Excavation and damage prevention information from the Office of Pipeline Safety Summer 2015

FROM THE DAMAGE PREVENTION MANAGER

Whew! MNOPS wrapped up the 2015 winter/spring season traveling across the state and presenting at damage prevention meetings. Six MNOPS inspectors engaged 5,628 stakeholders at 56 meetings in just over three months. Needless to say, one can get road-weary but we stay invigorated for a worthy cause — to help Minnesota excavators be safe while digging and reduce facility damages.

It spurs us on even more when our stakeholders tell us directly the challenges they encounter at these meetings. With the dig season already upon us, we hope to carry our knowledge to the field and continue working with excavators towards the goal of zero hits. Thank you to all who attended the damage prevention meetings this year! We value your feedback. If you have suggestions for issues to discuss or for improvements to next year's meetings, please let us know.

Work smart and be safe,
Mike Mendiola

Gas damages up from 2014

By Thomas Coffman
MNOPS senior engineer

Throughout the year the Minnesota Office of Pipeline Safety (MNOPS) receives information on excavation damages to gas utilities.

This data is recorded and used to evaluate potential issues regarding safe excavation within the state. Unfortunately, MNOPS does not receive damage information from all underground utilities.

One of the ways to evaluate this data is by plotting the total number of gas hits throughout the year and comparing this data to previous years. As expected, when the construction season hits full swing in mid-May the rate of gas damages increases and in the fall the rate decreases as winter nears. The graph shows a linear trend line for the 2014 gas damages. The average rate of change for that line, or daily average of gas damages, is approximately seven gas damages per day for 2014.

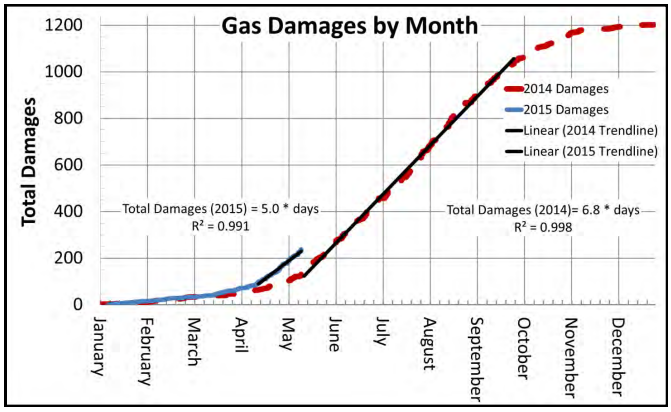

CHART: 2014 gas damages over time and the current 2015 gas damages.

The current data for 2015 has been added to the graph as well showing gas damages through mid-May of 2015. Total damages to date are up from 2014 due to an early start of construction season.

Gas damages/
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Pipeline markers are there for your safety

By Thomas Coffman
MNOPS senior engineer

There are more than 65,000 miles of pipeline running below our feet in Minnesota carrying valuable resources across the state and country.

The majority of these lines are below ground. Pipeline markers are placed aboveground to indicate the approximate location of a pipeline route at the intersection of street, highway, railway and other prominent points to inform the public and prevent excavation damage.

The markers will show the name and phone number of the pipeline operator.

This information is vital to emergency responders during a pipeline incident.

In Minnesota, pipeline operators are required by both state and federal law to have these pipeline markers. State and federal law also prohibits the vandalism of these signs as shown below.

MS 299J.14
LINE MARKERS; VANDALISM PENALTY

Subd. 2.Vandalism prohibited; misdemeanor.

A person may not deface, mar, damage, remove, injure, displace, destroy, or tamper with any sign or line marker marking the location of a pipeline. A person violating this subdivision is guilty of a misdemeanor.

49 U.S. CODE §60123 – CRIMINAL PENALTIES

(c) Penalty for Damaging or Destroying Sign.— A person knowingly and willfully defacing, damaging, removing, or destroying a pipeline sign or right-of-way marker required by a law or regulation of the United States shall be fined under title 18, imprisoned for not more than one year, or both.

