

SECRETARY'S RECORD, NEBRASKA PUBLIC SERVICE COMMISSION

BEFORE THE NEBRASKA PUBLIC SERVICE COMMISSION

In the Matter of the Nebraska) Application No. C-4797/911-064/
Public Service Commission, on) NG-0089/PI-199
its own motion, to investigate)
critical underground facility) ORDER RELEASING REPORT AND
issues in Nebraska.) ADOPTING RECOMMENDATIONS
)
) Entered: February 7, 2017

BY THE COMMISSION:

O P I N I O N S A N D F I N D I N G S

On January 26, 2016, the Nebraska Public Service Commission (Commission) opened the above-captioned docket as a vehicle to collect data and investigate issues related to the reliability, redundancy, and interoperability of certain critical underground facilities in Nebraska. As stated in the order opening the docket, this investigation was designed to help identify challenges and make recommendations to improve the reliability and integrity of our critical infrastructure.

A strong, robust and reliable communications system has become increasingly important to consumers and businesses, and to the safety and security of its users. *Neb. Rev. Stat.* § 86-102 declares that it is the policy of the state to: (1) Preserve affordable telecommunications services; (2) Maintain and advance the efficiency and availability of telecommunications services; (3) Ensure that consumers pay only reasonable charges for telecommunications services; (4) Promote diversity in the supply of telecommunications services and products throughout the state; and (5) Promote fair competition in all Nebraska telecommunications markets in a manner consistent with the federal act. *Neb. Rev. Stat.* § 86-421 further provides that 9-1-1 emergency telephone communications systems further the public interest and protect the health, safety, and welfare of the people of Nebraska.

Likewise, every jurisdictional utility is required to furnish reasonably adequate and sufficient service and facilities for the use of any and all products or services rendered, furnished, supplied, or produced by such utility. *Neb. Rev. Stat.* § 66-1853(3). We noted that jurisdictional utilities have voluntarily reported information to the Commission when a service disruption has occurred. Through this process, the Commission has been able to assist jurisdictional utilities with customer inquiries.

In today's order, we release a report which details the information gathered in the course of this proceeding and supporting several recommendations made by the 811 Board to the Legislature. We greatly appreciate the 811 Board for allowing us

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to attend their meetings and for letting the Commission hold workshops to gather additional information from interested persons. In addition, we make additional recommendations in the attached report for consideration. We hope that through these efforts network reliability and resiliency will be strengthened.

O R D E R

IT IS THEREFORE ORDERED by the Nebraska Public Service Commission that the Final Report be and it is, hereby adopted.

IT IS FURTHER ORDERED that the above-captioned investigation be and it is hereby closed.

ENTERED AND MADE EFFECTIVE at Lincoln, Nebraska, this 7th day of February, 2017.

NEBRASKA PUBLIC SERVICE COMMISSION

COMMISSIONERS CONCURRING:

Manfred
Crystal Luoads
John Jensen

Tim Schram
Chairman

ATTEST:

Jeffrey L. Puley
Executive Director

//s//Frank E. Landis
//s//Tim Schram

BEFORE THE NEBRASKA PUBLIC SERVICE COMMISSION

In the Matter of the Nebraska Public)	Application No. C-4797/911-064/
Service Commission, on its own motion,)	NG-0089/PI-199
to investigate critical underground facility)	
issues in Nebraska.)	
)	FINAL REPORT
)	
)	

The Nebraska Public Service Commission (Commission) opened the above-captioned docket as a vehicle to collect data and investigate issues related to the reliability, redundancy, and interoperability of certain critical underground facilities in Nebraska. The Commission's goal is to reduce the number of outages, loss of revenue, to protect critical infrastructure, and prevent loss of life in the event of damage or failure of infrastructure systems.

