacted].

[172] In 2024, two remote office projects were undertaken in [redacted] totaling approximately [redacted] See, IR Response #73 (Project Status as of April 2025).

developed a sample of projects from this universe of projects for a more detailed examination. In dollar terms, [redacted]% of the overall capital expenditure[173] was associated with Fiber to the Premises projects, followed by [redacted]% spent on OSP projects, [redacted]% spent on Remote Terminals projects, and [redacted]% spent on Central Office Backup Power projects. Consultant employed stratified random sampling to develop a sample that would (i) span approximately [redacted]% of all projects, (ii) include projects for each type, and (iii) include COEs of various sizes in terms of line counts (small, medium and large[174]). There were [redacted] projects in the selected sample, and the number of sampled projects in each stratum (i.e., project type/COE size) was based on the capital investment amounts in the corresponding stratum.[175]

The [redacted] sample projects amounted to over [redacted] million in capital expenditure during 2021-2023. The actual spending for [redacted] of the projects exceeds the initial budget, and for [redacted] projects actual spending was less than the initial budget. Consultant collected granular financial information on the projects, including Journal Entries resulting from each project, which were provided in IR Response #131[176] ("Journal Entries"). For each sampled project, Consultant examined the available granular information on the projects,[177] including the information described below.

For each project, Consultant compared yearly capital investments listed in IR 73 Project Status as of April 2025 against Journal Entries and observed that, in most cases, they matched. There were a few cases with minor discrepancies; for two projects the discrepancies were more than 10%, with Journal Entries showing higher total investment than IR 73 Project Status as of April 2025 (or Quarterly Reports). For a third project, [178] the discrepancies amounted to approximately 9%, with Journal Entries showing [redacted] less than IR 73 Project Status as of April 2025 (or Quarterly Reports). In total, discrepancies between Journal Entries and project level totals reported in IR 73 Project Status as of April 2025 were less than 0.3%.

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[173] Of the total [redacted] million spent in 2021-2023.

[174] Using line counts reported in Quarterly Reports for January 2021, Consultant divided the 24 COEs in three groups of roughly equal sizes, with the group of Small COEs having between [redacted] and [redacted] lines, the group of Medium COEs – between [redacted] and [redacted] lines, and the group of Large COEs – between [redacted] and [redacted] lines.

[175] Sample selection is performed in Workpaper 10 (SQ4 – 4. Developing and Drawing Project Sample).

[176] Fille name IR3 Q#132 8.1.25 NY_Updated_Frontier IR Response - Supporting Journal Entries for ALL Projects CONFIDENTIAL.xlsx. Consultant's Work Plan envisioned collecting information on the technical and engineering design for each project. However, given delays with Frontier's IR responses to Consultant's request about capital projects, Consultant prioritized financial aspects of the Action Plan projects.

[177] Various comparisons of the information on the sampled projects against the data reported in Quarterly Reports is contained in Workpaper 11 (SQ4 – 3. Project Sample Analysis).

[178] Project 3230470, Outside Plant, [redacted].

Consultant examined individual cost items within Journal Entries and observed that they appear consistent with the stated purpose of the project. Justification Codes of each project included Commission regulatory mandate, Brownfield Expansion, Replacement of Deteriorated Plant, Obsolete Equipment, or Existing Battery. Likewise, cost items under "materials" were consistent with the project purpose: materials for Central Office Backup Power included batteries, materials for Fiber to the Premise projects included materials related to fiber network, and materials for OSP projects to replace defective pole mounted air dryers included journal entries for pole mounted air dryers. In addition, Consultant compared dollar amounts for Internal Labor cost codes appearing in Journal Entries with the separate table in the same source that listed labor hours and concluded that they are internally consistent.

Out of the sampled [redacted] projects, [redacted] projects were marked as completed in IR 73 Project Status as of April 2025. Consultant traced reporting of these projects in Exhibits 2 to the Quarterly Reports and observed that the reported completion quarter in the Quarterly Reports generally agreed with the timing of investment in IR 73 Project Status as of April 2025 and Journal Entries. Separately, Frontier provided in discovery materials related to the Department's physical inspection of the projects.[179] Within that data, Consultant identified two projects selected for Consultant's sample for which photographs of installed equipment (remote batteries) were made during physical inspection. In both cases, the installation date visible on the photos is consistent with Exhibits 2 to the Quarterly Reports.

Remedial Plans

Consultant reviewed information on Remedial Plan Investments contained in Remedial Plan filings, Quarterly Reports, and IR responses. Consultant's analysis was focused on the period during which Remedial Plan filings were mandatory (through 2Q23). Frontier filed three Remedial Plans that included an additional $100,000 of expenditures during the mandatory reporting period 3Q 2021 through 2Q 2023. Frontier provided detailed information on all projects undertaken as part of its Remedial Plans in IR Response #78 ("Remedial Plan Project Summary"). Based on that information, Frontier spent [redacted] on projects undertaken as part of the three Remedial Plan filings that required spending of an additional $100,000, with actual expenditures on each Remedial Plan project exceeding the required minimum of $100,000.[180] However, Consultant noticed certain inconsistencies between the reporting on the progress of Remedial Plan projects contained in the Quarterly Reports compared to the Remedial Project Summary data. The

[179] These data were provided in IR Response #115.

[180] Based on the "Remedial Plan Project Summary", the requirement of spending $100,000 under the May 12, 2023 Remedial Plan required an amendment that added another project.

table below illustrates this point. This table summarizes information on the four projects undertaken as part of the 2Q 2023 Remedial plan.[181]

[redacted]

The data contained in the Remedial Plan Project Summary indicates that as of January 2024, only [redacted] was spent out of the total project cost of [redacted] The 4Q 2023 Quarterly Report (which was filed on January 16, 2024) reported that [redacted] was spent by that date. Frontier explained that the inconsistency between the 4Q 2023 Quarterly Report and the Remedial Plan Project Summary data is due to the fact that invoicing takes several months to finalize.

Consultant observed that the choice of specific Remedial Plan projects was questionable. Specifically, the 4Q 2022 Remedial Plan indicated that Frontier chose to invest the mandated additional $100,000 in the [redacted] The mandated additional spending was triggered by Frontier's failure to meet the standard for metric % OOS>24 Hours. This Remedial Plan filing shows that [redacted] had improved significantly in terms of the number of OOS tickets, recording only [redacted] OOS troubles in 2022 compared to [redacted] in 2021 and [redacted] in 2020. Improvements at other COEs were not as significant. For example, [redacted] (a COE with approximately the same number of access lines) has [redacted] OOS troubles in 2022, [redacted] in 2021 and [redacted] in 2020. Based on the OOS trouble counts presented in this filing, [redacted] would have been a more logical choice for Remedial Plan spending than [redacted]. Consultant understands that

[181] The native version of this table is contained in Workpaper 8 (SQ4 – 2. Various Summaries of Action Plan Project info, Tab "Tables to Report"). The information was compiled from Exhibits 2 to Quarterly Reports and IR 73 Project Status as of April 2025, except that line counts and CTRR were compiled from Exhibits 1 to Quarterly Reports.

other service quality or project considerations may have determined the choice of the [redacted] COE, but they are not explained in the Remedial Plan.

C. FINDINGS & CONCLUSIONS

This section provides an assessment of the evaluative criteria established in the Final Work Plan.

Evaluative Criterion #1	Are Quarterly Reports and Remedial Plans filed in Case 20-C-0267 accurate?

Reporting on the progress of capital projects is reasonably accurate. Minor deficiencies in the quarterly reporting on the progress of Frontier's Action Plan projects do not affect the overall conclusion that Frontier has met (and exceeded) its Action Plan commitments by a wide margin. However, Consultant opines that certain inaccuracies in reporting service quality metrics in relation to metric %OOS>24 Hours caused Frontier to overlook a situation that should have triggered the filing of a Remedial Plan in 4Q 2021 (a Remedial Plan that should have included an additional $100,000 towards service quality improvements).

Evaluative Criterion #2	Are Quarterly Reports and Remedial Plans filed in Case 20-C-0267 sufficiently granular for the intended purpose?

The Quarterly Reports and Remedial Plans are granular, as they include progress reports by specific project. However, project justifications (particularly projects added or cancelled compared to projects included in the original Action Plan) were in some cases lacking. Consultant was unable to find any justification in the Quarterly Report filings for concentrating 91% of its capital investment in just four COEs, and why roughly [redacted]% of the investment initially planned for the remaining 20 chronically low performing COEs was redistributed to the four top COEs. Also lacking justification was the 4Q 2022 Remedial Plan, where Frontier chose to invest the mandated additional $100,000 expenditure in the [redacted] despite reporting in the same filing that this COE achieved a significant reduction in trouble counts compared to prior years and had significantly fewer troubles compared to other similarly sized COEs.

Evaluative Criterion #3	Does reported progress on Action Plan investment (as captured in Quarterly reports) comply with the requirements under the Action Plan?

Yes, progress on Action Plan investment generally complies with the Action Plan requirements. Frontier committed in the Action Plan to spending over $9 million in incremental capital expenditures during 2021-2023 on projects in the specific 24 low performing COEs. When developing the projects Frontier intended to complete as part of the Action Plan, the Company arrived at a total estimate of more than [redacted] million of capital expenditures associated with those projects. Based on the Quarterly Reports, Frontier exceeded this commitment by a significant margin, spending over $[redacted] million in the 24 low performing COEs between 2021 and 2023. Because the level of total investment during the period 2021-2023 was approximately $[redacted] million, which exceeds the $[redacted] million minimum amount Frontier committed to spend in New York in 2021-2023, the Action Plan investment meets the criterion for being "incremental" investment. However, the distribution of actual investment between the 24 low performing COEs, much of which was concentrated in just four COEs, was significantly different from the initial Action Plan. In one extreme case, zero actual capital investment was made in one of the 24 low performing COEs, Unadilla, during the capital expenditure commitment period (2021-2023). While the specific reason for cancelling the single initially planned capital project in this office was sound, and two remote office projects were undertaken in [redacted] in 2024, Consultant expected that some amount of capital investment should have been undertaken in this office during the commitment period given that it was identified specifically as one of the 24 low performing COEs.

Evaluative Criterion #4	Are Remedial Plans developed consistent with the requirements of the Action Plan?

Generally, yes, Remedial Plans are developed consistently with the requirements of the Action Plan.

Evaluative Criterion #5	Are expenditures included in Reports and Remedial Plans proper / properly included? Are they focused on reducing the number and duration of customer troubles? Do projects captured by the Quarterly Reports and Remedial Plans represent intended uses, such as network investments for Fiber to the Premise, Central Office Backup Power, Remote Terminals or Outside Plant in chronically underperforming COEs?

Generally, yes. Consultant examined individual cost items within Journal Entries comprising individual projects and observed that they appear consistent with the stated purpose of the project. A large number of the Action Plan projects are Fiber to the Premise build outs, which are expected to substitute aged copper network and therefore, reduce the number of network troubles.

Evaluative Criterion #6	Do Quarterly Reports and Remedial Plans accurately capture the cost of the projects at issue? Are expenditures included in Quarterly Reports and Remedial Plans properly documented?

Generally, yes. Consultant compared yearly capital investments by project to the granular accounting data (Journal Entries, which document individual cost items in significant detail), and finds that in almost all cases they matched, with overall discrepancy representing only a fraction of a percent.

D. RECOMMENDATIONS

The table below presents Consultant's proposed recommendations for this audit area.

No.	Finding	Impact	Recommendation
1	Frontier's obligations for Quarterly reporting under the 2020 Restructure Settlement Agreement in Case 20-C-0267 expired in 2Q2023, yet Frontier continues to report quarterly on the service quality results and the status of capex projects from its Action Plan voluntarily at request of the Department. Frontier has exceeded its commitments for capital investments in New York by a wide margin, and therefore, Consultant does not see a benefit in Frontier continuing to report on these projects. Likewise, Consultant does not see a benefit in continued reporting on CTRR metrics, which is already done as part of its Monthly Service Quality Reports. One exception is OOS metric that is not part of Monthly Service Quality Reports.	Frontier spends time and money filing progress reports on previous commitments that it has already satisfied.	Consultant recommends stopping quarterly reporting under the 2020 Restructure Settlement Agreement, or in alternative, reducing the scope of reporting to only OOS metrics.

VII. SERVICE QUALITY & NETWORK RELIABILITY #5
EXAMINE THE ADEQUACY OF REPORTS FILED WITH THE COMMISSION

A. SCOPE

The objective of this audit area is to provide an examination of the accuracy of Frontier's reports filed with the Commission, including the systems used to generate the reports, and assess any planned changes to the reporting process. This task's scope encompasses CTRR metrics, Timeliness of Repair metrics, and PMP project cost reporting, and is closely related to the scope of Sections III and IV of this report. The findings of those sections on various Frontier reports to the Commission are summarized here.

B. WORK TASKS

The work tasks completed in this audit area are discussed below and were established in Consultant's bid proposal.[182]

1. Identify and study existing performance measures and their definitions.

Consultant identified and reviewed the service quality metrics applicable to the Company's operations and retail service offerings in New York. These include the CTRR and %OOS>24 Hours.

Pursuant to the Commission's Order in Case 08-C-1140, Frontier must maintain no more than 3.3 troubles per 100 access lines in at least 90% of its COEs on a rolling twelve-month average basis. As discussed in Section III of this report, if the Company fails to maintain this threshold, it is obliged to issue customer rebates.[183]

Under the Commission's Order in Case 20-C-0267, the Company was required to maintain a %OOS>24 Hours metric of 25.33% or less for the four quarters beginning July 1, 2021, and ending June 30, 2022, and to maintain a %OOS>24 Hours metric of 20.33% or less for the four quarters beginning July 1, 2022, and ending June 30, 2023.[184]

Frontier has continued to report Service Quality metrics on a quarterly basis as required under Case 20-C-0267. While these reports are submitted *quarterly*, they are based on underlying *monthly* data that maps to a central office switch list (containing 195 COEs) consistent with the Telecommunications Service Quality Uniform Measurement Guidelines. In Section III of this Report, Consultant recommends that Frontier revise its

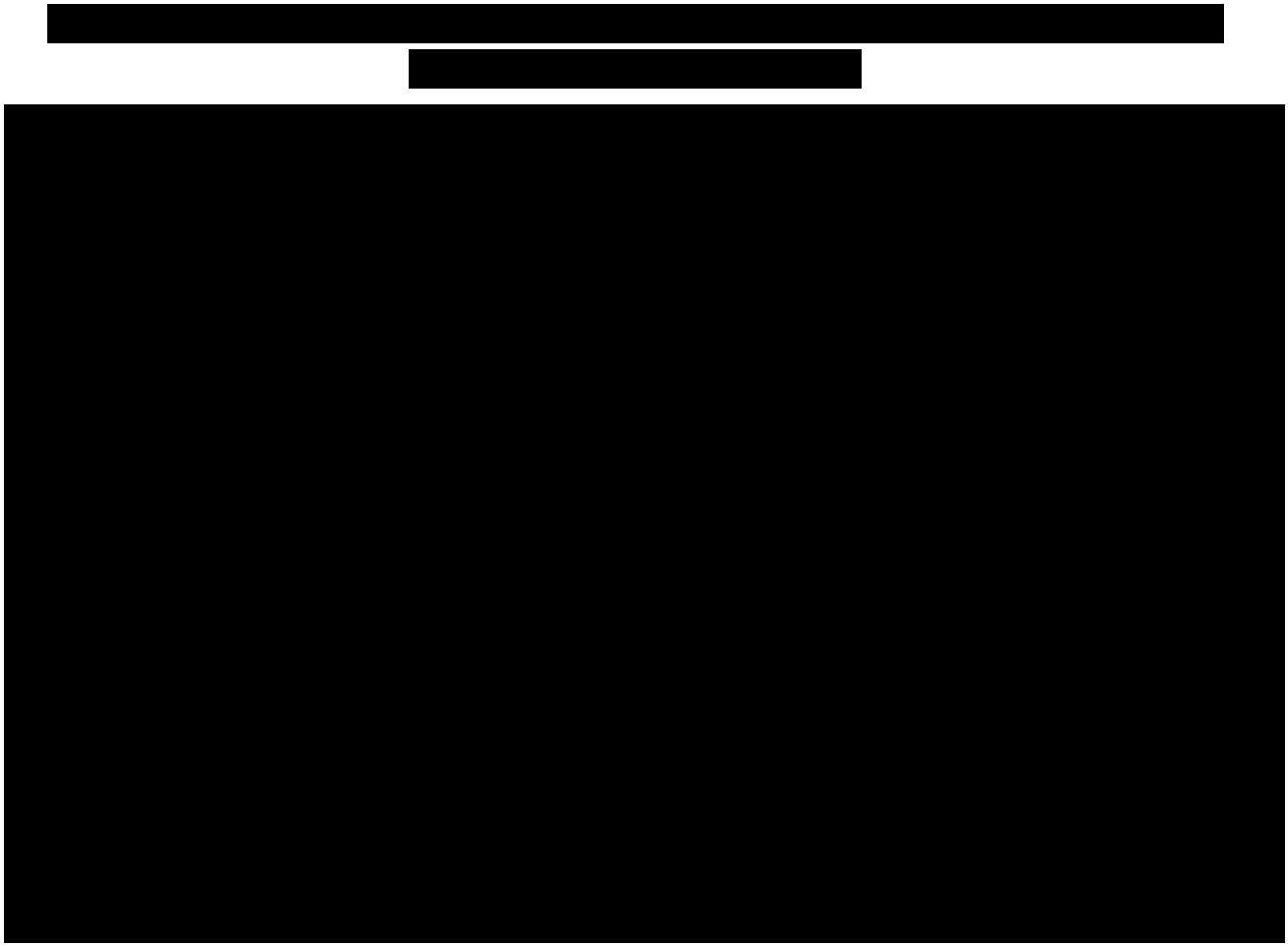
[182] Aperture Bid Proposal at 15.