Although there are few cases where MS 299.14 and 49 U.S. Code §60123 (c) have led to criminal charges, MNOPS would like to remind landowners and excavators the importance of these markers and the necessary compliance with their corresponding laws.

Furthermore, electric, water, and communication utility markers exist to notify excavators of other underground hazards which can be just a crucial to state and country infrastructure.

Prior to performing any excavation, survey the surrounding area for gas and other utility markers, avoid damaging these markers, and always call 811 two working days prior to digging.

Soil sampling? Follow excavation laws to ensure public safety

By Claude Anderson
MNOPS senior engineer

Historically, soil sampling for crop production has been conducted using hand sampling probes removing topsoil at a 0.5 to 1-ft depth. Under Minnesota statute, the use of hand tools is not considered excavation and a call to 811 or Gopher State One Call (GSOC) notification is not required. Increasingly, sampling recommendations for certain crops may request deep soil sampling at sampling depths ranging from 2 to 6-ft.

This is being done to obtain soil profiles for optimizing fertilizer recommendations for nutrients such as nitrogen, boron, sulfur and phosphorus. Although deep soil sampling may be conducted with hand tools, often machine powered samplers such as hydraulic probes or augers are used, and if so, the sampler (aka excavator) is required to call 811 or file a ticket online with GSOC.

Several utility operators in Minnesota have observed instances of these excavations occurring without the required locate notice. This raises public safety issues as well as concerns of potential damage to underground facilities.

To increase awareness to the affected community, MNOPS is notifying some of those possibly involved or familiar with this issue that Minnesota Statutes —Excavation Notice System (Chapter 216D) applies to deep soil sampling. Soil sampling done with power tools is defined as excavation under

SAMPLING/**Continued on page 3**

> GAS DAMAGES/*From page 1*

However, the daily average for 2015 is down at five damages per day.

If this rate of 5 gas damages per day continues through the 2015 construction season it is anticipated that the total damages for 2015 will be similar to the 1200 total gas damages seen in 2014.

An excavator has less than a 1% chance of hitting an underground utility if a locate request is submitted prior to excavation according to the 2013 CGA *Dirt Report*.

The table to the right shows the percentage of damages by each root cause including when a locate request was not submitted (LORQ NOT REQUESTED).

This root cause is significant in avoiding gas damages which for the last two years has been around 14.5 percent for the state.

ROOT CAUSE OF DAMAGE	%DAMAGES 2014	%DAMAGES 2015 (To mid-May)
LORQ NOT REQUESTED	14.5%	14.3%
NOT MARKED	4.6%	9.1%
MIS-MARKED	9.4%	11.5%
SOMEONE ELSE'S MARKS	0.6%	0.4%
PRIOR TO START TIME	1.8%	2.0%
EXPIRED LOCATE	2.4%	1.2%
EXCAVATION OUTSIDE REQUEST	1.7%	3.6%
FAILED TO MAINTAIN MARKS	6.4%	5.6%
FAILED TO HAND DIG	18.1%	23.0%
DAMAGE BY HAND DIG	22.6%	20.2%
FAILED TO PROTECT/SUPPORT	17.9%	9.1%

This value is below the national average of 26 percent for 2013.

So far percentages for 2015 appear similar to percentages found in 2014.

> SAMPLING/*From page 2*

existing statute and requires GSOC notification. Although certain agricultural activities are exempt from GSOC notification, as noted below, soil sampling is not listed as exempt, and in any event, any agricultural activity meeting the definition of an excavation deeper then 18-inch depth would not be exempt. Full compliance with these laws is necessary to ensure public safety and minimize costly damages. Noncompliance is enforceable by MNOPS. Specifically, those conducting soil sampling should be familiar with the following requirements:

• **GSOC notification required**

An excavator shall make a notification at least 48-hours (excluding holidays and weekends) before beginning an excavation (MS 216D.04 Sub. 1).

This is required for nonexempt activities that would be defined as excavations (this does not include hand tools).