Issues Released for Public Comment

Initial collection of data was completed through a series of questions posed to interested parties regarding their experience with factors that lead to incidents and, subsequently, the incidents themselves. These questions were designed to identify the causes, scope, costs, and frequency of outages.¹

Entities Filing Comments

The following entities filed comments in response to the Commission's inquiry: Black Hills Corporation; CenturyLink; Consolidated Telephone Company; Cox; The Nebraska Fire Marshal; Frontier Communications; Glenwood Teleco; Great Plains Communications; Hamilton Telephone Company; Lincoln Electric System; Lincoln Wastewater System; MUD; Nebraska Central Telephone Company; Northeast Nebraska Telephone Company; NorthWestern Energy; NPPD; OPPD; Source Gas; Southeast Nebraska Telephone Company; N.E. Colorado Cellular Inc. d/b/a Viaero Wireless; and Windstream Communications.

A number of entities provided information under confidential seal. The responses and figures are aggregated to avoid disclosure of any company-specific information.

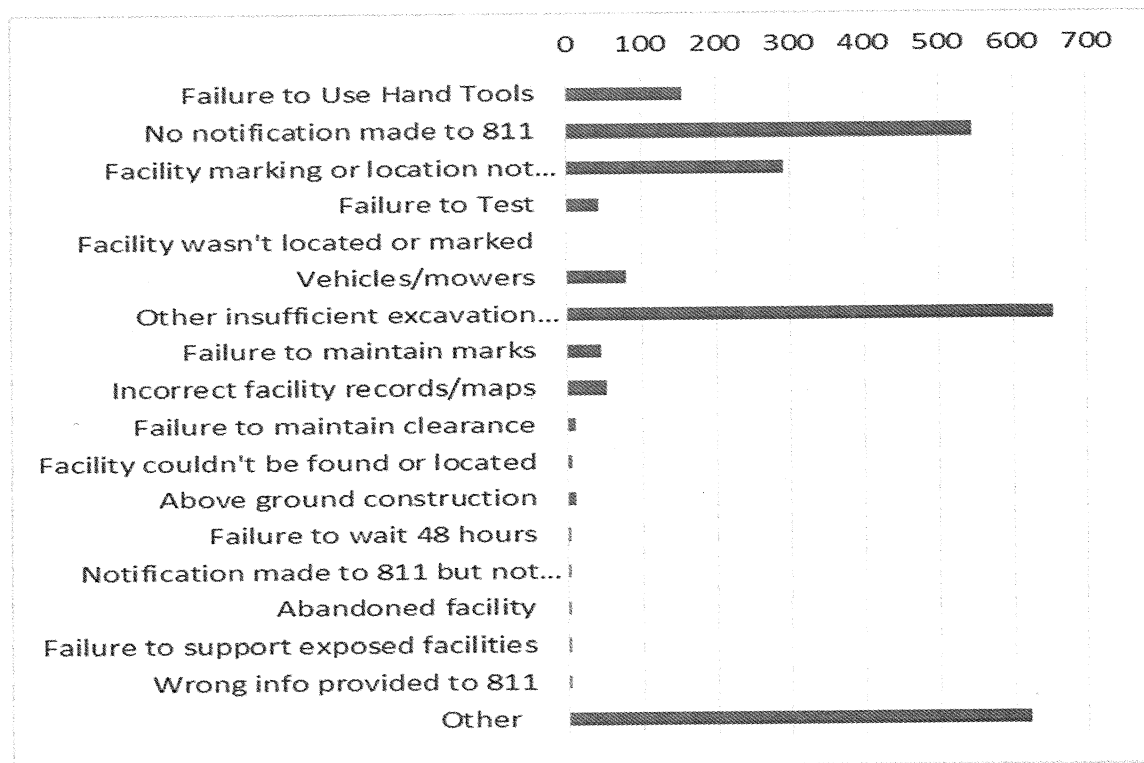
Reported Information

In total, 2,696 events were reported by the commenting entities. Respondents typically reported incidents from the previous year (2015), though some more generally discussed years prior to 2015 as well. Varying levels of specificity were provided in response to the Commission's questions. Some entities reported they did not track the types of disruptions in the manner requested or at all. Other entities tracked service disruptions for some of the categories but not all. There are a large number of events listed in the "Other" column as a result.