[183] 2008 Order.

[184] Frontier Action Plan, Case 20-C-0267, January 14, 2021.

COE list for monthly reporting to align with the Guidelines (i.e., the list of 195 COEs) because some of the measurement units on the list Frontier uses for monthly reporting (210 COEs) represent rate centers rather than switches, which is inconsistent with the Guidelines.

When comparing CTRR results using Frontier's list of 210 COEs to results using the recommended list of 195 COEs, CTRR performance appears slightly better when using Frontier's list of 210 COEs. This is shown in the table below, which is reproduced from Section III.



In addition to inaccuracies caused by Frontier using an inconsistent COE list for monthly reporting, Consultant noted in Section III of this Report that the CTRR metrics are further affected by: (1) manual work processes involved in compiling service quality data after raw values are extracted from company systems,[185] (2) inaccurate line counts, and (3) the

[185] This can be, and has been, error prone and burdensome for the Regulatory personnel compiling service quality data.

improper use of a CTRR threshold of 3.35 troubles per 100 lines rather than the required 3.3 per 100 lines when calculating customer rebates.

Consultant has also shown that Frontier's reporting related to %OOS>24 Hours is inaccurate for at least two reasons. First, Frontier understates the %OOS>24 Hours metric by failing to remove all ticket counts for which customers have negotiated due dates that fall outside the 24-hour window. Second, Frontier does not properly include all trouble ticket indicators that reflect OOS conditions when determining the total OOS and OOS>24 counts used to develop the %OOS>24 Hours metric.

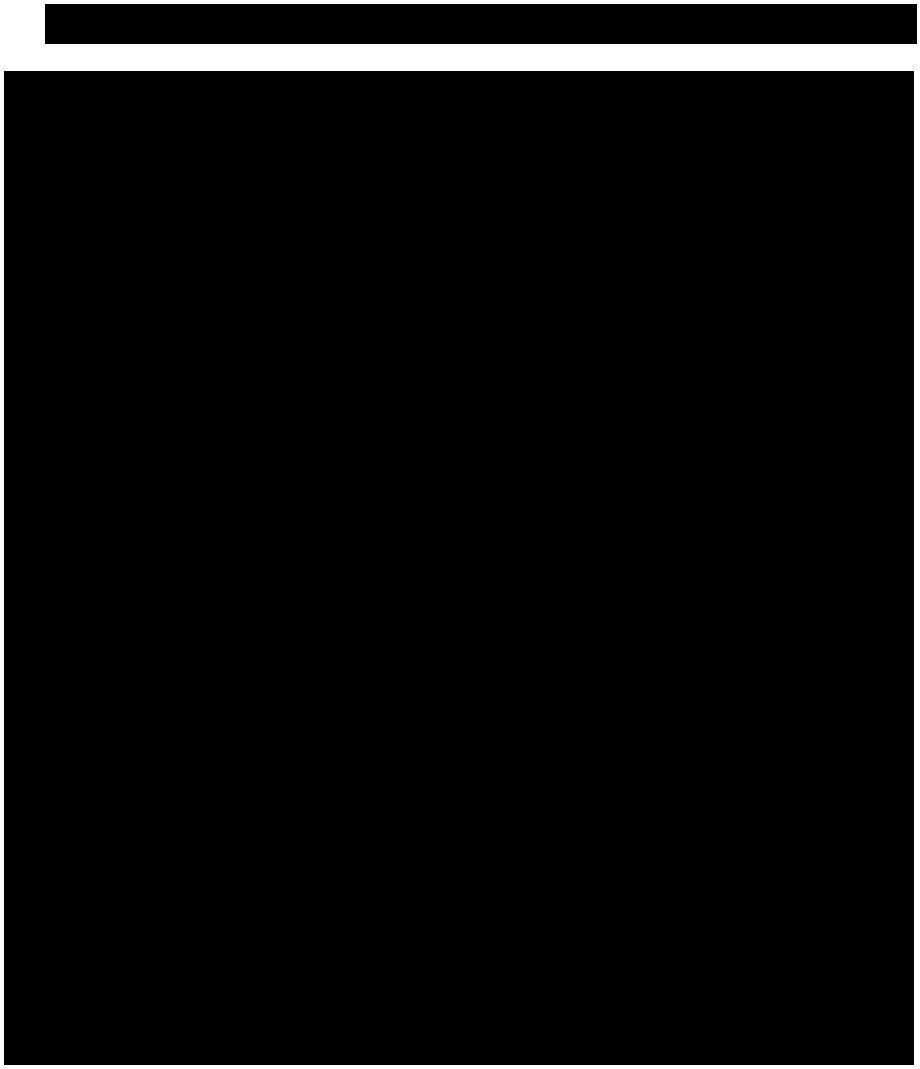
2. Conduct a time series and cross-sectional comparison of related service quality metrics by COE, their numerators and denominators to detect data anomalies and red flags.

Section IV of this Report contains detailed information presenting time-series and cross-sectional data illustrating variations and metrics over time and across COEs. Consultant has also provided time-series and cross-sectional analyses comparing groups of COEs, including COEs that are identified as "Action Plan COEs" under Case 20-C-0267 and those that are not. The Chart below shows %OOS>24 Hours from 1Q 2021 though 1Q 2025. The blue bars (i.e., OOS counts within the 24 Action Plan COEs) fluctuate rather significantly over the 51month period. Although the total OOS have trended downward over time, the %OOS>24 Hours metric generally increased through 3Q 2024 before a significant decline beginning in 4Q 2024.



Additionally, while not a red flag, per se, the table below illustrates the high degree of irregularity in Frontier's %OOS>24 Hours performance among the 24 Action Plan COEs as

of the fourth quarter of 2024 by which point most of the Action Plan COEs were coming into compliance with the %OOS>24 Hours objectives.



2. Review the current systems manuals used to track and generate reporting metrics, including data sources, business rules, and the flow of information from upstream systems.

   Evaluate how the data from underlying "raw" databases flows into and used by systems that generate service quality metrics.

Consultant reviewed Frontier's IR responses concerning the systems, processes, procedures, and personnel relied upon in order to obtain trouble ticket and line count data used in developing monthly and quarterly CTRR, OOS, and %OOS>24 Hours metrics. Consultant obtained the "raw" data as maintained within Frontier's data warehouse for testing against reports submitted to the Commission and Department. Consultant found

Frontier's data management and archiving capabilities to be sufficient for producing the required reports. However, certain manual processes could be streamlined or eliminated through additional programming and oversight. Automation-related improvements would reduce the potential for human error associated with copying, pasting, filtering, and sorting data, while also decreasing the reporting burden on the regulatory compliance personnel involved.



The flow chart shown above, reproduced from Section III, is included here to illustrate the systems involved in creating and warehousing data used to generate service quality reports and calculate customer rebates. Notably, the Company's billing and trouble ticket systems are used to track, maintain, and export relevant data through Power BI, enabling

the creation of CTRR and OOS reports, as well as rebate calculations. The boxes highlighted in orange in this chart signify points of human interaction.

3. Assess changes that have been made to the systems and the planned future changes. What prompted the expected changes?

Based on Consultant's review of Frontier's IR responses and the interviews conducted with the VP, Regulatory Reporting and the VP, IT Development, the Company has no plans to update or modify its systems in any manner related to service quality reporting.

4. Evaluate data quality in underlying "raw" databases. For example, are trouble ticket data adequately populated and maintained? Is that data consistent over time and across the operating companies?

Consultant obtained the raw data relating to line counts and trouble tickets and validated the monthly and quarterly reports and the presentation of data in Sections III, IV, VI, and this Section VII.[186] Accordingly, Consultant finds the data quality and integrity to be adequate for the reporting of service quality metrics.

5. Evaluate consistency of the mathematical formulas used to calculate the metrics against metric definitions in the service quality plan.

CTRR reports are inaccurate because:

a) Monthly reports rely on a COE list that is inconsistent with the Uniform Measurement Guidelines;
b) Monthly and quarterly reports rely on inaccurate line counts; and
c) Manual workarounds are used in data preparation, introducing a risk of human error.

OOS and %OOS>24 Hours reports are inaccurate because:

a) The numerator and denominator do not consistently exclude OOS tickets for which customer requested or accepted repair appointments beyond 24 hours; instead, Frontier removes this type of ticket if they were repaired outside the 24 hour window, and includes this type of ticket if they were repaired within 24 hours, resulting in a consistent understatement of the metric; and
b) Frontier does not capture all OOS tickets from its system when determining OOS and OOS>24 values.

6. Cross check numerical results for discrepancy with other data, such as Customer Service Records, billing data, outside plant inventory, etc.

[186] IR Responses #25, #34, #38, and #151. While line count and trouble ticket data were initially unavailable, Consultant ultimately received raw, system-based data from Frontier to replace data contained in the workpapers used to manually create monthly and quarterly reports such that it could restate and test metric accuracy where needed.

Consultant did not conduct this work step. Based on Frontier's IR responses and interviews, Consultant discovered that customer billing data, line count data and trouble tickets data are all managed in the Company's data warehouse that is used to export trouble tickets data that feed into the manual report creation process. The raw trouble ticket data and line count data provided during this Audit largely corresponded with reports Fronter has provided to the Department and Commission (with certain exceptions noted in Section III of this Report). Moreover, the trouble tickets data identify customer types, line types and unique telephone number details. Hence, we have no basis to anticipate material discrepancies between the data on which service quality reports are based and data contained in customer service records and outside plan inventories; and, therefore, did not conduct costly analyses that are unlikely to result in actionable conclusions.

7. Evaluate project cost reporting against underlying supporting data and adequacy of retention of financial information.

As noted in Section V of this Report, Consultant considers project cost reporting under Cases 21-M-0042 and 20-E-0586 to be accurate. Although the project list and total costs (approximately [redacted] million) were relatively limited, records were well maintained and readily available, allowing Consultant to confirm that actual costs were consistent with (but not identical to) Frontier's initial estimates. Accuracy and data retention for projects under Case 20-C-0267 are addressed in Section VI of this Report.

C. FINDINGS & CONCLUSIONS

This section provides an assessment of the evaluative criteria established for this audit area in the Final Work Plan.

Evaluative Criterion #1	Are generated service quality metrics consistent with the definitions of these metrics in the Plan?

No, this data is not always consistent with the Uniform Measurement Guidelines and is not always accurate.

CTRR Monthly reports rely on a COE list that is inconsistent with the Uniform Measurement Guidelines. The Monthly CTRR and quarterly CTRR reports rely on an incorrect threshold for service quality (3.35 instead of 3.3) when determining if the standard is met. The Monthly CTRR and quarterly CTRR reports rely on inaccurate line counts because of occasional data compilation errors and because they include ISDN lines.

The %OOS>24 Hours metrics are inaccurate because the numerator and denominator do not consistently exclude OOS ticket counts with customer-negotiated appointments. Frontier includes OOS tickets with customer-negotiated appointments if repair was

completed within 24 hours (which are captured in the denominator), which consistently *under*states the %OOS>24 Hours metric. Consultant quantified the impact of this inaccuracy in Section III by showing that its correction would have triggered a Remedial Plan in 4Q 2021.[187] Additionally, Frontier does not capture all OOS tickets from its system when determining OOS and %OOS>24 Hours values. Furthermore, manual workarounds are used in service quality data preparation, introducing a risk of human error. These deficiencies are addressed through Recommendations #1, #5 and #6 in Section III.

Evaluative Criterion #2	What percentage of service quality metrics appears to be inaccurate (by metric)?

Monthly CTRR reports are likely underestimated by approximately 0.5% when compared to the more accurate quarterly reporting that accounts for the COE list that is more consistent with the rules (195 rather than 210 COEs). Similarly, as shown in Section III of the report, %OOS>24 Hours are likely inaccurate due to the fact Frontier removes customer negotiated OOS tickets when determining its metrics on if "the ticket was customer negotiation and missed the 24-hour interval". While this inaccuracy will vary from time to time and by COE, it may result in an underestimated %OOS>24 Hours metric of up to 5 to 10%.

Evaluative Criterion #3	Are there material differences in the accuracy of service quality metrics by operating company, customer class, COE, or metric?

No, the service quality data are all pulled from the same sources and treated similarly across all operating companies, COEs and customer types.

Evaluative Criterion #4	Does data recording in the course of day-to-day operations (such as trouble tickets) permit accurate tracking of service quality issues as intended by the metrics?

Yes, except for recording of information about the type of ticket. As discussed in Section III of the report, several fields contain information on the ticket type, and sometimes these

[187] While the above described Frontier's improper treatment of OOS tickets with customer negotiated repair intervals is a systemic methodology issue (present in all reporting periods), there were no implications on the Remedial Plan in any other quarters.

fields conflict with each other. As a result, Frontier classifies certain "no dial tone" tickets as Not OOS.[188]

Evaluative Criterion #5	Are project costs accurately reported?

Yes, Action Plan costs appear to have been reasonably accurately reported, as discussed in Section VI.

Evaluative Criterion #6	Are there material differences in the accuracy of project cost reporting by operating company and COE?

Action Plan costs appear to have been reasonably accurately reported, as discussed in Section VI of the report.

Evaluative Criterion #7	Are data underlying service quality metrics properly retained? What is the retention period?

Yes, Frontier maintains service quality data, as evidenced by Consultant's ability to review and test the data. Interviews conducted with the VP, Regulatory Reporting and the VP, IT Development indicate that there is no planned data/time frame by which data needed to create and that has been exported through PowerBI to support service quality reports are to be destroyed. The company was able to pull raw trouble ticket and line count data dating back to January 1, 2020 for purposes of comparing raw data to reported results.[189]

D. RECOMMENDATIONS

For the recommendations associated with this section, please refer to Recommendations #1 through #6 in Section III and Recommendation #1 in Section VI of the report.

[188] Section III illustrates the extent of this inaccuracy with the example of December 2021 data. where Frontier classified [redacted] tickets as NOOS despite the fact that their ticket types or/and the ticket report codes indicated "no dial tone." These [redacted] tickets constituted [redacted] of OOS tickets in December 2021.

[189] Frontier's IR Response #68 addresses data retention pertaining to financial data but not data related to line counts, trouble tickets, and other items that are needed to prepare service quality reporting data.

VIII. CUSTOMER COMPLAINTS

A. SCOPE

The Commission identified increasing customer complaint rates as an example of Frontier's ongoing and severe service quality and network reliability issues.[190] The objective of this audit area is to examine the root causes of customer complaints, including extended service outages, slow to make repairs, and poor customer service.[191] Though Frontier does not report customer complaints like other retail service quality metrics (e.g., OOS, CTRR), an examination of customer complaints and the Company's responsiveness to complaints can provide insight into the level of service quality provided by Frontier and help identify the source(s) of Frontier's service quality and network reliability issues.

For this audit area, Consultant examined the frequency, scope, and root causes of customer complaints in New York, as well as Frontier's related processes and performance in addressing and resolving complaints. The Audit Period was 2020 through April 2025 (the most recent month of complaint data available at the start of the Audit).

Consultant issued IRs seeking copies of all complaints for the Audit Period, as well as detailed information about customer complaints broken down into categories, including by operating company, month, COE, cause, service address, duration of repair process, etc. Consultant also requested and received complaint data from the Department in order to reconcile the information provided by Frontier and ensure that Frontier is properly addressing customer complaints submitted to the Department.

Consultant issued IRs seeking information about Frontier's customer complaint handling process, including systems and process documents used by Frontier in addressing, resolving, and escalating customer complaints. Consultant also identified the Frontier personnel and departments responsible for intake, processing, and resolution of customer complaints, and conducted interviews with key personnel to gain a better understanding of processes and procedures, and the extent to which Frontier routinely follows established customer complaint handling processes.

Consultant analyzed customer complaint data to identify trends in relation to "trouble areas," consistent causes, timeliness in responding to and addressing complaints, increasing/decreasing quantities, variations among service types, and others. Consultant

[190] Initiating Order at 8.

[191] Appendix 1 (Final Work Plan) at 20.

placed special emphasis on analyzing complaints related to extended service outages, lengthy repair processes, and poor customer service.

B. WORK TASKS

The work tasks completed in this audit area are discussed below and were established in Consultant's bid proposal.[192]

1. Examine the general processes for handling complaints filed with the Department

Consultant identified and documented Frontier's customer complaint handling process. This includes the personnel/department(s) responsible for receiving, working, resolving, and closing customer complaints, as well as process documents and systems supporting those processes. Frontier uses the same complaint handling process for all customer complaints it receives (in New York and elsewhere), including complaints filed with the Department. Section C, Evaluative Criteria #1 below contains Consultant's findings on this work task.

2. Is there an escalation process for certain complaints? Which complaints are prioritized?

Consultant identified and documented Frontier's customer complaint escalation and prioritization processes. Frontier escalates customer complaints based on OOS conditions or imminent safety or hazard concerns. Frontier prioritizes customer complaints related to OOS conditions and those from government agencies. Section C, Evaluative Criteria #3 and #12 below contain Consultant's findings on complaint escalation and prioritization, respectively.

3. Identify the universe and classes of complaints

Frontier provided an Excel workbook containing detailed information about all customer complaints by year for the Audit Period. This file is labeled *Attachment IR1 Q#82 all complaints (CONFIDENTIAL)* (hereafter "Master Complaint File"). This file lists all customer complaints[193] by Ticket Number and includes categories of information about the complaints maintained in Frontier's systems, such as relevant dates (Serve Date, Created Date, Closed Date, Due Date), Status, Age, Days to Close, Assigned Personnel (Representative, Supervisor), Customer Name, Customer Telephone Number, City/State,

[192] Aperture Bid Proposal at 17.