• **Definition of excavation:** Excavations under MS 216D.01 (5) include: "… an activity that moves, removes, or otherwise disturbs the soil by use of a motor, engine, hydraulic or pneumatically powered tool, or machine-powered equipment of any"

• **Agricultural exemption is available for some agricultural excavation, but does not apply to mechanized soil sampling:** "… Excavation does not include….4) plowing, cultivating, planting, harvesting, and similar operations in connection with growing crops, trees, and shrubs, unless any of these activities disturbs the soil to a depth of 18 inches or more. Contact this office should you have any questions or concerns or if you observe excavation practices that do not conform to MN Statute 216D. Thank you for keeping Minnesota safe!

PHOTO: Soil sampler — ATV mounted 3-ft sampling depth

Get to know the Damage Prevention Team

We asked some of the Damage Prevention Team members the best part of their job. Here's what they had to say:

Mike Mendiola

Each year, MNOPS travels the state educating excavators and the general public the dangers of not excavating safely. During these presentations, I have the opportunity to answer many questions that people encounter first-hand because, let's face it, we don't get a chance to see all the issues at every dig location throughout the state. We rely on the people digging to convey to us their challenges since they are the ones directly affected by them. Having the opportunity to talk to them face-to-face gives me a better understanding of their situation and allows me to put myself in their shoes so that I can help them the best I can.

Being involved with stakeholder meetings such as the various utility coordination committees (UCC's), the MN Common Ground Alliance (MNCGA), and other industry events provides the opportunity to openly discuss challenges facing damage prevention and formulate ideas to achieve a common goal. It's a refreshing feeling knowing that I can sit down with pipeline operators, excavators, vendors, and other agencies and engage in open conversation sparking ideas on how make damage prevention better for Minnesota. It's an even better feeling learning after the fact that some of the ideas we offered during a meeting actually worked in practice!

Claude Anderson

Occurrence of pipeline failure from catastrophic events is rare. However, with the severe consequences that can result, effective implementation of practices to eliminate the known precursors to catastrophic events is crucial. Being on the DP team provides the opportunity to address this goal while being involved with a variety of interesting and challenging projects on a daily basis

I enjoy being able to utilize my past experience to work with stakeholders and to assist the effort in developing consensus proposals when possible for updating Minnesota's damage prevention law.

The industry faces changes driven by new technologies, higher performance materials, globalization of supply chains, rapid expansion of new facilities, increased demand on aging infrastructure and the growing threat from intentional damages on transportation facilities.

Challenges from increasingly subtle new risks and their interaction while coupled with less tolerance for facility failure, makes the demands for improved DP performance increasingly challenging. As DP programs based solely on regulatory compliance do not meet the needs of the more complicated and increasingly sophisticated systems, new approaches and reliance on best practices are being adopted. For example, risk management, quality management and safety management systems have been used in other industries for managing safety issues and are being formulated and introduced for use in the pipeline industry. These processes will need to be understood by the regulatory community. As such, the DP team should remain an interesting and rewarding assignment into the future.

Thomas Coffman

I believe damage prevention is a necessary function for the underground utilities industry. Excavation incidents can cause death, injury, significant loss of resources, property damages, and environmental damages. What is most rewarding for me is analyzing data to see how we compare to other states and the country.

Numbers don't lie as can be seen in this newsletter. Right now Minnesota's one-call system, utilities, locators, and excavators are doing a very effective job at avoiding damages. After only six months of being on the damage prevention team here at MNOPS, I am amazed at the majority of positive attitudes regarding damage prevention I have seen during site investigations and at the DP meetings this winter.

WE'RE HERE FOR YOU!

Need assistance with an investigation? How about help with a ticket you've submitted or locate issues? We're here to help. Contact any member of the MNOPS Damage Prevention Team with your questions.

Team Manager Michael Mendiola
michael.mendiola@state.mn.us

Senior Engineer Thomas Coffman
thomas.coffman@state.mn.us

Senior Engineer Claude Anderson
claude.anderson@state.mn.us

Senior Engineering Specialist Pat Donovan
pat.donovan@state.mn.us