¹ The questions posed to respondents are included in Appendix "A" of this Report.

Table 1 below represents an estimate of the number of events reported by commenters in response to Question 2b.² Of the disruptions tracked by the categories identified by the Commission, the largest number of disruptions were caused by insufficient excavation practices and no notice made to 811. In 547 cases, no notification to 811 was made. Commenters reported 655 events caused by insufficient excavation practices. In almost 300 cases, the facility was not marked properly. Disruptions by mowers and vehicles accounted for 173 of the cuts.

Table 1



Commenting entities reported incurring over \$2.5 million in costs associated with damage to facilities. Again, some entities tracked these costs more specifically than others. Commenters reported costs by the hour, event, or year. Accordingly, costs for service disruptions for some entities were estimated based upon the number of events and the amount per hour or per event. Repair costs varied between \$200.00 and \$20,000 per incident, depending on the type and degree of damage to facilities.

According to the Nebraska 811 newsletter, common excavator violations include:

- Digging without a One Call ticket
- Digging before the ticket start time and/or before all the notified utilities have responded
- Digging outside the scope of work as described on the One Call ticket
- Providing poor information regarding the upcoming excavation

² The specific breakdown of reported events is located in Appendix "B" of this Report.

- Failure to report a damaged utility to the One Call Center

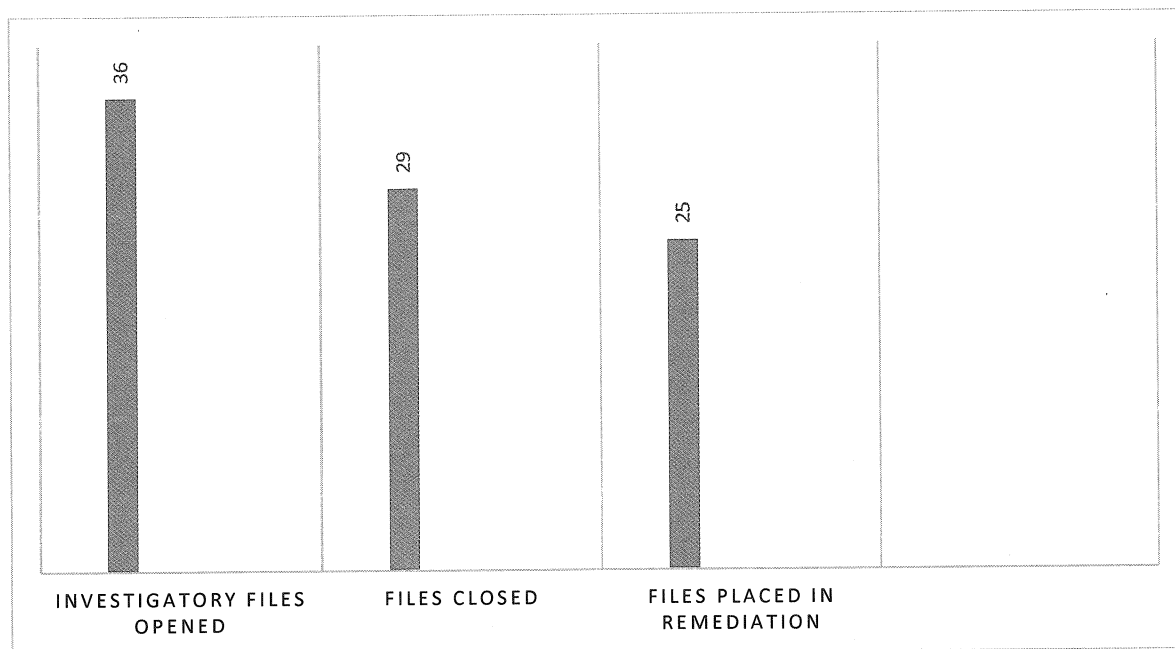
Common utility violations include:

- Failure to respond to a locate notification
- Incorrect locates
- Unregistered utility with the One Call Center³