[193] The Master Complaint File contains all "informal" complaints (or complaints that are not subject to a docketed proceeding). "Formal" (i.e., docketed) complaints are handled separately by the OOTP. OOTP interview, 07/29/2025.

Source, Service Type, Customer Type, Nature of Complaint, Cause, Action Driver, Resolution, Contact Attempt, Result, and others.[194]

Total Complaints

In total, Frontier reported [redacted] customer complaints during the Audit Period. Customer complaint counts were highest during the Audit Period in 2020, dropped by [redacted]% in 2021, increased again in 2022 ([redacted]%) and 2023 ([redacted]%), and decreased in 2024 ([redacted]%) and 2025 on an annualized basis ([redacted]%).[195] Overall, customer complaints decreased by [redacted]% between the 2020 peak and 2025, and are on track to be at the lowest level during the Audit Period in 2025. Over this same time period, Frontier's New York access line counts have also decreased year over year. Between year ending 2020 and month ending March 2025, Frontier's access lines have decreased by [redacted]%.

[redacted]

Complaints By Source

Frontier receives customer complaints from various sources, including the Commission, Federal Communications Commission ("FCC"), Attorney General ("AG"), Better Business Bureau ("BBB"), Customer Relations Office ("CRO"), Senior Leadership Team ("SLT"),

[194] Consultant also requested copies of all customer complaints received by Frontier during the relevant time period in IR #82. In its response, Frontier produced the Master Complaint File. Consultant subsequently requested copies of all complaints in Frontier's possession that were received in paper or electronic format for years 2024 and 2025. Frontier produced copies of certain complaints for the time period November through December 2024 and January through April 2025. IR Response #116. Frontier's document production covered [redacted] of [redacted] (50%) of complaint Ticket numbers for November through December and [redacted] of [redacted] (72%) of complaint Ticket numbers for January through April 2025. Due to the substantial amount of time Frontier reported it taking the Company to extract, review and organize the raw complaint files for these time periods, Frontier requested that this data set be sufficient to satisfy the request.

[195] The 2025 customer count annualized equals [redacted]).

OOTP, and others. Complaints from all of these sources are included in the Master Complaint File.[196] In 2025 (through April), the Commission was the largest source of customer complaints (% of the total), followed by the FCC (%), SLT (%), CRO (%), BBB %), and AG %).[197]

[redacted]

Complaints By Customer Type

The vast majority of customer complaints are related to Residential customers, which on average comprise approximately 90% of the total customer complaints over the Audit Period.[198]

[redacted]

Complaints By Service Type

Voice service has consistently been the largest source of complaints since 2022 (as compared to other service types), comprising approximately % of total complaints

[196] IR Response #120.

[197] Workpaper 12 (Complaint Statistics, Tab *Complaint Source*).

[198] Workpaper 12 (Complaint Statistics, Tab *Customer Type*).

during that time period. Complaints regarding Data service are, on average, approximately [redacted]% of total complaints during that same time period.[199]

[redacted]

[redacted]

Complaints By Topic

Frontier categorizes complaints according to 25 Complaint Topics. Repair is the largest customer complaint topic. In 2025 (through April), repair related complaints comprised [redacted]% of total complaints, followed by Billing [redacted]%), Collections ([redacted]%), Order/Ticket ([redacted]%), and Porting [redacted]%). Repair related complaints comprised [redacted]% of the total in 2024, [redacted]% in 2023, [redacted]% in 2022, [redacted]% in 2021, and [redacted]% in 2020. Overall, repair related complaints comprise [redacted]% of total complaints over the Audit Period.[200]

[199] Workpaper 12 (Complaint Statistics, Tab *Service Type*).

[200] Workpaper 12 (Complaint Statistics, Tab *Complaint Topic*).

[redacted]

[redacted]

Complaints By Cause

Frontier categorizes complaints according to Cause code. In 2025 (through April), the top Repair-related complaint was "Voice Trouble-Static/Intermittent/No Dial Tone," which comprised approximately [redacted]% of all complaints and [redacted]% of repair-related complaints. Overall during the Audit Period, the "Voice Trouble-Static/Intermittent/No Dial Tone" cause code comprised approximately [redacted]% of all complaints and [redacted]% of repair-related complaints. The second most frequent Repair-related complaint cause is "High Speed Trouble – Connectivity or Speed Issues," which comprises [redacted]% of total complaints during the Audit Period.[201]

[201] Workpaper 12 (Complaint Statistics, Tab *Cause*).

[redacted]

[redacted]

Complaints By Resolution

Given that Repair-related complaints are the most prevalent types of complaints, it is no surprise that "Repair or restore service and/or equipment" is the most common resolution. During the Audit Period, "Repair or restore service and/or equipment" is the resolution for [redacted]% of all complaints. The second most common complaint resolution type is "Customer Education," which represents [redacted]% of total complaints during the Audit Period. Taken together, these two resolution types (i.e., "Repair or restore service and/or equipment" and "Customer Education") resolved [redacted]% of total complaints during the Audit Period and [redacted]% of complaints during 2025 (through April).[202]

[202] Workpaper 12 (Complaint Statistics, Tab *Resolution*).

[redacted]

4. Collect and conduct a preliminary review of readily available data on each complaint

The Master Complaint File contains data on all complaints during the Audit Period. This is the same data that Frontier collects and populates in its system when working customer complaints. Consultant reviewed the Master Complaint File to determine the frequency, scope, and root causes of customer complaints, and to examine Frontier's responsiveness to complaints.

5. Using readily available data, classify complaints by date, service, address, wire center, etc. to determine if obvious clusters/patterns pointing to root causes are present

Using the Master Complaint File, Consultant classified complaints by year, source, customer type, service type, topic, cause, and resolution (see Tables above). Frontier does not track customer complaints by operating entity, COE, service address,[203] or whether the complaint is resolved to the customer's satisfaction.[204] Frontier states that it does not

[203] Frontier tracks customer complaints by city and state.

[204] IR Response #82.

track the specific geographic location associated with customer complaints because Frontier operates in 25 states and the group handling complaints manages the process across the entire footprint and strives to be responsive in a timely manner to each complaint regardless of the state, operating entity, or COE.[205] The need for repair of a service trouble is the most common root cause of complaints, comprising nearly half of all customer complaints during the Audit Period. Problems with voice service is the most common repair-related complaint, with "Voice Trouble-Static/Intermittent/No Dial Tone" representing [redacted] of repair-related complaints and [redacted] of all complaints during the Audit Period.

6. What percent of complaints is resolved?

Frontier tracks whether a complaint is resolved/completed in the "Status" field of the Master Complaint File. Virtually all customer complaints during the audit period are marked as resolved/completed. Specifically, of the [redacted] total complaints during the Audit Period, the Master Complaint File shows [redacted] of them resolved/completed.[206]

7. What is the percent of repeat complaints?

Frontier tracks all complaints, and reviews recurring and repeat complaints. However, Frontier does not have a "flag" in its complaint management system to generate a report of repeat complaints.[207] If the same complainant submits complaints on the same topic to multiple venues (e.g., Commission, FCC, AG, etc.), Frontier aims to consolidate those complaints by Billing Telephone Number ("BTN") and/or customer name and work them together.[208] Consultant examined repeat complaints by Customer Name and BTN by year for the time period 2022 through 2025 (April). During this time period, [redacted]% of total complaints are associated with customers submitting multiple complaints.[209]

[205] IR Response #116.

[206] Of the seven exceptions, four are from 2020 (three of which relate to high speed data service and one to taxes/fees) and three have serve dates of April 29, 2025 (meaning that they were in process of being worked when the Master Complaint File was provided).

[207] IR Response #101.

[208] OOTP Interview, 07/29/2025.

[209] Workpaper 12 (Complaint Statistics, Tab *Repeat Complaints - Customer*).

[redacted]



During the time period 2022 through 2025 (through April), [redacted]% of total complaints are associated with BTNs with multiple complaints. There were [redacted] BTNs with ten complaints, [redacted] BTN with [redacted] complaints, [redacted] BTNs with [redacted] complaints, [redacted] BTNs with [redacted] complaints, [redacted] BTNs with [redacted] complaints, [redacted] BTNs with [redacted] complaints, and [redacted] BTNs with [redacted] complaints.[210]

[redacted]



8. What is the geographic and operating entity distribution of complaints?

[210] Workpaper 12 (Complaint Statistics, Tab *Repeat Complaints - BTN*).

Frontier does not track customer complaints by operating entity, service address, or COE. Accordingly, the data is not available to evaluate the geographic and operating entity distribution of complaints.

9. Classify complaints by type/stratum, such as Complaints resolved after Initial Complaint filed v. Investigated by the Department, the Operating Entity, wire center, service type (residential v. business), the main reason for complaint (service outage affecting few customers, service outage caused by a major event, slow repair time, poor customer service, billing issues, etc.)

Consultant examined the Master Complaint File to classify customer complaints by category, including by year, source, customer type, service type, topic, cause, and resolution.[211] Upon review of the customer complaint data, Consultant determined that the stage of the complaint handling process at which the complaint is resolved (e.g., after initial complaint is filed versus investigated by the Department) is not tracked by Frontier and is not a useful way to evaluate Frontier's handling and resolution of customer complaints. Instead, Frontier uses KPIs –"Days To Create" and "Days to Close" – to evaluate Frontier's responsiveness to complaints.

10. Within the universe of complaints, identify and flag "duplicate" complaints and complaints that are not feasible to investigate for various reasons (such as no data).

Not applicable. The Master Complaint File contains data on the entire universe of customer complaints for the Audit Period. No complaints were excluded from the analysis or flagged as duplicate or not feasible to investigate.

11. Draw a stratified random sample of complaints, and conduct an in-depth examination of the sample, which may include collecting additional data from Frontier, to identify root causes for a sample of complaints.

Not applicable. Consultant proposed the random sample in its bid proposal before evaluating the complaint data supplied by Frontier. The Master Complaint File provided by Frontier contains categorical data on all complaints, including information on root causes. Accordingly, developing a random sample to investigate root causes was not necessary.

C. FINDINGS & CONCLUSIONS

This section provides an assessment of the evaluative criteria established for Customer Complaints in the Final Work Plan.

[211] Frontier does not track customer complaints by operating entity or wire center.

Evaluative Criterion #1	What is Frontier-NY's systematic process of handling (i.e., addressing, resolving, and escalating) customer complaints filed with the Department (or directly with Frontier-NY)?

Personnel & Systems

All customer complaints in New York (and in the entire 25-state Frontier footprint) are handled by the OOTP Customer Relations Team from start to finish.[212] The OOTP team is part of Frontier's shared services organization and consists of [redacted] personnel, including [redacted] Director,[213] [redacted] Management Senior Specialist, [redacted] Management Specialists,[214] [redacted] Manager,[215] [redacted] Supervisors,[216] [redacted] Customer Relations Specialists (also referred to as "agents"), and [redacted] General Clerk.[217] The OOTP workforce is stable and consistent.[218] Frontier currently uses [redacted] as its IT resource for handling customer complaints, and migrated away from a legacy [redacted] system in 2021. Customer complaint tickets are assigned to OOTP personnel daily via the [redacted] workbasket, and the [redacted] attaches each case (with limited detail) to the customer's account profile.

Complaint Intake

Complaints are received predominately via email, with a small percentage of complaints received via telephone call or letter.[219] For complaints received electronically, the email creates a complaint ticket, with the original email and associated documents attached (or downloaded from the agency database) for reference. For complaints received via

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212 OOTP Interview, 07/29/2025. OOTP reports to [redacted], EVP Chief Customer Ops Officer.

213 The Director's job responsibilities include disseminating all data that OOTP pulls together daily and feeding data to senior leaders and key stakeholders who will initiate change and improvements. OOTP Interview, 07/29/2025.

214 The Management Specialist job responsibilities include supporting agents with informal complaints, serving as lead investigator for formal complaints, in-depth analysis and special projects, providing leadership and training support for agents, and collaborating with other departments to identify trends and develop solutions to prevent future escalations. OOTP Interview, 07/29/2025.

215 The Manager job responsibilities include providing guidance and support to supervisors and management specialists, working with IT to fully equip the team with tools/resources, helping to produce reporting, evaluating trends and gaps affecting customer experience, and partnering with other departments to create solutions and prevent future escalations. OOTP Interview, 07/29/2025.

216 The Supervisor job responsibilities include evaluating performance and productivity, coaching and training, managing day-to-day operations of complaint volume, intake/distribution/allocation of tasks, prioritizing work based on deadlines and urgencies, improving/streamlining workflow, maintaining the resource repository, and serving as the point of contact for external agency investigators. OOTP Interview, 07/29/2025.

217 Attachment IR1 Q#88.

218 According to Frontier, turnover in the OOTP workforce is low – e.g., a reduction of three agents in the past three years. OOTP Interview, 07/29/2025.

219 During 2025 (through April), [redacted]% of customer complaints were received via email and [redacted]% were received via telephone call. Frontier also received [redacted] complaint via fax, [redacted] via letter, and [redacted] via walk-in. See, Workpaper 12 (Complaint Statistics, Tab *Complaints Received By*).

telephone call, the details are transcribed in an email (and letter complaints are scanned and sent via email), and then follows the same process as complaints received electronically. The ticket is then assigned to an agent within 24 business hours, who fills out all required data in Frontier's complaint database.[220]

Recording Complaints

Frontier relies upon documented procedures for handling customer complaints, including "OOTP-Complaint Handling Basics" that addresses recording complaints, working complaints, and closing complaints.[221] Frontier's procedure document spells out the proper process for recording complaints, and requires complaint tickets be created within 24 business hours of assignment to an agent. These procedures also involve Frontier linking a complaint to a billing account, and providing instructions on how to populate Frontier's complaint database (e.g., selecting appropriate service type, product type, dates, nature of complaint, root cause, etc.) Upon investigation of the complaint, the OOTP agent selects a "cause" code that is most applicable based on all information available to the agent.[222] If the complaint is outage related, Frontier checks [redacted] for an open repair ticket, and if needed, opens a repair ticket and expedites the complaint. The agent adds all findings to the complaint ticket history.

Working Complaints

Frontier's documented procedures instruct the customer relations team on steps to take to process a complaint and the timing of those steps.[223] This includes customer callbacks, investigating newly created complaint tickets, checking urgent/OOS complaint tickets, checking due dates, checking/updating pending actions, updating resolution actions with current status/actions, creating newly assigned tickets, and updating agencies. Customer Handling Guidelines require agents to complete an initial customer contact within 24 business hours of case assignment.[224] The agent is instructed to add/attach all customer contact attempt details, updates, actions taken, and agency emails to the complaint ticket. Complaints are expedited to Dispatch/Field leadership per the Dispatch Expedite Process and Handling Expedite Process guidelines in situations of no dial tone, no cell phone, and medical need. The OOTP partners with Technical Support Operations ("TSO") Escalations when working internet trouble (non-outage-related, non-repair) complaints. Agents are instructed to provide updates in accordance with the State by State Guide requirements, which typically involves updates to agencies weekly or within 24 business

220 IR Response #116.

221 IR Response #84, "OOTP-Complaint Handling Basics."

222 IR Response #90. See, Master Complaint File, columns AJ (Cause1) and AK (Sub Cause1). There are 17 cause code categories and 103 total cause codes to choose from, as well as 55 Sub Cause codes. IR Q#90 Causes_Classifying.pdf.

223 IR Response #84, "OOTP-Complaint Handling Basics."

224 Customers submitting complaints sourced to Executive/SLT and Media/PR must be contacted within one hour of assignment.

hours of an agency request, and updates to customers every three days. Agents must submit any requests for additional time to address a complaint to the agency on or before the deadline. The OOTP team uses pre-approved guidelines and templates for all working emails.

Closing Complaints[225]

All issues in a complaint must be addressed before the complaint is closed. According to Frontier's documented procedures, complaint close out should include Frontier making one or two attempts to contact customer, attaching all working emails and closure response/proof to the complaint ticket, updating nature of complaint with final outcome, copying Frontier's Agency Archive email address on all agency-related closure emails, updating the Root Cause Analysis ("RCA") based on the final outcome, and submitting the RCA Feedback Form to support coaching opportunities and follow up between a supervisor/coach and the agent. Frontier uses pre-approved template responses during the complaint closure process.

Coordination with the Department/Commission

Complaints received by the Department/Commission are emailed directly to Frontier's shared consumer affairs email inbox, at which time the OOTP accesses the Department's database to retrieve the complaint and begin processing it.[226] The complaint email is automatically attached to the ticket in the OOTP's database and assigned to an agent. Customers are contacted within two hours for complaints related to repair issues, and within 24 hours for complaints related to billing issues. Once the agent makes contact with the customer, the agent updates the Commission's database noting that the customer was contacted along with relevant details. The agent will then work the complaint to resolution and update the Commission's database as appropriate.[227]

To evaluate Frontier's handling of customer complaints submitted to the Commission/Department, Consultant requested from the Department copies of complaints and related data/reports.[228] In response, the Department provided a spreadsheet containing all customer complaints for the past three years (which is as far back as data is maintained for resolved customer complaints by the Department) and a file defining the complaint codes. The Department's file contained data on [redacted] customer complaints between May 2022 and May 2025. Consultant was not able to locate [redacted] of the [redacted] complaints (0.5%) in Frontier's Master Complaint File. Frontier states it was not able to locate four of the [redacted] missing complaints in the Commission's complaint database, and

[225] IR Response #84, "OOTP-Complaint Handling Basics."

[226] OOTP Interview, 07/29/2025.

[227] IR Response #86.