The Nebraska 811 website and the Nebraska Attorney General's office provide a mechanism for filing complaints. Contractors and utilities are encouraged to report such events when violations have occurred. It is not clear how many of the events reported by the commenters were reported to Nebraska 811 for further investigation

The Nebraska Attorney General's office enforces the One Call Notification System Act listed in the Revised Statutes of Nebraska from Sections 76-2301 to 76-2331. Their office reported that many violations of the one-call statutes cannot be prosecuted due to insufficient evidence. This is often caused by the lack of an independent investigator for incidents involving critical infrastructure other than gas pipelines, for which the State Fire Marshall's office has been designated as the investigating agency. In Table 2, the Attorney General's office reported the following activity for the time period of October 1, 2014 through September 30, 2015:⁴

Table 2



³ See <http://www.ne1call.com/member-utility-newsletter/>; Issue 2.

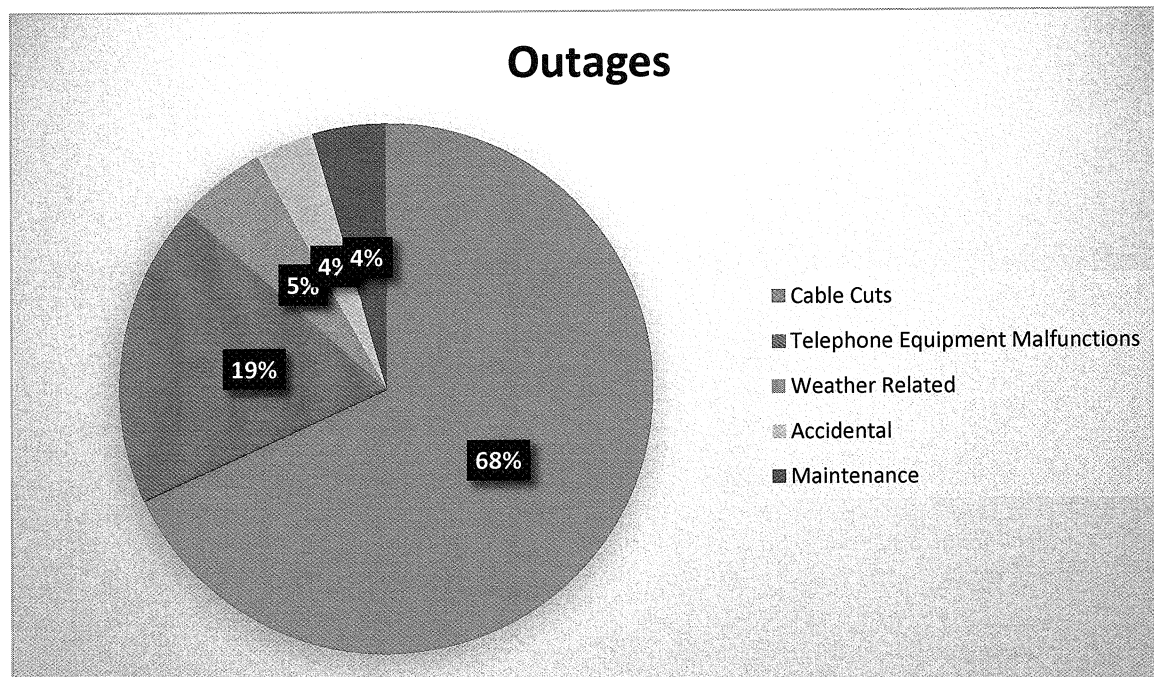
⁴ See <http://www.ne1call.com/ne-law-enforcement/>

Civil penalties assessed during that time period: \$35,000.⁵

The Commission also requires local exchange carriers to report general service outages. A subset of those outages are due to cable cuts. According to its latest annual report, 77 telecommunications outages were reported to the Commission for fiscal year 2014/2015⁶ and 41 of the outages were due to cable cuts reported to the Commission. It is unclear to the Commission whether the 41 cable cuts were caused by violations of the One Call Systems Act or whether they were reported to Nebraska 811. Not all cable cuts result in service disruptions, but the Commission does not have access to the Nebraska 811 data to determine whether all outages are reported to the Commission.