[228] Emails dated 05/16/2025 and 05/19/2025.

one of the [redacted] missing complaints it found in the Commission's database but Frontier had no record of receiving it from the Commission/Department.[229]

Procedures Documents

Frontier uses process documents and job aids to support its customer complaint handling process, including "OOTP-Complaint Handling Basics" detailing the instructions for recording, working and closing complaints; "NY AG Settlement Job Aid" which provides guidance about wireline broadband speeds and customers paying for speeds that they are not receiving; "NY PSC QRS (Quick Resolution System) Job Aid" which describes how to coordinate with the Commission to address complaints; "State by State Handling EXCR OOTP Quick Ref Guide" which provides processes for coordinating complaints with the Commission, AG, and Department of Consumer Protection; and "Work Guidelines for OTTP" which provides guidelines for addressing complaints.[230] Frontier also uses pre-approved templates for emails when working and closing complaints.

Key Performance Indicators

Frontier utilizes two primary KPIs to objectively measure progress, track effectiveness, and guide ongoing performance improvements. The first KPI is Days To Close, which Frontier began tracking in 2021. The Days to Close metric measures whether Frontier is resolving/closing complaints within applicable timeframes. The Days to Close metric is defined as the days between the Created Date (the date the complaint is received, and a shell ticket is assigned for handling) and the Closed Date.[231] Each complaint source has a specific target number of days to resolve, including AG (15 days), BBB (14 days), FCC (30 days), State Commission (10 days), SLT/Media ([redacted] days), OOTP/CRT ([redacted] days), and Rebuttals ([redacted] days).[232] Frontier's goal is to resolve [redacted][33] of complaints within these specified timeframes. Complaint volume and causes (e.g., service outages) impact Frontier's Days to Close performance, and Frontier addresses "misses" (i.e., not achieving the [redacted]% benchmark) on a case-by-case basis.

The second KPI is Days to Create metric, which Frontier began tracking in February 2025. The Days to Create measures whether Frontier builds complaints in its database within applicable timeframes, and is defined as the days between the Agent Built Date (the date

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[229] IR Response #128. Once Frontier found the missing complaint in the Commission's database, the Company worked to resolve it. OOTP Interview, 07/29/2025.

[230] IR Response #87.

[231] IR Response #126. Days to Close metric is calculated as Count of Complaints meeting timeframe/Total Complaints.

[232] IR Response #92. For complaints sources to an agency (e.g., state commission, FCC), the target number of days to resolve are set by that agency.

[233] Frontier states that the [redacted]% benchmark was established based on an analysis of historical Days to Close data and previous years' performance. IR Response #126. According to Frontier, the [redacted]% benchmark was selected, in part, to make it attainable. OOTP Interview, 07/29/2025.

the agent builds the complaint in the database) and the Created Date.[234] Frontier's Days to Create goal is within 24 hours.[235]

Frontier has no currently planned improvements/initiatives associated with these KPIs.[236]

Process Improvements and Enhancements

Frontier utilizes what it refers to as a "closed-loop feedback process" to promote accountability across teams and pursue continuous improvement, where customer feedback is a driving force behind operational changes.[237] As part of this process, Frontier leverages customer complaint ticketing and reporting data as a tool for identifying opportunities to improve operations, enhancing the overall customer experience, and capturing valuable insights into recurring issues, service gaps, and potential breakdowns in internal processes.[238] To ensure that these insights are acted upon, the OOTP team conducts structured weekly meetings focused on analyzing complaint volume, identifying patterns, and exploring emerging trends that highlight areas where the process can be improved to the benefit of customers. The OOTP also examines the nature and root causes of complaints to understand the broader impact on customers and operations, as well as to pursue problem-solving proactively. Frontier states that the findings (or "Hot Topics"[239]) from these weekly meetings are thoroughly documented in emails and shared with relevant business stakeholders across departments, including operations, training, quality assurance, and leadership teams.[240] These stakeholders are responsible for executing process improvements, addressing service delivery gaps, and ensuring the appropriate actions are taken to resolve recurring issues.[241] The OOTP team also collaborates with cross-functional partners to develop and present recommendations for targeted process enhancements. These recommendations are designed to streamline operations, improve communication, reduce complaint volume, and deliver a more consistent and satisfying customer experience.[242]

Frontier has no planned changes to the customer handling process at this time.[243]

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234 IR Response #126. The Days to Create metric is calculated as Total Days to Create/Total Complaints.

235 Complaints are assigned during the hours of 8A-5P Monday through Friday. The agent then has [redacted] "business day" hours from when he/she is assigned the complaint to build/create the complaint. Email from VP Regulatory Reporting dated 08/28/2025.

236 OOTP Interview, 07/29/2025. The KPIs were referred to as a "work in progress."

237 IR Response #93.

238 IR Response #93.

239 OOTP Interview, 07/29/2025.

240 IR Response #93; OOTP Interview, 07/29/2025.

241 IR Response #93.

242 IR Response #93.

243 IR Response #94.

Evaluative Criterion #2	Is Frontier-NY's process for handling customer complaints with the Department adequate, and if not, where is the breakdown?

As described above under Evaluative Criteria #1, Frontier has an established customer complaint handling process that is supported by a team dedicated to addressing customer complaints, a formal/standardized ticket creation process, recently-enhanced systems and software, methods and procedures documentation, feedback and coaching opportunities, standardized templates, processes to coordinate with the Commission/Department, KPIs, and procedures to seek continuous improvements. Frontier's complaint handling process is generally adequate and no major breakdowns were identified. As discussed below under Evaluative Criteria #14, Frontier's KPIs associated with customer complaint handling (Days to Close, Days to Create) show room for improvement, but that does not appear to be indicative of a major breakdown in the complaint handling process.

Evaluative Criterion #3	What is Frontier-NY's process for escalating customer complaints filed with the Department, and is it adequate?

Frontier escalates complaints based on OOS or imminent safety or hazard concerns. Frontier's step-by-step process for escalating customer complaints is described below.[244]

1. Review: Frontier reviews the complaint and customer account to determine if there is an OOS or safety/hazardous condition.
2. OOS Escalation: If an OOS condition is identified, then Frontier will:
    a. Confirm the reason for OOS (some OOS conditions may require assistance from multiple departments);
    b. Attempt to reach customer to acknowledge the complaint, gather additional information if needed, and attempt to set expectations on a resolution;
    c. Create a trouble ticket, when needed;
    d. Send an email with account information, findings and request to the appropriate escalation contacts/departments such as Assignment/Provisioning, Repair/Technical Support, Field Operations, Dispatch (with a copy to the Customer Relations supervisor);
    e. If a medical emergency is involved, flag email as "Urgent/Medical" and follow up with a call to the manager/director;
    f. Once action is determined by the relevant department, follow up on status and track workflow to additional departments when needed; and

[244] Frontier provided information on its customer complaint escalation process in IR Response #85.

g. Follow up with the customer regarding the status and follow through to completion.

3. Safety/Hazardous Escalation: If a safety/hazardous condition is identified, then Frontier will:
    a. Attempt to reach customer to acknowledge the complaint, gather additional information if needed, and attempt to set expectations on a resolution;
    b. Create a trouble ticket, when needed;
    c. Send an email with details and customer location to the appropriate escalated Field Operations contacts based on customer's location (with a copy to the Customer Relations supervisor);
    d. Once action is confirmed by the relevant department, follow up on status and track workflow to additional departments when needed; and
    e. Follow up with the customer regarding the status and follow through to completion.

No inadequacies were identified in Frontier's customer complaint escalation process. The types of customer complaints that are escalated by Frontier involve service outage and safety-impacting conditions. Complaints are escalated to relevant departments that are responsible for and capable of addressing root causes, and specific contacts and email distribution lists are identified and used. The escalation process addresses medical emergencies, involves specific customer touchpoints, and escalated complaints are monitored and tracked through completion.

Evaluative Criterion #4	What are the sources of complaints about extended service outages (e.g., poor preventative maintenance, extraordinary weather events, third party cable cuts, etc.), and how has the Company addressed those complaints?

Frontier identified [redacted] customer complaints related to extended service outages during the Audit Period,[245] which represents [redacted]% of total complaints. All of these complaints are resolved/completed. Summary information about these complaints is provided below.

[245] *IR1 Q#96 outside plant damage complaints.xls*. All of the customer complaints in this file are also included in the Master Complaints File.

[redacted]



The average Days to Close for these complaints is [redacted] and the median Days to Close is [redacted].[246] This average Days to Close is roughly equal to the average Days to Close performance for 2023 ([redacted]) and 2024 ([redacted]), but higher than the performance in 2021 ([redacted]), 2022 ([redacted]), and 2025 through April ([redacted]). This is an expected result given that extended service outage complaints will likely take longer to resolve given the nature of the complaint as compared to the universe of customer complaints as a whole.

Of the [redacted] complaints, [redacted]% of them related to repeat customer complaints, and [redacted]% of them pertain to residential customers. The root cause of all of these complaints is a service-impacting problem in Frontier's OSP network requiring a repair. A review of the "Nature of Complaint" and "Resolution Steps" fields indicate that there are a number of different sources causing these outages, including extraordinary weather events (e.g.,

[246] Workpaper 13 (IR1 Q#96 outside plant damage complaints workpaper).

tornado, storm), third party cable cuts, poor condition of OSP (e.g., defective cable, bad drop).[247] Nearly [redacted] of these complaints relate to a "Common Cause," meaning that multiple customers are impacted by the same problem (e.g., weather event).[248] "Voice" services comprise [redacted] of these complaints, with another [redacted]% related to combined Voice/Data. The resolution of these complaints, as expected, is predominately a repair job, with [redacted]% of these complaints resolved by a repair or restoration of service and/or equipment.

Evaluative Criterion #5	What are the sources of complaints about lengthy repairs (e.g., conditions of plant, resource availability, etc.), and how has the Company addressed those complaints?

Frontier identified [redacted] customer complaints related to a lengthy repair process during the Audit Period,[249] which represents [redacted]% of total complaints. These complaints track closely the trend in overall complaints, in which the total was the highest in 2020 ([redacted]), a decrease in 2021 ([redacted]), increases in 2022 ([redacted]) and 2023 ([redacted]), and then decreases in 2024 ([redacted]) and 2025 ([redacted] through April, or [redacted] annualized). All of these complaints are resolved/completed. Summary information about these complaints is provided below.

[247] The notes in these fields do not provide a reasonable basis to quantify and rank these causes. For example, the complaint may indicate that the outage was resolved by the field replacing a bad pair, but may not indicate what caused the pair to go bad. The information shows that Frontier generally tracks conversations with complainant, as well as updates [redacted] ticket numbers and resolution steps.

[248] Frontier systematically analyzes customer trouble reporting patterns. When a suspected common issue is detected, these tickets are grouped into a Common Cause incident. When the underlying issue is resolved, customers are contacted to verify resolution of their issue and responses are tracked in [redacted] Customers who respond indicating their issue is not resolved are separated from the Common Cause and a regular Trouble Ticket is created and assigned to a technician. When confirmed customer resolutions reach a certain threshold on the Common Cause, it is closed along with all the Trouble Tickets still linked to the Common Cause. This correlation is done automatically based on patterns identified by Frontier's system. There is also a Common Cause team that takes reports from business teams identifying patterns/issues, manually creates a Common Cause, and links customer trouble tickets to it. IR Response #52.

[249] *IR1 Q#97 lengthy repair complaints.xls*. All of the customer complaints in this file are also included in the Master Complaints File.

[redacted]

[redacted]

The average Days to Close these complaints is [redacted] and the median is [redacted].[250] This average Days to Close is higher than the average annual Days to Close performance in all years of the Audit Period. This higher than average Days to Close is an expected result given that this subset of customer complaints pertains to a lengthy repair process that takes longer to resolve. Of the [redacted] complaint ticket numbers, [redacted] relate to BTNs involved in [redacted] or more complaints, and [redacted]% of these complaints pertain to residential customers. The root

[250] Workpaper 14 (IR1 Q#97 lengthy repair complaints workpaper).

cause of all of these complaints is repair-related, with Voice Trouble representing the biggest problem ([redacted]), followed by High Speed Trouble [redacted]) and Outside Physical – Impacting Service ([redacted]). A review of the "Nature of Complaint" and "Resolution Steps" fields indicate that there are a number of different sources causing these outages, including extraordinary weather events (e.g., tornado, storm), third party cable cuts, poor condition of OSP (e.g., defective cable/equipment, bad drop).[251] "Voice" services comprise [redacted] of these complaints, with another [redacted] related to combined Voice/Data. The resolution of these complaints, as expected, is predominately a repair job, with [redacted] of these complaints resolved by a repair or restoration of service and/or equipment.

Evaluative Criterion #6	What are the sources of complaints about poor customer service (e.g., long hold times, answer times, etc.), and how has the Company addressed those complaints?

Frontier identified [redacted] customer complaints related to poor customer service during the audit period,[252] which represents [redacted]% of total complaints. These complaints track closely the trend in overall complaints, with the exception that poor customer service complaints peaked in 2023: 2020 ([redacted]), 2021 ([redacted]), 2022 ([redacted]), 2023 ([redacted], 2024 ([redacted], and 2025 ([redacted] through April, or [redacted] annualized). All of these complaints are resolved/completed. Summary information about these complaints is provided below.

[251] The notes in these fields do not provide a reasonable basis to quantify and rank these causes. For example, the complaint may indicate that the outage was resolved by the field replacing a bad pair, but may not indicate what caused the pair to go bad. The information shows that Frontier generally tracks conversations with complainant, as well as updates [redacted] ticket numbers and resolution steps.

[252] *IR1 Q#98 poor customer service complaints*. All of the customer complaints in this file are also included in the Master Complaints File.

[redacted]

The average Days to Close for these complaints is [redacted] and the median is [redacted].[253] This average Days to Close is higher than the average annual Days to Close performance in 2025 (through April) and 2021, but lower than the average annual Days to Close performance in 2022, 2023 and 2024. Complaints related to poor customer service are closed, on average, [redacted] days faster than Extended Service Outage complaints and [redacted] days faster than Lengthy Repair complaints. This is likely due to the fact that Poor Customer Service complaints have fewer complaints with root causes related to repairs compared to the other two types of complaints, which can take longer to resolve than a billing complaint, for example. Of the [redacted] complaint ticket numbers, [redacted]% relate to BTNs involved in 2 or more complaints, and [redacted]% of these complaints pertain to residential customers. There are [redacted] different cause codes that fall under the Poor Customer Service category, with Voice Trouble representing the biggest problem ([redacted]%), followed by High Speed Trouble ([redacted]%) and Outside Physical – NOT Impacting Service ([redacted]%). "Voice" services comprise [redacted]% of these complaints, with another [redacted]% related to combined Voice/Data. The top resolution of these complaints was repair related, with [redacted]% of these complaints resolved by a repair or restoration of service and/or equipment, followed by Billing Adjustment-Owed ([redacted]%) and Installation Issue Resolved ([redacted]%).

Evaluative Criterion #7	Are particular COEs, service addresses, operating companies, etc. experiencing a disproportionate increase in customer complaint rates?

Frontier does not track customer complaints by COE, service address, or operating company. In terms of geography, the Master Complaint File contains data on City and State (with all complaints in New York). Complaints by City for each year of the audit period was examined to determine if particular cities are experiencing increases in customer complaints. The Top 5 cities with the most customer complaints by year are shown below.[254]

[redacted]

The city of [redacted] tops the list each year, ranging from between [redacted] and [redacted] of total customer complaints in a given year. [redacted] is second on the list in 2024

[253] Workpaper 15 (IR1 Q#98 poor customer service complaints workpaper).

[254] Workpaper 12 (Complaint Statistics, Tab *Cities*).

and 2025, with [redacted]% and [redacted]% of total complaints, respectively, and also appeared in the Top 5 in 2022 with [redacted]% of total complaints. [redacted] is third on the list in 2025 with [redacted]% of total complaints, and was fourth in 2024 with [redacted]% ([redacted] had not appeared in the Top 5 since 2020). Other trends observed in terms of customer complaints by City are:

- [redacted] has appeared in the Top 5 each year since 2022, with approximately [redacted]% of total complaints;
- [redacted] appeared in the Top 5 three times, in 2023 ([redacted]%), 2021 ([redacted]%) and 2020 ([redacted]%);
- [redacted] appeared in the Top 5 three times, in 2022 ([redacted]%), 2021 ([redacted]%) and 2020 ([redacted]%);
- [redacted] appeared in the Top 5 in 2023 ([redacted]%) and 2021 [redacted]%);
- [redacted] appeared in the Top 5 in 2022 ([redacted]%) and 2021 ([redacted]%); and
- [redacted] appeared in the Top 5 in 2021 [redacted]%) and 2020 ([redacted]%).

Overall, there is not a trend observed of a City experiencing a disproportionate increase in customer complaint rates or representing a "trouble area." While [redacted] tops the list each year, the percentage of complaints represented by [redacted] (ranging from between [redacted]% and [redacted]%) is not disproportionate to access line counts in [redacted].[255] While the customer complaints associated with the [redacted] doubled in terms of percentage between 2024 and 2025, the 2025 percentage is based on data through April and may decrease with a full year of complaint data.

Evaluative Criterion #8	Are root causes of complaints materially different by customer classes (residential vs. business), COEs, operating company, etc.?

Root causes were examined by customer type.[256] During the audit period, [redacted]% of total customer complaints are associated with residential customers, [redacted]% with business customers, and [redacted]% with enterprise customers (with [redacted]% not applicable).[257] Given that complaints from residential customers make up [redacted]% of total complaints, those complaints will naturally cover the gamut of complaints topics, causes, and resolutions. Therefore, this analysis focused on the root causes of complaints from business

[255] Access lines associated with CLLIs identified as "[redacted]" represent approximately 21% of total Frontier access lines.

[256] Frontier does not track customer complaints by COE or operating company.