Table 3 below shows a breakdown of the types of local exchange carrier outages reported:

Table 3



Workshops

Subsequent to the data collection, the Commission determined that workshops would be necessary to facilitate further discussion of the issues and methods for reducing the number of service disruptions, reporting and investigating root causes of service disruptions, and protecting consumers in the event of damage or failure of infrastructure systems. The Commission scheduled workshops to coincide with excavator training

⁵ Assessed civil penalties may be waived if Contractor maintains compliance for a period of time and attends a Damage Prevention Safety Education course approved by the State Fire Marshal.

⁶ See http://www.psc.nebraska.gov/telecom/pdf/leg_report/AnnualReport2015.pdf.

sessions that the 811 Board held at three locations: North Platte, Lincoln, and Omaha. These workshops allowed excavators and other interested parties to discuss issues that were observed directly by users of the one-call system and regularly dealt with critical infrastructure.

Through these workshops, the 811 Board also discussed suggested changes to the one-call system. These changes were shown to attendees and provided to the Nebraska Legislature separately. They include the following items (with a short description):

1. Positive Response – requires utilities to respond that the utility is either marked, or that there are no facilities in the area, within two days after the ticket is submitted
2. Ticket Life – 811 locate requests (tickets) should be valid for 12 days, and requests should only include areas that could be reasonably completed in 12 business days
3. Trenchless Excavation – when trenchless excavation (horizontal drilling, for example) is used, excavator should make every effort to identify horizontal and vertical locations of utilities, and use best practices such as pot holing, hand digging, soft digging, use of pressurized air or water, etc., when in the vicinity of those utilities.
4. Hand Digging – excavators should use nondestructive techniques such as hand digging within 18 inches plus half the width of the utility to expose an underground facility
5. Emergency – Defines emergency, and sets required responses from underground facility owners within two hours when an emergency exists
6. Agricultural – Provides a more precise definition of what falls within the agricultural exemption (excavation is limited to 15 inches from the ground surface)
7. Enforcement – “The board recognizes that enforcement efforts in the state of Nebraska could use improvement and is open to several possible solutions which could enhance enforcement initiatives”
8. White Lining – when a notice of excavation is filed, the person filing is required to outline the proposed area of excavation by physically marking the area using white flags or paint, or by using the One Call center’s mapping system to outline the area electronically
9. No Response – Provides requirements for utilities to mark facilities if they did not respond to an initial request
10. Positive Response Codes – Allows the One-Call Board of Directors to create response codes for utilities to provide to excavators when a request is completed
11. Mark Preservation – Requires an excavator to preserve utility markings when doing an excavation when possible and makes provisions for when those markings are destroyed or removed during an excavation
12. Marking Standards – creates standards for marking utilities that conform to accepted best practices and existing APWA standards

Recommendations

The Commission is supportive of these suggested changes and applauds the Board for working to improve the one-call system. Based on the data collected in this docket and comments heard at the workshops, the Commission has also developed recommendations for improving the one-call system and the response when critical infrastructure is damaged.

Nebraska statute outlines the requirements of excavators to notify the one-call center when damage or incorrect locates are found in Neb. Rev. Stat. § 76-2326 to 2327. We believe the one-call center collects and compiles this information, but locating this information can be difficult. The Commission recommends the development of a public-facing information center that allows information regarding damages and incorrect locates to be easily accessed. The Commission currently collects outage information from common carriers under its jurisdiction, and access to one-call center data (public or otherwise) would allow the Commission to ensure that carriers are properly reporting outages to both entities.