[257] Workpaper 12 (Complaint Statistics, Tab *Customer Type*).

customers. The topics, causes, and resolution of business customer complaints are summarized below.

[redacted]



[redacted]



While repair related complaints topped the list of business customer complaint Topics in years 2021 through 2024, they have in recent years been decreasing (as a percentage of the total) as billing complaints have increased. Repair related complaints represented [redacted]% of total business customer complaints in 2020, increased to [redacted]% in 2021 and [redacted]% in 2022, and then decreased in 2023 ([redacted]), 2024 ([redacted]) and 2025 (16%). At the same time, Billing related business customer complaints represented [redacted]% of total business customer complaints in 2020, decreased to [redacted]% in 2021 and [redacted]% in 2022, and then increased the following three years to [redacted]% in 2023, [redacted]% in 2024, and [redacted]% in 2025. Root causes and resolution types exhibit similar trends. For example, complaint resolution type "Repair/restore service and/or equipment" was [redacted]% of total business customer complaints in 2020, increased to [redacted]% in 2021 and [redacted]% in2022, and then decreased in 2023 ([redacted]%), 2024 ([redacted]%) and 2025 [redacted]). At the same time, complaint resolution type "Customer Education" – which is commonly used in relation to billing-related complaints – represented [redacted]% of total business customer complaints in 2020, decreased to lower levels in 2021 and 2022 ([redacted]% and [redacted]%, respectively), and then increased the following three years to [redacted]% in 2023, [redacted]% in 2024 and [redacted]% in 2025.

In sum, a higher percentage of business customer complaints pertain to Billing matters as compared to residential customer complaints. In recent years, business customer complaints pertaining to Repair have been declining faster than residential customer complaints pertaining to Repair.[258]



For the years 2023 through 2025, Frontier also tracks customer complaints by Enterprise customer class, and those complaints are predominately related to Billing matters. In 2025 (through April), there were customer complaints from Enterprise customers, all pertaining to Billing matters. In 2024, there were customer complaints from Enterprise customers, of which are Billing related, Order/Ticket related, Repair related, and Difficulty Reaching related. In 2023, there were customer complaints from Enterprise customers, of which are billing related, Order/Ticket related, and Repair related.

Evaluative Criterion #9	Are resolution rates of complaints materially different by customer classes, COEs, operating company, etc.?

Virtually all customer complaints during the audit period are marked as resolved/completed. Specifically, of the total complaints during the audit period, the Master Complaint File shows (%) of them resolved/completed.[259] Complaint resolution rates are not materially different by customer class or other category because virtually all have been resolved. Frontier measures how quickly it resolves complaints using the Days To Close metric. Frontier's Days to Close performance in relation to customer class is discussed under Evaluative Criteria #14.

[258] Workpaper 12 (Complaint Statistics, Tab *Comparison*).

[259] Of the exceptions, are from 2020 of which relate to high speed data service and to taxes/fees) and have serve dates of April 29, 2025 (meaning that they were in process of being worked when the Master Complaint File was provided).

Evaluative Criterion #10	Is distribution of customer complaints by geography (or operating company) proportional to line counts, or clustered in certain "trouble areas"?

Frontier does not track complaints by operating company or by geography (e.g., service address, wire center). Frontier states that its focus is handling/resolving complaints as quickly as possible regardless of operating company or geographic location. Since Frontier does not track customer complaints according to operating company, geographic location (other than city), or wire center, Consultant was not able to examine customer complaints in relation to access line count proportionality, operating company or granular geographic location. Customer complaints were analyzed in relation to City, Customer Name, and BTN to identify "trouble areas" and repeat complaints.

Evaluative Criterion #11	Are there customer complaints beyond Frontier-NY's control, and if so, what are those causes?

Frontier does not code or classify complaints as outside or within the Company's control. The Frontier OOTP agent working a complaint chooses a cause code from the predefined list of cause codes upon investigating of the complaint details. The same complaint handling process is used regardless of the cause.

[redacted]

These [redacted] cause codes comprise [redacted] complaints ([redacted]% of total) in 2025, [redacted] complaint [redacted]% of total) in 2024, [redacted] complaints ([redacted]% of total) in 2023, [redacted] complaints ([redacted] of total) in 2022, and [redacted] complaints ([redacted]% of total) in 2021.

Evaluative Criterion #12	Are certain complaints prioritized, and what is the prioritization criteria?

Frontier prioritizes complaints that are related to OOS conditions and those that are sent by government agencies.[260] Complaints that are identified as priority are tagged as "urgent" when sent to the field to be worked.[261]

Evaluative Criterion #13	What percentage of complaints are resolved by Frontier-NY (and at what stage of the process) and unresolved?

Frontier tracks whether a complaint is resolved/completed in the "Status" field of the Master Complaint File. Virtually all customer complaints during the Audit Period are marked as resolved/completed. Specifically, of the [redacted] total complaints during the Audit Period, the Master Complaint File shows [redacted] ([redacted]%) of them resolved/completed.

Of the [redacted] exceptions that do not show resolved/completed, [redacted] are from 2020 and [redacted] are from 2025.[262] [redacted] of the [redacted] from 2020 involve complaints about a customer seeking faster data speeds that were not available, [redacted] involves a complaint about data connectivity/speed issues, and [redacted] relates to taxes/fees. All [redacted] open complaints from 2020 contain Resolution codes, suggesting that the complaints were addressed but the Status was mistakenly not updated to resolved/completed. The [redacted] open complaints from 2025 have Serve Dates of April 29, 2025, meaning that they were in process of being handled by Frontier on the date the Company produced the Master Complaint File.[263]

Upon review of the customer complaint data, Consultant determined that the stage of the complaint handling process at which the complaint was resolved is not tracked by Frontier and is not a useful way to evaluate Frontier's handling and resolution of customer complaints. Instead, Frontier uses KPIs –Days To Close and Days to Create – to evaluate Frontier's responsiveness to complaints.

Evaluative Criterion #14	Does Frontier-NY routinely follow its internal processes and any process required by the Commission in addressing customer complaints, and if not, where does the process breakdown?

As described above under Evaluative Criteria #1 and #2, Frontier has an established, well-documented and well-supported customer complaint handling process. Frontier routinely follows this process as evidenced by the Master Complaint File that logs all [redacted] complaints during the audit period by Ticket number and other relevant data, virtually all

[260] IR Response #100.

[261] IR Response #119.

[262] 2020 Ticket Numbers are: U19295100, U13188118, U19573384, and U11252496. 2025 Ticket Numbers are: CT-674841, CT-674835, CT-652386.

[263] The Serve Date is the date on which a customer complaint is sent to Frontier from an Agency.

which are resolved/closed. The OOTP Supervisors are responsible for conducting training/coaching/auditing to ensure that agents handle complaints consistent with internal processes and state-specific procedures.[264] No major breakdowns in Frontier's customer complaint handling process or the Company's adherence to the process were identified.

Frontier utilizes the Days to Close and Days to Create KPIs to objectively measure progress, track effectiveness, and guide ongoing performance improvements associated with the customer complaint handling process. Frontier's KPI performance is summarized below.

Days to Close

The year 2022 is the first full year for which Days to Close data is available. Since that time, Frontier's average Days to Close performance has been approximately [redacted] days (2022), [redacted] days (2023), [redacted] days (2024) and [redacted] days (2025 through April).[265] Frontier's average Days to Close performance in the first four months of 2025 is a marked improvement over previous years, but a complete years' worth of data for 2025 is needed to make a true, "apples to apples" comparison. In addition, one would expect the Days to Close performance to improve as complaint volumes and access line counts decrease.

[redacted]

Frontier's Days to Close performance by Service Type is shown below. Frontier has, on average, closed complaints related to Voice service faster than the overall average Days to Close performance in each year except for 2023 (when the Voice Days to Close performance was roughly equal to overall performance).

[264] OOTP Interview, 07/29/2025.

[265] Workpaper 16 (IR1 Q#82 all complaints workpaper, Tab *Jan-April 2025* Row 272; Tab *2024* Row 914; Tab *2023* Row 1226; and Tab *2022* Row 1091).

[redacted]

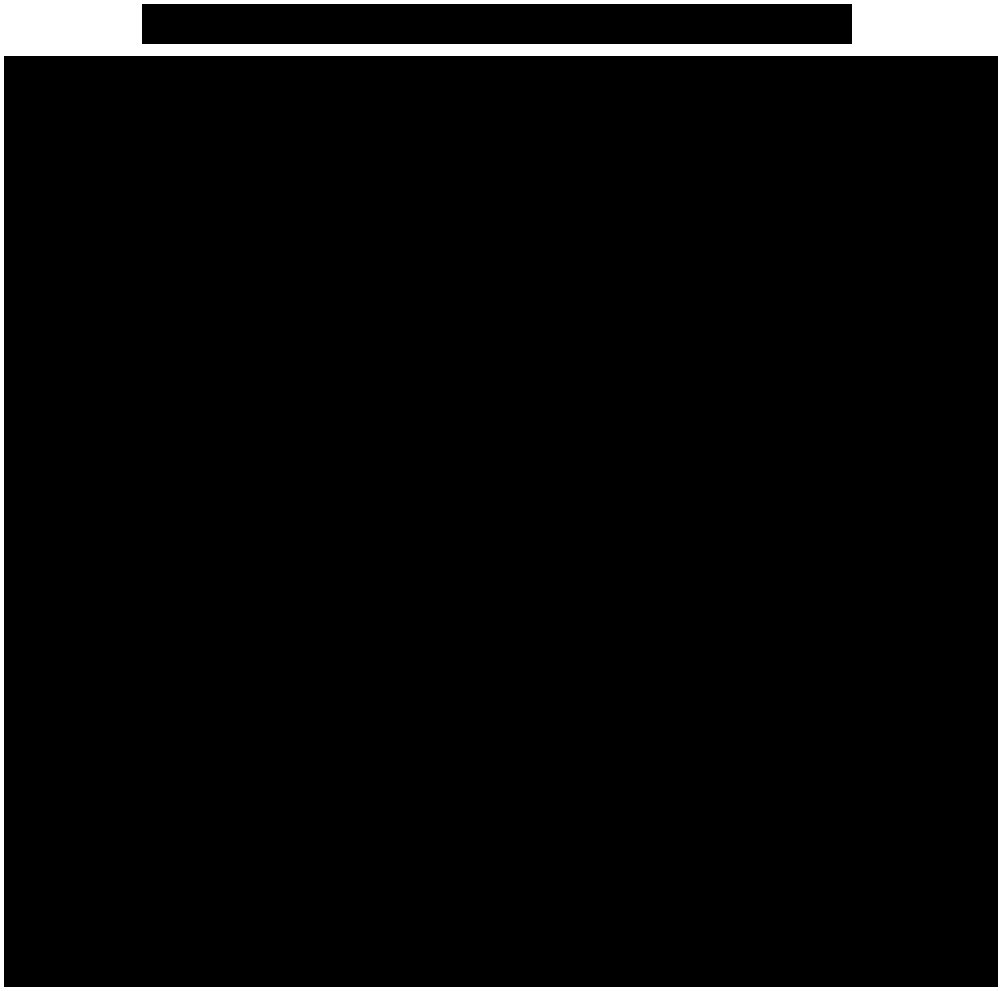


Frontier's Days to Close performance by Customer Type is shown below. In 2022 and 2023, Days to Close performance for Residential and Business customers was roughly equal, in 2024 Residential customer complaints were closed 1.33 days faster than Business customer complaints, and in 2025 (through April) Business customer complaints were closed 3.16 days faster than Residential customer complaints. Complaints from Enterprise customers (of which there are very few observations) take longer to close than complaints from both Business and Residential customers.

[redacted]



Frontier's Days to Close performance by complaint Topic is shown below. Frontier's Days to Close performance regarding the most frequent complaint Topic – [redacted] closely tracks the overall average Days to Close performance; Repair Days to Close was 0.09 lower than the average in 2025, 0.82 lower in 2024, 1.63 higher in 2023, and 0.25 lower in 2022. Given that the Repair topic represents [redacted]% of total customer complaints during the audit period, it is an important driver of Frontier's Days to Close performance.



The overarching objective of the Days to Close metric is to evaluate Frontier's performance in resolving/closing customer complaints within the specified timeframes (either established by the relevant agency or internally by Frontier). Therefore, it is important to examine Frontier's Days to Close performance by complaint Source and compare that performance to the resolution timeframes established for each source. Frontier has established a goal of resolving [redacted] of customer complaints within the resolution timeframes. This benchmark was established by Frontier at the [redacted] level based on an analysis of past performance and with the goal for the benchmark to be attainable. Frontier's Days to Close performance by complaint Source is shown below for years 2024 and 2025.[266]

[266] Frontier states that it did not measure Days to Close results for the years 2020 through 2023. IR Response #126.

[redacted]

The percentages in red indicate that Frontier has failed to resolve [redacted]% of the customer complaints from that source within the specified resolution timeframe.[267] Regarding non-agency sourced complaints, between 2024 and 2025, Frontier improved its performance and began meeting the [redacted]% benchmark for CRO, Executive/SLT, and Media/Public Relations, but Frontier's Days to Close performance declined for OOTP (missing the [redacted] benchmark in both years). For agency-sourced complaints, Frontier missed the benchmark for AG complaints in 2025 after barely meeting the benchmark in 2024, missed the benchmark for BBB complaints by a large margin in both years, achieved the benchmark in both years for FCC complaints (the only source for which Frontier achieved the benchmark in both years), and missed the benchmark for agency rebuttals in both years. For state commission complaints, Frontier's Days to Close performance significantly improved between 2024 and 2025 (increasing by approximately 23 percentage points), but the Company missed the benchmark in both years (falling roughly 12 percentage points below the benchmark in 2025).

Days to Create

Frontier began tracking Days to Create in February 2025 when the *Agent Built Date* field was added to the complaint management database.[268] Of the [redacted] customer complaints for 2025 (through April) in the Master Complaint File, [redacted]%) of them have the Agent Built Date field populated. Frontier's goal is for its agents to create/build complaints in its

[267] See also, IR Response #92.

[268] Days to Create is defined as the days from the Agent Built Date (the date the agent builds the complaint in the database) less the Created Date.

database within 1 day.[269] Frontier reports that for 2025 (through April), Frontier created complaints within 1 day [redacted]% of the time.[270]

D. RECOMMENDATIONS

The table below presents the Consultant's proposed recommendations for the Customer Complaints audit area.

No.	Finding	Impact	Recommendation
1	Frontier's overall performance on its customer complaint handling KPIs (Days to Close, Days to Create) needs improvement. Frontier handles "misses" on a case-by-case basis, with no planned improvements or initiatives.	Customer complaints from all sources are not resolved/closed in a timely manner, which negatively affects the customer experience and overall quality of service.	Frontier should implement system/process improvements to improve KPI performance related to Days to Close and Days to Create. The goal of these improvements should be to more consistently meet the applicable resolution timeframes in accordance with the established benchmark. Potential improvements may involve evaluating agent workforce allocation, assignment, and management; specifically identifying ("flagging") and addressing customers/BTNs with repeat complaints; increased automation; assessing ticket prioritization practices; hiring additional agents; etc.

[269] Complaints are assigned during the hours of 8A-5P Monday through Friday. The agent then has 24 "business day" hours from when he/she is assigned the complaint to build/create the complaint. For example, if a complaint is assigned to an agent at 8A on Monday, the complaint ticket is expected to be built out by 8A on Tuesday (i.e., the next business day, excluding weekends and holidays). Email from VP Regulatory Reporting dated 08/28/2025.

[270] IR Response #92.

No.	Finding	Impact	Recommendation
2	Frontier was unable to produce any documented findings, recommendations, or "Hot Topics" from its closed-loop feedback process or its weekly structured meetings.[271] Frontier indicated that Hot Topics are circulated via email.[272] Accordingly, there is no documentation available to support Frontier's statement that customer complaints are used to drive improvements.[273]	Process improvements may "fall through the cracks" and/or not be properly tracked and implemented. The benefits of the closed-loop feedback process may not be fully realized.	Frontier should establish a formal process to identify, record, and track Hot Topics and process improvements discussed during the closed-loop feedback process/weekly structured meetings. The process should identify and document each actionable Hot Topic/process improvement, track dissemination to other departments and leadership teams, and monitor implementation and impacts.
3	RCA Feedback Forms are intended to be used for coaching OOTP agents and driving improvements. The expectation is that the Supervisor will meet with and coach the agent, and that RCA Feedback Forms will be maintained in a database. However, Frontier does not track coaching opportunities, conversations about RCA Feedback Forms, or related action items. The RCA Feedback Forms Frontier produced in discovery (IR Response #125) contains only 24 entries, which represents a very small percentage of total complaints.	Coaching opportunities for agents may be missed or not routinely conducted, leading to missed opportunities for improved customer complaint handling performance and a better customer experience.	Customer complaint KPIs should be expanded to monitor/track RCA feedback/coaching. These KPIs should evaluate frequency, quality, and consistency of RCA feedback/coaching.
4	In other states, Frontier generates a weekly report	A lack of information about repair-related	Frontier should establish a process in which management

[271] IR Response #127.

[272] OOTP Interview, 07/29/2025.

[273] IR Response #127.

No.	Finding	Impact	Recommendation
	containing customer complaints relating to open repair tickets that is disseminated to responsible leadership teams. Currently, no such weekly report is generated for New York. The topic of "Repair" is the biggest driver of customer complaints, representing nearly half of all customer complaints during the Audit Period.	customer complaints can delay complaint resolution and negatively affect customer experience and overall service quality.	and field leaders responsible for New York are provided with weekly reports summarizing customer complaints, with a special focus on open New York-specific repair-related customer complaints and issues that need to be addressed. Frontier can build upon similar reports that are generated for other states.
5	Customer complaint handling KPIs are not used to evaluate OOTP staff performance or evaluate the extent to which headcount in OOTP is sufficient to resolve customer complaints in a timely manner.	Customer complaint handing KPIs are not adequately leveraged to optimize the performance of the OOTP workforce.	Job performance evaluations of OOTP personnel should incorporate KPI performance. For instance, evaluation criteria for an OOTP employee should include his/her performance related to the Days to Close and Days to Create KPIs, with specific improvement goals established for each reporting period. These evaluation factors may also include the employee's performance related to preventing escalations and repeat complaints. In addition, while the OOTP workforce has been relatively stable in recent years (meaning that attrition is likely not a primary factor in OOTP being unable to consistently meet the KPIs), Frontier should investigate whether additional OOTP headcount will achieve consistent compliance with KPIs. If it is determined that Frontier is understaffed to

No.	Finding	Impact	Recommendation
			consistently meet the KPIs, then Frontier should devise a staffing plan to add headcount in OOTP sufficient to achieve consistent KPI compliance.
6	Repair-related complaints for voice service are the predominant driver of customer complaints.	Repair related complaints dominate the customer complaint process and will continue to do so without a plan to address the root cause of those complaints.	Frontier technicians in New York should inspect OSP associated with New York-specific repair-related complaints (see Recommendation #4 above), coordinate those inspections through an electronic database, and identify network problems that need addressed in order to avoid future problems and repeat/escalated customer complaints.

IX. ORGANIZATIONAL STRUCTURE

A. SCOPE

Organizational structure affects service quality performance, network reliability, reporting and systems in many ways, by determining, among other things:

- contingency plans and response in emergency situations;
- processes for addressing service quality management during normal operations;
- setting priorities for capital investment and network maintenance projects;
- flow of information for regulatory reporting; and
- processes for handling customer complaints.

The objective of this audit area is to review Frontier's organizational structure and evaluate the extent to which it affects the Company's service quality performance, service quality data reporting, operating systems, network reliability, and customer complaints.

Consultant issued IRs seeking detailed organizational charts for Frontier that identify positions, titles, and names of relevant Frontier personnel, as well as show how the New York operating companies fit into the larger Frontier corporate structure. Consultant also issued IRs seeking information about the structure and organization of Frontier's New York network and service territory; technician headcount; coverage areas; internal KPIs; Company guidelines, processes, and procedures; business continuity and recovery plans; and operating systems and software used.

Consultant also conducted interviews of Frontier personnel to better understand job responsibilities and how decisions are made, and incorporated information from other audit areas to inform the analysis on organizational structure.

B. WORK TASKS

Summary of Work Tasks

The data collection for this audit area included both IRs and interviews. In total, 34 IRs were issued for this audit area, seeking information about organizational charts, headcount, decision making and budgeting processes, technician assignment and reporting, audit reports, IT systems used, policies and procedures, strategic planning, contingency plans, etc. Additional information was collected from interviews conducted with Frontier executives and SMEs at various levels of the organization, including Frontier's SVP FP&A Capital Management, SVP Operations (East Region), SVP Field Operations & Services, SVP Construction & Engineering, SVP National Architecture & Engineering,

Director of Operations for National Staff Support Group, VP of Network Engineering, and Senior Network Operations Manager. The data collection effort focused on understanding how Frontier companies and personnel are organized, how decisions are made for New York operating entities, the centralized Frontier-wide IT-based systems and how they interface with New York, how budgets are established, and how work is assigned to and priorities developed/approved for New York.

The departments, personnel, and systems involved in and responsible for organizational functions were identified, including network maintenance and monitoring; service quality data gathering, calculations, reporting, error-correction, and curation; technician workforce management and assignment; network trouble and outage response; network investment and service quality improvement projects; regulatory reporting; customer rebates for service quality failures; PMP development and implementation; systems operations and maintenance; and customer complaint intake and response.

Organizational Structure Overview

The corporate structure of Frontier, including the New York operating companies (seven ILECs[274] and one CLEC), is shown in the organizational chart provided as Appendix 9.[275] The New York operating companies roll up to Frontier Communications Holdings, LLC, then to Frontier Communications Intermediate, LLC, and ultimately to Frontier Communications Parent, Inc. Frontier was allowed to organize under a holding company structure in Case 08-C-1140.[276] If the Frontier/Verizon acquisition transaction is approved (Case 24-C-0618), then post-transaction, Frontier Parent will become a wholly-owned, direct subsidiary of Verizon Communications, and the New York operating companies will become indirect, wholly-owned subsidiaries of Verizon Communications. The acquisition transaction will occur at the holding company level, and there will be no merger or dissolution or transfer of assets of any regulated company.[277] Frontier states that only Frontier organizational structure changes made in the past five years are that the parent company changed its name from Frontier Communications Corporation to Frontier Communications Parent, Inc. and two new CLEC entities were added (one in Texas and one in Florida).[278]

The organizational charts provided as [redacted] show the hierarchy of departments and positions responsible for New York operations. The President and Chief Executive Officer

[274] For maps depicting the service territories of the seven Frontier New York ILEC operating companies, including exchange boundaries, see Appendix 2.

[275] This organizational chart was provided by Frontier as IR1 Q#3 chart.pdf.

[276] Order Adopting Joint Stipulation and Agreement, Case 08-C-1140, 10/17/2008, at 2-4.

[277] IR Response #16. See also Appendix 9 at 5. Frontier states that it does not know of Verizon's plans related to post-transaction internal department reorganization, if any.

[278] IR Response #15.

("CEO") oversees six departments which are led by Executive Vice Presidents ("EVP"), including the Chief Financial Officer ("CFO"), Chief Network Officer, EVP of Strategy and Wholesale, Chief Customer Ops Officer, Chief Legal and Regulatory Officer, and Chief Digital and Information Officer.

Frontier's 25-state footprint is



Frontier uses a "reporting center" operations structure in New York (and other states), with each reporting center supporting multiple wire centers.[286] Each reporting center is supported by a Director of Operations for Central Office and a Director of Operations for Field Teams, as well as Local Managers reporting to the directors.

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279 Sr. VP FP&A and SVP Finance and Operations Interview, 07/24/2025.

280 The East Region includes the states of Alabama, Connecticut, Florida, Georgia, Mississippi, North Carolina, New York, Pennsylvania, South Carolina and Tennessee. SVP Operations East Region Interview, 07/29/2025.

281 Appendix 10 (Organizational Charts).

282 SVP Operations East Region Interview, 07/29/2025.

283 Appendix 10 (Organizational Charts). See also, SVP Operations East Region Interview, 07/29/2025.

284 Appendix 10 (Organizational Charts).

285 Appendix 10 (Organizational Charts).

286 The reporting center structure seeks to create a group of offices/wire centers in an area that can be efficiently managed as one group (e.g., relatively easy to share technicians, dispatch efficiencies, etc.) SVP Operations East Region Interview, 07/29/2025.

Frontier explains that it does not run each New York operating company as individual units.[287] While certain employees' time is directly accounted for within the individual New York operating companies (e.g., technicians and local managers in the field operations organization, sales personnel), Frontier does not run any function wholly at the operating company level.[288]

Numerous functions supporting the Frontier New York operating companies are provided by Frontier's shared services organization, CTSC. These functions include Technology (e.g., IT operations, cybersecurity); Team Connect (e.g., customer care); Network (e.g., engineering, network operations, enterprise technical support); Consumer and Commercial sales, support and product management; and Administrative functions (e.g., accounts receivable, regulatory, public relations).[289] The costs for these shared services functions are allocated from CTSC to the various Frontier subsidiaries.

Headcount in the Frontier organizations that support New York has declined during the Audit Period. Frontier provided data showing annual headcount during the Audit Period for Frontier personnel accounted for in the New York legal entities' books. Overall, this headcount has decreased year-over-year from [redacted] total positions in 2020 to [redacted] total positions in 2025 (a [redacted]% decrease).[290] Frontier also provided data showing annual headcount separately for OSP technicians and CO technicians supporting New York operating companies. This data shows a [redacted]% decrease in OSP technicians and a [redacted]% decrease in CO technicians between 2020 and 2025.[291]

Description of Work Tasks

The work tasks completed in this audit area are listed below and were established in Consultant's bid proposal.[292]

1. Evaluate organizational structure applicable to service quality, service quality reporting, operating systems, network reliability and customer complaints.
2. Review functions of organizations responsible for network maintenance and monitoring, service restoration, fulfilment of service quality commitments, capital investment projects, coordination with government agencies and utilities and communications with customers.
3. Request and examine the company guidelines, processes and procedures (including those regarding service quality performance management, network

[287] IR Response #1.

[288] IR Response #136.

[289] IR Response #5, IR1 Q#5 supporting functions.pdf.

[290] IR Response #11, IR1 Q#11 NY ILEC Headcount.xls.

[291] IR Response #12, IR1 Q#12 i and ii.xls.

[292] Aperture Bid Proposal at 8.

maintenance and capex projects and budgeting), Functional Organizational Charts, Business Continuity, Disaster Recovery Plans and similar documents and systems.

4. Evaluate priorities built into the organizational structure in relation to service quality and network maintenance and service quality data reporting.
5. Evaluate how well Frontier's management is overseeing and directing the operations of its operating entities, including assessing what internal KPIs are applied to measure and monitor service quality performance.
6. Assess whether existing processes and procedures are aligned with regulatory requirements and are followed during service outages.

Consultant identified the Frontier departments and personnel responsible for key service quality, network reliability and customer complaint functions supporting New York. They are:

- Network Maintenance: this function is performed by technicians, construction and engineering employees located in New York depending on the type of maintenance being performed. These employees are part of the operations department that reports to the SVP Operations (East Region) and the SVP Construction & Engineering. Independent contractors are also used for network maintenance work.[293]
- Network Monitoring: this function is performed by the Network Operations Center ("NOC") for the 25 state footprint, which is part of CTSC. NOC employees report to the SVP Natl Architecture & Engineering organization who reports to the EVP Chief Network Officer.[294]
- Service Quality Data Gathering, Data Review/Analysis, Regulatory Reporting: this function is performed by Regulatory Compliance Reporting employees within the Legal and Regulatory department. Most New York service quality data gathering and reporting work is performed by the VP of Regulatory Compliance (within the shared services organization) who reports to the EVP Chief Legal & Regulatory Officer.[295]
- Technician Workforce Management/Assignment: this function is performed by the Field Operations Services Group (within the shared services organization) which reports to the SVP Field Ops Services Group that is overseen by the EVP Chief Network Officer.[296]

[293] IR Response #1i.

[294] IR Response #1ii.

[295] IR Response #1iii.

[296] IR Response #1vi.

- Network Trouble Identification: this function is performed by technician employees located in New York and the NOC.[297]
- Service Outage Response: this function is performed by technician employees located in New York and the NOC. Service outages resulting from network destruction or severe events may involve the Business Continuity Team ("BCT") along with engineering and construction.[298]
- Routine Service Quality Issues: this function is managed by Local Field Operations teams in New York.[299]
- Large Scale/Emergency Service Quality Issues: this function is managed by Engineering & Construction, BCT, and Local Field Operations teams.[300]
- Network Investment Decision-Making: this function is performed by engineering (within the shared services organization) and FP&A Capital Management. The FP&A organization reports to the EVP CFO.[301]
- Service Quality Improvement Projects: this function is performed by engineering and local operations teams who identify, recommend, and complete these projects.[302]
- Regulatory Compliance: this function is a shared responsibility among all departments.[303]
- Customer Rebates for Service Quality Failures: this function is managed by the Regulatory Compliance Reporting Team, as well as the IT organization which reports to the EVP Chief Digital and Information Officer.[304]
- PMP Development and Implementation: this function is managed by the Field Operations Services Group which reports to the EVP Chief Network Officer.[305]
- Systems Operations and Maintenance: this function is managed by the Field Operations Services Group and the IT organization.

297 IR Response #1vii.

298 IR Response #1viii. The BCT is part of the Corporate Security organization which reports to the EVP Chief Network Officer.

299 IR Response #1xv.

300 IR Response #1xvi.

301 IR Response #1ix.

302 IR Response #1x.

303 IR Response #1xvii.

304 IR Response #1xi and #1xiii.

305 IR Response #1xii.

- Customer Complaints: this function is managed by the OOTP, which reports to the EVP Chief Customer Operations Officer.[306]

2. Review functions of organizations responsible for network maintenance and monitoring, service restoration, fulfilment of service quality commitments, capital investment projects, coordination with government agencies and utilities and communications with customers.

See #1 above.

3. Request and examine the company guidelines, processes and procedures (including those regarding service quality performance management, network maintenance and capex projects and budgeting), Functional Organizational Charts, Business Continuity, Disaster Recovery Plans and similar documents and systems.

Consultant requested and reviewed information related to how Frontier technicians report problems that can affect service outages or network reliability issues.[307] In response, Frontier explains that its OSP technicians follow three main processes for reporting maintenance issues with OSP; they are the Defective Cable Reporting Process (for reporting defective cable in the network), Ownership of Plant Damages Process (for reporting copper and fiber damages that require immediate intervention), and Proactive Preventative Maintenance Process (for reporting needed repairs for broken or damaged OSP that require repair or replacement).

Consultant requested all guidelines, policies, and process documents related to Frontier's budget process and related decision-making.[308] In response, Frontier states that it does not have a process document that defines the budgeting decision process.[309] Frontier described its capital budget process as a "bottoms up, needs-based" submission process. The Engineering, FP&A, and Field Operations organizations are primarily involved in identifying projects and making final decisions about planned capital projects related to network investment, service quality performance, and network reliability.[310] These departments identify the projects and submit them for consideration in the capital budget. The proposed projects are then evaluated based on severity of need, likelihood of negative customer impact if the project is not included, strategic impact, and potential financial return on investment (internal rate of return or "IRR"). Available funding is then prioritized

[306] IR Response #1xiv.

[307] IR #17.

[308] IR #13.

[309] IR Response #13.

[310] IR Responses #14 and #113.

and allocated across all Frontier states based on these evaluation factors, subject to constraints of the available capital budget.[311] The capital budget is not managed or built by or for any New York operating company, or any operating company in any state.[312]

Determining the final capital budget is an iterative process based on overall available funding targets and other financial metrics (e.g., revenue, Earnings Before Interest Taxes Depreciation Amortization). Funding is allocated between strategic and revenue growth initiatives (e.g., fiber to the home) and non-discretionary spending (e.g., maintenance or plant damage, central office power, etc.) Capital budgets are totaled and reviewed against corporate targets, with adjustments and decisions made to meet overall Company financial targets. The Board of Directors determines the amount of overall capital budget target for the 25-state footprint, and ultimately approves the consolidated Frontier Communications Parent capital and operating budgets.[313]

Consultant requested all corporate policies and strategic initiatives Frontier has adopted during the Audit Period that affect New York operations.[314] Frontier identified Building Gigabit America® as a primary initiative focused on passing 10 million locations across Frontier's 25-state footprint with fiber and fiber-to-the-premises service (with [redacted] locations passed in New York during the Audit Period). Frontier also identified its participation in the FCC's RDOF auction in which Frontier won bids in eight states, which will involve providing at least 1Gbps/500Mbps broadband service to [redacted] locations in New York by year-end 2028. Frontier also referenced the pending Verizon/Frontier acquisition as an ongoing corporate initiative.[315] Frontier states that it has no planned changes to its corporate policies or strategic initiatives that would affect New York, and that it plans to continue with its existing operational plans pending the closing of the transaction with Verizon.[316]

Consultant requested copies of all reports from internal audits, efficiency reviews, and third-party evaluations of Frontier's New York operations during the Audit Period.[317] In response, Frontier states that there were no internal audits performed on New York

311 IR Response #13.

312 IR Response #113.

313 IR Response #113. Frontier provided an operational expense ("OpEx") budget planning document, illustrating the OpEx budget process timeline, key reviews and other events, and leadership touchpoints. Frontier's OpEx budget process begins in July and is completed in February with Board of Directors review and approval. None of the budgeting or capital project planning is done specifically at the state (e.g., New York) level or operating company level. IR Response #114, IR3 Q#114 2025 Opex Budget Calendar 9.25.24.pdf.

314 IR #19

315 IR Response #19.

316 IR Response #20.

317 IR #22.

operations in particular, but there were numerous audits conducted on a national level.[318] Frontier provided a total of ten audit reports that were examined by Consultant, covering the following topics: data quality, disaster recovery, field operations, TSO, cybersecurity, and NOC/network performance monitoring. These reports detail the actions Frontier undertook to address audit observations, if any.[319]

Consultant requested and examined Frontier's business continuity, backup, and disaster recovery plans. In total, Frontier provided five separate plans that were in effect during the Audit Period. The most recent document entitled "(NY) Frontier Communications Business Continuity and Crisis Management Plan" is dated December 30, 2024, and is intended to provide a plan "to support the delivery of [Frontier] products and services, providing critical connectivity, and the ability to protect the integrity of its customers' accounts during an incident" and "provide[] information relative to crisis management response during an event and continuity of operations during and after the event."[320] This plan contains the following components: Business Continuity Management System; Crisis Management/Emergency Response; Emergency Restoration Priorities; New York-specific requirements; Plan Exercising, Testing, Training and Maintenance; and Review and Revision Process.[321]

Consultant requested copies of all board and executive-level presentations, memos, or internal reviews regarding Frontier's New York operations during the Audit Period.[322] In response, Frontier states that its Regulatory Compliance department has had several meetings with upper management (e.g., EVP Chief Network Officer, regional SVPs) to review regulatory obligations across states, including New York. Frontier supplied, and Consultant reviewed, presentation materials related to New York that Frontier used during these meetings.[323]

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318 IR Response #22.