Nebraska statute also provides for civil penalties for violations of the one-call statutes at Neb. Rev. Stat. § 76-2325. Violations related to gas or hazardous liquid underground pipeline facilities are subject to penalties of up to ten thousand dollars per day, up to a maximum of five hundred thousand dollars. Violations related to any other underground facilities, however, are subject to a maximum penalty of five hundred dollars per day, up to a maximum of five thousand dollars. This disparity acts to limit the ability of the Attorney General's Office to assess penalties that would act as a deterrent for violations other than those involving gas or hazardous liquid. It also implies that violations other than gas or hazardous liquids are less important, when the impacts on excavators and public safety are no less threatened. The Commission advocates for a re-examination of these disparate penalty provisions.

When violations of the one-call statutes occur involving gas or hazardous liquid, the State Fire Marshall's Office has an investigator that collects information and provides the Attorney General's Office with the results of the investigation, allowing them to determine whether to proceed with a complaint and assess penalties. For other violations not involving gas or hazardous liquid, it is incumbent on the Attorney General's Office to conduct any additional investigation. The Attorney General's Office has limited resources, personnel, and expertise to conduct these investigations. Telecommunications outages that impact the ability of a caller to reach 911 present serious public safety concerns. We have an interest in minimizing the frequency and magnitude of cable cuts affecting 911 service. Therefore, the Commission recommends that an independent investigator or investigative body be delegated the authority to investigate the causes and responses to these types of incidents.

APPENDIX "A"

1. In your experience, what are the most significant factors leading to underground facility service interruptions? Please provide any data or statistics you may have to support your response.
2. The Commission seeks the following information from telecommunications carriers and jurisdictional utilities relative to outages:
 - a. How many hours of outages experienced per year?
 - b. Number of events?
 - c. Customers impacted?
 - d. Average duration of outage?
 - e. Repair costs?

In reference to the question above, please express in a percentage or in number format the root causes of the outages experienced using the list of choices below:

- a. Failure to use hand tools where required
 - b. No notification made to 811
 - c. Facility marking or location not sufficient
 - d. Failure to test, pothole
 - e. Facility wasn't located or marked
 - f. Vehicles/mowers
 - g. Other insufficient excavation practices
 - h. Incorrect facility records or maps
 - i. Failure to maintain marks
3. How often are outages caused by an inaccurate location due to maps depicting infrastructure not being updated?
 - a. How often are maps showing critical infrastructure updated?
 - b. Who is responsible for updating them?
4. How often are outages attributable to training issues with contractors or subcontractors?
 - a. Is any training or certification required of contractors?
 - b. If so, how are training records maintained?
5. What is training for those conducting locates?
6. How often are outages attributable to training issues with locators?
 - a. Is any training or certification required of locators?

- b. If so, how are training records maintained?
7. How often are outages caused by excavation outside of flagged or marked areas? With respect to the outages experienced during the last calendar year, how many had a proper locate been completed?
 8. Are records available showing which outages were caused by which contractors?
 9. How many enforcement actions were taken against contractors/carriers resulting from damages and outages?
 10. Are there best practices for carriers and contractors to follow? If so, what are they, who produces them, and who monitors those practices?
 11. What equipment is used to locate underground facilities? Are there any maintenance requirements for that equipment and if so, who maintains those records and services the equipment? How often is equipment used in locates replaced? Is there a recommended replacement timeline? What if anything would interfere with proper operation of location equipment?
 12. Are current excavation practices and locating requirements adequate to protect underground infrastructure?
 13. Is there a mechanism for providing information back to the One-Call System Board relative to incidents with a goal of preventing recurrences?
 14. Are these issues unique to Nebraska or systemic from state to state?

Appendix "B"

Failure to Use Hand Tools	155
No notification made to 811	547
Facility marking or location not sufficient	292.5
Failure to Test	42
Facility wasn't located or marked	79.25
Vehicles/mowers	173.25
Other insufficient excavation practices	655
Failure to maintain marks	44
Incorrect facility records/maps	53
Failure to maintain clearance	11
Facility couldn't be found or located	5
Above ground construction	10
Failure to wait 48 hours	4
Notification made to 811 but not sufficient	3
Abandoned facility	2
Failure to support exposed facilities	1
Wrong info provided to 811	1
Other	621