319 IR Response #137.

320 IR1 Q#18 Dec 2024 NY Business Continuity and Crisis Management Plan.pdf.

321 Frontier also provided a "New York Emergency Management Plan" dated December 8, 2023, "NY State EMP – East Region" dated June 2023, "NY State EMP" dated April 7, 2022, and "NY State EMP" dated October 2, 2020. See, IR 1 Q#18 Dec 2023 NY Business Continuity and Crisis Management Plan.pdf, IR 1 Q#18 June 2023 NY Business Continuity and Crisis Management Plan.pdf, IR 1 Q#18 Dec 2022 NY Business Continuity and Crisis Management Plan.pdf, and IR 1 Q#18 Dec 2020 NY Business Continuity and Crisis Management Plan.pdf.

322 IR #21.

323 IR Response #21.

Consultant also requested copies of strategic planning documents related to New York operations and service quality/network reliability over the next five years.[324] In response, Frontier states that it does not have any such planning documents.[325]

4. Evaluate priorities built into the organizational structure in relation to service quality and network maintenance and service quality data reporting.

Priorities related to service quality, network maintenance, and service quality reporting include the following:

- Issues impacting customers' ability to reach 9-1-1 emergency services;
- network issues that affect multiple customers (the more customers affected by an issue, the higher the priority);
- Issues affecting regulatory requirements, including service quality metrics CTRR and OOS; and
- Issues affecting services particularly important to customers, such as data and fiber.[326]

A Frontier priority that was identified consistently in IR responses and interviews is deploying fiber as fast as possible to meet aggressive build targets in support of its Building Gigabit America ® initiative. The inherent tension between fiber deployment and maintenance of the legacy copper network (as these two services compete for finite Company resources) has the potential to impact service quality and network maintenance, and in turn, the Company's ability to meet retail service quality standards.

5. Evaluate how well Frontier's management is overseeing and directing the operations of its operating entities, including assessing what internal KPIs are applied to measure and monitor service quality performance.

This issue is addressed below under Evaluative Criteria #6.

6. Assess whether existing processes and procedures are aligned with regulatory requirements and are followed during service outages.

This issue is addressed below under Evaluative Criteria #6.

[324] IR #23 and IR #24.

[325] IR Responses #23 and #24.

[326] SVP Operations East Region Interview, 07/29/2025.

C. FINDINGS & CONCLUSIONS

Evaluative Criterion #1	How does the organizational structure fit into the larger Frontier corporate structure, and how does that affect decision-making on the state level?

Frontier is organized under a holding company structure. The New York operating companies, like operating companies in other states, roll up to Frontier Communications Holdings, LLC, then to Frontier Communications Intermediate, LLC, and ultimately to Frontier Communications Parent, Inc. If the Frontier/Verizon acquisition transaction is approved, then post-transaction, Frontier Communications Parent, Inc. will become a wholly-owned, direct subsidiary of Verizon Communications, and the New York operating companies will become indirect, wholly owned subsidiaries of Verizon Communications. Frontier's 25-state footprint is divided into three regions, and New York is included within the East Region. Frontier uses a "reporting center" operations structure in New York (and other states), with each reporting center supporting multiple wire centers. Each reporting center is supported by a Director of Operations for Central Office and a Director of Operations for Field Teams, as well as Local Managers reporting to the directors. Frontier does not run each New York operating company as individual units; instead, key decisions are made at the corporate level. Numerous important functions supporting New York operations such as engineering, network operations, and others are provided by Frontier's shared services organization, CTSC, and not by the New York operating companies.

Evaluative Criterion #2	Does the organizational structure appropriately prioritize network reliability and service quality in New York?

Consultant did not find a specific shortcoming in Frontier's organizational structure that is a primary factor leading to the Company's service quality and network reliability problems. New York operating entities are on the same level of the Frontier organizational structure as operating companies in other states. By all accounts, Frontier's ILEC operating companies are treated equally in terms of decision-making and resource allocation. In addition, Frontier indicates that New York retail service quality requirements are considered in the decision-making and priority-setting process. While most decision-making is not done at the state or operating company level, Frontier has a team of Directors and Local Managers dedicated to New York that are responsible for network maintenance and repair activities.

Evaluative Criterion #3	Does the organizational structure include teams that focus on monitoring and managing routine service quality issues as well as large scale/emergency situations?

Yes, routine service quality issues are managed by Local Field Operations teams in New York,[327] and large scale/emergency service quality issues are managed by Construction & Engineering, BCT, and Local Field Operations teams.[328] The NOC is also involved for both routine service quality issues and large scale outages, treating both situations as a service disruption and notifying various Frontier personnel based on the severity level of the problem.[329]

Evaluative Criterion #4	Does the organizational structure provide opportunities for input on service quality issues from operations "on the ground" such as network technicians?

Yes, Frontier's organizational structure provides opportunities for input on service quality issues from "on the ground" network technicians. Frontier identified three such processes in particular: the Defective Cable Reporting Process (for reporting defective cable in the network), Ownership of Plant Damages Process (for reporting copper and fiber damages that require immediate intervention), and Proactive Preventative Maintenance Process (for reporting needed repairs for broken or damaged OSP that require repair or replacement).

Frontier uses a "reporting center" operations structure, with each reporting center supporting multiple wire centers. Each reporting center is supported by a Director of Operations for Central Office and a Director of Operations for Field Teams, as well as Local Managers reporting to the directors. Local managers at the reporting centers in New York manage the network in their local service areas.

Evaluative Criterion #5	Does the organizational structure facilitate or impede the efficient response and resolution of network reliability and service quality issues (e.g., aging outside plant, network outages, trouble reports, etc.)?

Consultant did not find a specific shortcoming in Frontier's organizational structure that impedes the efficient response and resolution of network reliability and service quality issues. The NOC monitors the network and issues work requests/dispatch requests to field operations teams to take action to prevent an outage or repair an outage as quickly as possible.[330] The NOC uses the same monitoring and dispatch processes for New York as it does for all other states in Frontier's service territory. Frontier also has a team of Directors and Local Managers dedicated to New York that are responsible for network maintenance

[327] IR Response #1xv.

[328] IR Response #1xvi.

[329] SVP National Architecture & Engineering Interview, 08/05/2025.

[330] SVP National Architecture & Engineering Interview, 08/05/2025.

and repair activities. The SVP Operations (East Region), who is responsible for New York, is in contact with these Directors nearly every day to discuss issues in their geographies, KPIs, technician performance, peak demand management, preventative maintenance, and other issues that could impact operations.[331] In addition, Local Managers dedicated to New York routinely identify maintenance/repair issues and use established processes to address those issues, and have the ability to inform their Directors of bigger problems, which in turn can be brought to the attention of the SVP Operations (East Region).[332]

Evaluative Criterion #6	Does the organizational structure facilitate or impede Frontier-NY management in overseeing and directing the operations of the New York operating entities, including assessing what internal KPIs are applied to measure and monitor service quality performance?

Consultant did not find a specific shortcoming in Frontier's organizational structure that impedes management's ability to oversee and direct the operations of the New York operating companies. For example, maintenance of the New York network is performed by technicians and construction/engineering employees located in New York. These employees "on the ground" can report issues up the chain of command. Specifically, following this chain of command, technicians can report issues to Local Managers, who report to Directors, who report to SVPs (Operations East Region and Construction & Engineering), who report to the EVP Chief Network Officer, who ultimately reports to the President & CEO.[333] At each point in the chain of command, management meets with their direct reports as well as their supervisor to address issues related to the operations of the New York operating entities – albeit, the higher up the chain of command, the less those discussions focus specifically on New York and more focus is placed on larger regions or the entire organization.

Frontier's use of KPIs to evaluate operations is prevalent throughout the organization, and Frontier uses KPIs to evaluate the performance of SVPs.[334] The SVP Operations (East Region), who is responsible for maintaining cable and central office equipment, monitors KPIs daily, including Net Promoter Score ("NPS") (measuring customer loyalty), Mean Time To Repair ("MTTR") (measuring how quickly a problem is fixed), as well as switch alarms to identify problems in real time.[335] These KPIs are monitored using a dashboard that provides insight into KPIs based on geography, reporting center, district office, etc. The

[331] SVP Operations East Region Interview, 07/29/2025.

[332] SVP Operations East Region Interview, 07/29/2025.

[333] See Appendix 10 (Organizational Charts).

[334] SVP Operations East Region Interview, 07/29/2025.

[335] SVP Operations East Region Interview, 07/29/2025.

SVP Operations (East Region) regularly discusses with the Chief Network Officer how to improve these KPIs whether they are at or below target.[336]

The NOC, led by the SVP National Architecture and Engineering, also routinely monitors KPIs, primarily Customer Outage Hours. All NOC-related KPIs roll up to Customer Outage Hours, such as the number of customers affected by an outage, and for how long (i.e., MTTR).[337] The primary KPI used by FP&A Capital Management is project budget – i.e., what a project budget is, IRR, and associated variances.[338] For the Construction and Engineering organization, the primary KPIs are safety, customer locations passed by fiber builds, and Ethernet build to businesses, as well as associated due dates and cost management.[339] The OOTP organization uses KPIs – Days to Close and Days to Create – to evaluate the customer complaint handling process.

Evaluative Criterion #7	How does the organizational structure affect the assignment of network technicians for daily network maintenance as well as network problem resolution, and is the assignment process equitable to all Frontier New York operating companies and COEs?

The assignment of network technicians is performed by the Field Operations Services Group, led by the SVP Field Operations Services Group who reports to the EVP Chief Network Officer. The Field Operations Services Group is within Frontier's shared services organization and performs the function of assigning/managing technician workforce for Frontier's entire 25-state footprint. Accordingly, the assignment process is equitable to all Frontier New York operating companies, as well as operating companies in other states. Likewise, the NOC performs functions related to network monitoring, trouble identification, and service outage response. The NOC is also part of Frontier's shared services organization and performs these functions for Frontier's entire 25 state footprint. As a result, the functions performed by the NOC are equitable to all Frontier New York operating companies, as well as operating companies in other states.

Evaluative Criterion #8	Does the organizational structure facilitate or impede accurate service quality data collection, curation, and reporting?

[336] SVP Operations East Region Interview, 07/29/2025.

[337] SVP National Architecture & Engineering Interview, 08/05/20250.

[338] Sr. VP FP&A and SVP Finance and Operations Interview, 07/24/2025.

[339] SVP Construction & Engineering Interview, 08/05/2025.

Consultant did not identify any issues with organizational structure that impedes service quality data collection, curation, and reporting. This function is performed by Regulatory Compliance Reporting employees within the Legal and Regulatory department. Most activities related to service quality data gathering and reporting for New York (and other states) is performed by the VP of Regulatory Compliance (within the shared services organization) who reports to the EVP Chief Legal & Regulatory Officer.[340] Consultant has proposed certain actionable recommendations – such as increased automation – to improve the process Frontier uses for service quality data collection, curation, and reporting.

Evaluative Criterion #9	Does the organizational structure include the necessary information technology and personnel resources (e.g., operating systems, hardware, software, IT personnel) to facilitate accurate service quality data creation, collection, curation, and reporting?

Consultant did not identify any IT-related resource constraints impeding accurate service quality data creation, collection, curation, and reporting. As part of the review of Frontier's organizational structure, Consultant identified the IT systems utilized by various departments.

Consultant asked Frontier to identify and describe the IT systems used for various functions related to its operations, including those used to monitor, collect, analyze, error-check, and report data related to service quality and network reliability, customer rebates, and customer complaints.[341] Frontier identified the following primary IT systems:[342]

- [redacted] is used for reporting service quality metrics and determining customers that qualify for customer rebates;[343]
- [redacted] Microsoft Email, Excel, .csv files, [redacted], and billing systems are used when handling customer rebates;[344]
- [redacted] is used to track network trouble identification, analyze customer trouble reporting patterns/common cause, and track tickets for field technicians;[345]

[340] IR Response #1iii.

[341] IR #6.

[342] Frontier identified other IT systems involved in network operations and network monitoring. IR Response #6, IR1 Q#6 network systems.xls.

[343] IR Responses #6 and #39.

[344] IR Response #30.

[345] IR Response #6, IR1 Q#6 network systems.xls; IR Response #1vii.

- [redacted] is used by technicians to add disposition codes and other information on trouble tickets;[346]
- [redacted] is used for handling repair, order, billing and change requests from customers, as well as handling customer complaints;[347]
- [redacted] is the NOC ticketing (incident management) system;[348]
- [redacted] is the Operating Support System/Billing System;[349]
- [redacted] is used for accounting functions;[350]
- [redacted] is used for capital project creation, as well as by technicians to report defective cable and plant damages;[351]
- [redacted] is used to set up and capitalize projects;[352]
- [redacted] is used to manage capital projects and Tempo Time (a JIRA plug in) is used to record labor hours for capital projects;[353]
- PPM Database and [redacted] is used to support Frontier's Proactive Preventative Maintenance Program;[354] and
- [redacted] is an interactive mapping and spatial analytics tool used to perform detailed analysis of the network, based on location data and layers of various datasets.[355]

Overall, the IT resources supporting Frontier operations appear to be adequate, and Frontier has demonstrated a commitment to upgrading those systems as needed.[356]

Evaluative Criterion #10	Does the organizational structure support the prompt investigation and resolution of customer complaints?

346 IR Response #39; SVP Operations East Region Interview, 07/29/2025.

347 IR Response #89.

348 IR Response #6, IR1 Q#6 network systems.xls; SVP National Architecture & Engineering Interview, 08/05/2025.

349 IR Response #6, IR1 Q#6 network systems.xls.

350 IR Response #7.

351 IR Responses #7 and #17; Sr. VP FP&A and SVP Finance and Operations Interview, 07/24/2025.

352 IR Response #7.

353 IR Response #7.

354 IR Response #17.

355 SVP Construction & Engineering Interview, 08/05/2025.

356 Frontier is currently migrating certain functions [redacted]. IR Responses #17 and #40. Frontier also recently migrated from [redacted]. IR Response #95.

Yes, Frontier's organizational structure supports investigation and resolution of customer complaints. As described above in Section VIII (Customer Complaints), all customer complaints are handled by the Office of the President, which reports to the EVP Chief Customer Operations Officer. The OOTP uses an established customer complaint handling process supported by a formal/standardized ticket creation process, recently-enhanced systems and software, methods and procedures documentation, feedback and coaching opportunities, standardized templates, processes to coordinate with the Commission/Department, KPIs, and procedures to seek continuous improvements. Consultant has proposed certain actionable recommendations to improve the promptness and comprehensiveness of the customer complaint handling process (see Section VIII(D)).

Evaluative Criterion #11	Does the organizational structure include a decision-making process and provide the necessary authority for important network reliability and service quality decisions to be made at the state or local levels?

Consultant did not find a specific shortcoming in Frontier's organizational structure that prevents state or local personnel from making decisions to address network reliability and service quality issues in New York. While overall decision-making and budgetary decisions are made at the corporate level (and not at the state or local level), Local Managers and Directors dedicated to New York have the authority to utilize established processes to address service quality and network reliability issues in their service territories as they arise without first obtaining upper management approval. By way of example, each Local Manager has the authority to approve network projects up to a certain monetary threshold without engaging Directors or upper management.[357] Local Managers also have the authority to prioritize projects based on their working knowledge of their local service areas and technician crews. If a project exceeds the threshold level of the Local Manager's authority, the Local Manager can engage Directors who are also dedicated to New York who can, in turn, engage upper management to obtain the necessary support.

Evaluative Criterion #12	How does the organizational structure affect network investment and maintenance decision-making and budgets in New York?

The organizational structure affects network investment and maintenance decision-making and budgets in New York by placing the operating companies in New York on equal footing compared to operating companies in other states.[358] States are treated similarly in decision-making and strategic planning, and no state is prioritized over others. Given

[357] SVP Operations East Region Interview, 07/29/2025.

[358] SVP Operations East Region Interview, 07/29/2025.

Frontier's holding company structure, the seven New York ILECs are on the same level as ILECs in other states. The decision-making is conducted and budgets are established for the organization as a whole; budgeting and network planning is not conducted specifically for any state or operating company. The factors that are evaluated to determine which projects are approved for inclusion in the capital budget and how funding is prioritized/allocated are the same for all states. Numerous functions that can affect network investment and maintenance decisions are performed at the corporate/shared services level, including engineering, network operations, network development/project management, field operations and administration, plant maintenance and construction, network operations support, and others.[359]

Frontier's organizational structure notwithstanding, there is an inherent tension between two categories of services/projects: fiber deployment and legacy copper-based systems. Within Frontier, both categories of services compete for finite resources (labor and capital). Frontier is focused on building out its fiber network as fast as possible given its build target and certain constraints (e.g., permits). On the other hand, Frontier must also invest in its legacy copper network in order to keep customers in service and attempt to comply with critical Commission-imposed retail service quality standards.[360] Since legacy copper network investment typically does not produce an IRR like that of investments in fiber deployments, it is expected that investments in the legacy copper network will take a lower priority within the Company's decision-making process.[361] Therefore, the Commission-imposed retail service quality standards – which the Company confirms are used to inform decision-making[362] - are critically important to ensure that the Company does not ignore its legacy copper network, which would lead to worsening service levels for customers. These service quality standards also provide a safeguard against decisions made at the corporate level prioritizing legacy investment in another state over New York.

Evaluative Criterion #13	Does the organizational structure facilitate or impede improvements in service quality performance, and/or review past failures to identify areas for improvement?

Consultant did not find a specific shortcoming in Frontier's organizational structure that impedes improvements in service quality performance and/or review of past failures to identify areas for improvement. As described above in Evaluative Criteria #6, KPIs are a

[359] IR Response #5, IR 1Q#5 supporting functions.pdf.

[360] Sr. VP FP&A and SVP Finance and Operations Interview, 07/24/2025.

[361] Frontier states that it is not abandoning copper or engaging in forced migration to fiber by failing to maintain its legacy copper network. Sr. VP FP&A and SVP Finance and Operations Interview, 07/24/2025.

[362] See, e.g., SVP Operations East Region Interview, 07/29/2025, explaining that CTRR is one factor that goes into determining how to allocate resources. See also, SVP Construction & Engineering Interview, 08/05/2025, explaining that service quality requirements factor into resource allocation decisions.

focal point of various Frontier departments. Moreover, service quality requirements are included within the priorities considered in Frontier's decision-making process. Based on the information collected during interviews, it appears that the culture within Frontier embraces reviewing past performance (including failures) to identify areas for improvement. For example, the OOTP organization holds routine meetings to evaluate trends and issues related to its customer complaint handling process for the purpose of pursuing operational improvements and reducing future escalations.

Evaluative Criterion #14	Does the organizational structure incorporate feedback from customer complaints into proactive steps to minimize future complaints in the areas of greatest concern to customers?

As explained above in Section VIII (Customer Complaints), the OOTP relies on a closed-loop feedback process and structured weekly meetings for the purpose of using customer complaint data and customer feedback as a driving force behind operational changes.[363] Consultant has proposed actionable recommendations to improve this process and minimize future complaints in key areas, including the biggest driver of customer complaints – Repair (see Section VIII(D)).

Evaluative Criterion #15	Does the organizational structure affect whether existing processes and procedures are aligned with regulatory requirements and whether those processes are followed during network/service problems?

Consultant finds that the organizational structure generally aligns processes and procedures with regulatory requirements, and ensures that applicable processes are followed during network/service problems.

Issues affecting regulatory requirements, including service quality metrics, are priorities built into the organizational structure. IT systems are used to support Frontier's processes and procedures, and to create, collect, curate, and report data underlying regulatory requirements. KPIs – some of which tie directly to regulatory requirements – are routinely monitored and discussed to evaluate performance and seek operational improvements. One example is Frontier's response to IR #106, which explains the Company's compliance with regulatory requirements under 16 NYCRR §§ 603.5 and 603.6 pertaining to service interruptions and emergency contingency plans. Frontier identified the procedures and reports required by these regulations.

[363] IR Response #93.

Evaluative Criterion #16	Does the organizational structure facilitate or impede the accurate calculation and issuance of customer rebates for service quality failures?

Consultant did not find a specific shortcoming in Frontier's organizational structure that impedes the accurate calculation and issuance of customer rebates for service quality failures. Frontier described the process it uses to issue rebates, which is used to process customer rebates for all New York operating companies.[364] This process is handled by Regulatory Compliance Reporting employees, bill verification team, and bill tables team. While there is no single team in the organizational structure that is responsible for calculating and issuing customer rebates, the teams that contribute to this process are appropriate for the functions they perform. Consultant proposes actionable recommendations in Section III(D) designed to increase the accuracy of customer rebate calculations and payments.

Evaluative Criterion #17	Is the organizational structure a factor in deteriorating network reliability and service quality, and if so, how can that structure be changed as a remedy?

The observed deterioration in network reliability and service quality is not a result of the Company's organizational structure *per se*. The primary driver of the deteriorating network reliability and service quality is the aging legacy copper network and a lack of market driven incentives for maintaining it. Maintaining and improving network reliability and service quality is best effectuated not by changes to Frontier's organizational structure but instead by Frontier adequately performing maintenance and repair of its legacy network and continued Commission oversight and fine-tuning service quality requirements.

D. RECOMMENDATIONS

The original OMP allowed Frontier to reorganize under a holding company structure.[365] There have been numerous modifications to the OMP over the years, including removing certain restrictions related to corporate governance and affiliate transactions.[366] Other relevant provisions remain in place, including customer rebates and dividend restrictions based on substandard service quality performance.[367] The remaining OMP provisions were

[364] IR Response #27.

[365] Order Adopting Joint Stipulation and Agreement, Case 08-C-1140, 10/17/2008, at 2.

[366] *Id.* at 2-5. See also, *Id.* Attachment A (Joint Stipulation and Agreement) at 5-6.

[367] *Id.* at 6-8.

"aimed at eliminating or minimizing potential improprieties under a holding company structure[.]"[368]

There were no improprieties or shortcomings identified with respect to Frontier's holding company structure that could be primary contributing factors to the Company's service quality problems. In other words, Consultant does not think that changes to the organizational structure or corporate governance restrictions would likely lead to material improvements in the Company's retail service quality performance in New York.

One identified area of concern is the opaqueness of Frontier's budgeting process. The Board of Directors ultimately determines the size of the budgets to be allocated across Frontier's various state jurisdictions, and there is very little insight into that process other than there is a conflict between demand for funds for Frontier's fiber deployment projects and for maintenance of its legacy network. Consultant does not think actionable recommendations should or could be made to mandate changes to Frontier's budgeting process. Rather, it is more effective to hold Frontier to its service quality requirements, which indirectly forces the Company to approve appropriate budgets. That is, rather than making recommendation with regard to the budgeting process, Consultant believes the Commission's service-quality objectives are better met through recommendation that target Frontier's operations in New York.

To this end, Consultant has made actionable recommendations in other audit areas regarding process improvement, training, headcount, and reporting designed to improve Frontier's service quality and network reliability performance. In sum, while these recommendations are not expected to necessarily result in changes to Frontier's organizational structure – i.e., either corporate structure or departmental structure – the Company is expected to make the internal company changes necessary to better achieve the required level of service quality in New York.

[368] *Id.* Attachment A (Joint Stipulation and Agreement) at 4.

X. BENEFIT/COST ANALYSIS

A. SCOPE

The scope of this audit area is to evaluate Consultant's recommendations that would likely require Frontier to incur incremental cost by considering potential benefits, potential risks, one-time and ongoing costs, and potential savings or efficiencies of each recommendation. This is accomplished through a Benefit/Cost analysis, which can be a crucial tool used by a state regulatory commission to evaluate the economic efficiency and societal impact of proposed actions, investments, and regulations related to utilities. The purpose of a BCA analysis is to better ensure that the benefits of an action (such as in the current instance, a proposed recommendation) justify the associated costs. The ultimate aim, consistent with public utility regulation's overarching objectives, is to maximize overall societal welfare.

B. WORK TASKS

Consultant used a BCA tool to quantify and compare the present value of total lifetime benefits of a potential action against its total lifetime cost. Where feasible, Consultant applied this approach to each recommendation that would require the Company to incur incremental costs. In the context of service quality, benefits of recommended mitigation measures to improve service quality were compared to the total cost of these recommended measures, including indirect and non-monetary cost and benefits.

Consultant identified preliminary recommendations that would likely require Frontier to incur incremental cost (or cost savings). Consultant issued IR #168 (BCA)[369] listing these recommendations and requesting that Frontier identify and quantify potential costs and benefits of its preliminary recommendations. This Information Request included Consultant's BCA template identifying its key components, such as potential benefits, capital and operating costs, potential savings, and avoided cost or efficiencies of the proposed recommendation. Consultant incorporated Frontier's numerical data from IR Response #168, as well as Frontier's qualitative feedback on the preliminary recommendations. Consultant modified some of the recommendations based on Frontier's responses.

[369] Due to a typo, Consultant issues two different IR under the same number "168." Throughout this section, references to IR# 168 are citing Information Request issued on September 8, 2025 on the topic of BCA.

For each recommendation, Consultant developed the BCAs in a Microsoft Excel workbook, which documents all sources and inputs. That workbook is provided as Appendix 11 to this report.

The BCA template for a hypothetical recommendation concerning service quality or customer compliance is found below. This template represents a "summary" page for documenting the results of a granular analysis of the specific recommendation and its inputs. The overall result of the example BCA shown below is to develop a Benefits Cost Ratio ("BCR"), with a ratio >1.0 indicating a recommendation in which expected benefits exceed expected costs or a ratio <1.0 indicating a recommendation in which the expected costs exceed the expected benefits. For all instances in which the BCR $\geq$ 1, Consultant concludes that the BCA standard has been met.

The BCA template also includes fields to record dollar impacts for recommendations that can be quantified monetarily and fields to record impacts in terms of other non-dollar factors (e.g., affected customers, lines, etc.) for recommendations that cannot be quantified monetarily. Since not all benefits (or costs) of a mitigation measure can be quantified or evaluated in monetary terms, the BCA template includes fields for descriptions of recommendations that are challenging to quantify and other important context.

The following qualifying observations are in order:

- In instances in which Consultant found Frontier to be non-compliant with the Commission's orders or rules, the recommended corrective action(s) to restore compliance will override cost considerations. *That is, compliance is not optional*. For each of those recommendations, the BCA template will indicate that "Compliance is not optional" and conclude that the BCA standard has been met. To the extent there are costs and benefits that can be quantified, those are included as well.
- In numerous instances, Frontier indicates that it is not yet able to provide accurate cost estimates but that it expects costs to be minimal.
- In numerous instances, it is not possible to quantify benefits. Where Frontier indicates that it does not object to implementing a recommendation and where costs are also expected to be minimal, Consultant finds that it is reasonable to conclude that the BCA standard has been met.

Table 52: Benefit/Cost Analysis Template

Recommendation	*Verbal description of recommendation*		
Audit Scope Topic	**X**		
Expected Efficiency: Benefits/Cost Ratio (>1 = net benefit; <1 = net cost)		**X**	
Note on important Cost and Benefits considerations that were not possible to monetize			
Summary of Benefit/Cost Analysis			
BCA Component	**Qualitative Description**	**Dollar Impact (Net Present Value)**	**Non-Dollar Amounts**
Expected Cost:			
	Capital Cost	X	
	Operating/ Maintenance Cost	X	
	Customer Service Cost	X	
	Reporting / Systems Cost	X	
	Other Cost	X	
	Additional Personnel		X
	Total Expected Cost	X	
Expected Benefits:			
Impact on Frontier	Avoided Cost of Repair / Restoration	X	
	Avoided Cost of Customer Service	X	
	Avoided Penalties / Bill Credits	X	
	Reduced Customer Churn	X	X
	Reduced Outside Plant Personnel		X
Impact on Customers	Avoided Customer Outages		X
	Avoided Business Interruption Cost	X	
	Reduced Repair Time		X
	Number of Impacted Customers / Lines		X
	Total Expected Benefits	X	
Resulting Expected Benefits/Cost Ratio:			X
Assumptions:			
	Implementation Timeframe		X
	BCA Evaluation Horizon		X
	Discount Rate for Present Value		X
	Customer Take Rates		X
	CapEx Economic Lives		X
Notes on potential risks / uncertainty / other factors affecting BCR			

C. FINDINGS & CONCLUSIONS

The BCA findings pertaining to Consultant's recommendations are identified below. For each of these recommendations, a BCA analysis is provided in Appendix 11.

Table 53: Benefit/Cost Analysis Results

Section Audit Area	No.	Recommendation	BCA Result
III (SQNR1)	1	Automate generation of Monthly Service Quality Reports as well as the detection of customer rebate-triggering conditions under program Case 08-C-1140 to reduce manual workload and error rate.	Met; but also needed for compliance.
III (SQNR1)	2	Correct the formulas for counting the number of COEs that meet the 3.3 threshold to use the exact threshold as identified in Uniform Measurement Guidelines ("<=3.3") instead of Frontier's current formula, which uses the mathematical expression "<3.35."	Minimal cost; needed for compliance.
III (SQNR1)	3	Revise the COE list on Monthly Service Quality Reports by adopting the COE list used in the Service Quarterly Quality Reports under Case 20-C-0267 to increase the accuracy of Service Quality reporting and rebate program, and to reduce the manual workload of the Frontier regulatory team. In the alternative, if keeping the COE list currently used in Monthly Service Quality Reports, remove the Jefferson road COE that is marked inactive.	Minimal cost; needed for compliance.
III (SQNR1)	4	Regarding the procedure for compiling line counts and tickets for Monthly Service Quality Reports metrics: remove ISDN lines from considerations as directed by the Uniform Measurement Guidelines.	Minimal cost; needed for compliance.
III (SQNR1)	5	Correct the denominator in the Frontier formula for %OOS> 24 Hours to remove all tickets with customer-negotiated appointments regardless of whether these tickets were cleared within or beyond the 24-hour time frame.	Minimal cost; needed for compliance
III (SQNR1)	6	Regarding Frontier's classification of tickets into OOS and NOOS in general trouble ticket databases: (i) Review and revise the formula for identifying OOS tickets to make sure all tickets describing out of service situations in field "Report Cd Ds" (a description of the Report Code) are counted as OOS; (ii) Improve trouble ticket creation process, develop	(i) Met; but also needed for compliance. (ii) Cost is significant (not known)

Section Audit Area	No.	Recommendation	BCA Result
		guidelines and conduct training for customer agents, IVR, online chat bots / AI assistants who receive and record information on customer troubles to make sure OOS tickets are properly classified and given repair priority.	but needed for compliance.
IV (SQNR2)	1	Frontier should establish a formal process through which The NY Directors of Field Operations in Frontier's Field Operations and Services and their Local Managers are provided with system generated CTRR and %OOS>24 Hours reports. The NY Directors of Field Operations in Frontier's Field Operations and Services Group should work with Staff to identify the COEs that are consistently meeting the %OOS>24 Hours metric, as well as those COEs that are chronically missing that metric. (Consultant can provide initial lists based on our findings). Next, they should form a working group to establish a process by which those NY Directors and their Local Managers for field techs can share their best practices aimed at improving performance on that metric in the other COEs in New York that have been experiencing substandard performance. This process should include both (1) regular meetings (e.g., on a quarterly basis) to devise and refine these best practices, in the form of a written document; and (2) opportunities for training of Local Managers (and potentially the field techs they supervise) to impart those best practices.	Frontier does not object.
IV (SQNR2)	2	To the extent Frontier cannot achieve compliance with existing Technician headcount, it should utilize contractors to augment its current staff until it reaches compliance across its COEs.	Met.
IV (SQNR2)	3	Frontier should create flexibility to provide "spot awards" to Local Managers who exceed expectation.	Met.
V (SQNR3)	1	The automated PMP should remain in place on a going forward basis. Recommendations are made to strengthen the PMP in items 3 and 4 below.	Met.
V (SQNR3)	2	The PMP should continue to be managed on a statewide basis.	Met.

Section Audit Area	No.	Recommendation	BCA Result
V (SQNR3)	3	Frontier should retrain its field technicians and local managers to ensure that PMP tickets are properly closed out within the [redacted], consistent with the procedures used for installation and trouble tickets. The Company should also review its PMP ticket data on a quarterly basis to identify and address gaps in ticket completion, thereby ensuring it can demonstrate that PMP activities are completed on time.	Met.
V (SQNR3)	4	Frontier should review the customer outage data and its closed PMP tickets to determine the extent to which outages could have been avoided through more rigorous or enhanced PMP routines. The Company should report its findings to the Department and implement any necessary changes to the PMP to reduce avoidable customer outages following a loss of commercial power.	Met.
VI (SQNR4)	1	Consultant recommends stopping quarterly reporting under the 2020 Restructure Settlement Agreement, or in alternative, reducing the scope of reporting to only OOS metrics.	Met
VII (SQNR5)		No stand-alone recommendations.	N/A
VIII (Customer Complaints)	1	Frontier should implement system/process improvements to improve KPI performance related to Days to Close and Days to Create. The goal of these improvements should be to more consistently meet the applicable resolution timeframes in accordance with the established benchmark. Potential improvements may involve evaluating agent workforce allocation, assignment, and management; specifically identifying ("flagging") and addressing customers/BTNs with repeat complaints; increased automation; assessing ticket prioritization practices; hiring additional agents; etc.	Met.
VIII (Customer Complaints)	2	Frontier should establish a formal process to identify, record, and track Hot Topics and process improvements discussed during the closed-loop feedback process/weekly structured meetings. The process should identify and document each	Met.

Section Audit Area	No.	Recommendation	BCA Result
		actionable Hot Topic/process improvement, track dissemination to other departments and leadership teams, and monitor implementation and impacts.	
VIII (Customer Complaints)	3	Customer complaint KPIs should be expanded to monitor/track RCA feedback/coaching. These KPIs should evaluate frequency, quality, and consistency of RCA feedback/coaching.	Met.
VIII (Customer Complaints)	4	Frontier should establish a process in which management and field leaders responsible for New York are provided with weekly reports summarizing customer complaints, with a special focus on open New York-specific repair-related customer complaints and issues that need to be addressed. Frontier can build upon similar reports that are generated for other states.	Met
VIII (Customer Complaints)	5	Job performance evaluations of OOTP personnel should incorporate KPI performance. For instance, evaluation criteria for an OOTP employee should include his/her performance related to the Days to Close and Days to Create KPIs, with specific improvement goals established for each reporting period. These evaluation factors may also include the employee's performance related to preventing escalations and repeat complaints. In addition, while the OOTP workforce has been relatively stable in recent years (meaning that attrition is likely not a primary factor in OOTP being unable to consistently meet the KPIs), Frontier should investigate whether additional OOTP headcount will achieve consistent compliance with KPIs. If it is determined that Frontier is understaffed to consistently meet the KPIs, then Frontier should devise a staffing plan to add headcount in OOTP sufficient to achieve consistent KPI compliance.	Met.
VIII (Customer Complaints)	6	Frontier technicians in New York should inspect OSP associated with New York-specific repair-related complaints (see Recommendation #4 above), coordinate those inspections through an electronic database, and identify network problems that need	Met. As a matter of an overarching public interest consideration.

Section Audit Area	No.	Recommendation	BCA Result
		addressed in order to avoid future problems and repeat/escalated customer complaints.	

Appendix 12: Lists of Tables, Charts, and Figures

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