U.S. Department
of Transportation

**Pipeline and Hazardous Materials
Safety Administration**

901 Locust Street, Suite 462
Kansas City, Missouri 64106-2641

NOTICE OF PROBABLE VIOLATION
PROPOSED CIVIL PENALTY
and
PROPOSED COMPLIANCE ORDER

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

June 25, 2019

Mr. Stanley Chapman
Executive VP and President of US Natural Gas Pipelines
Great Lakes Gas Transmission (GLGT)
700 Louisiana St., Suite 300
Houston, TX 77002

CPF 3-2019-1003

Dear Mr. Chapman:

From April 16-20, 2018, April 30-May 4, 2018, May 14 – 18, 2018, May 21 – 24, 2018, June 4 -6, 2018, July 16 – 20, 2018, July 23 – 27, 2018, and August 20 – 24, 2018, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), Michigan Public Service Commission and Minnesota Department of Public Safety, pursuant to Chapter 601 of 49 United States Code (U.S.C.) inspected your Great Lakes Gas Transmission (GLGT) facilities in Michigan, Minnesota and Wisconsin.

As a result of the inspection, it is alleged that you have committed probable violations of the Pipeline Safety Regulations, Title 49, Code of Federal Regulations (CFR). The items inspected and the probable violations are:

1. **192.709 Transmission Lines: Record Keeping**

Each operator shall maintain the following records for transmission lines for the periods specified:
(a) .....
(c) A record of each patrol, survey, inspection, and test required by sub-parts L and M of this part must be retained for at least 5 years or until the next patrol, survey, inspection or test is completed, whichever is longer.

Great Lakes Gas Transmission (GLGT) failed to maintain, for transmission lines, a record of each patrol, survey, inspection, and test required by sub-parts L and M of Part 192 for at least 5 years or until the next patrol, survey, inspection or test is completed, whichever is longer. Specifically, GLGT could not provide records to show compliance with the requirements of 192.731 for pressure relieving devices at the Brevort Compressor Station for 2017.

During the inspection, the PHMSA inspector requested Over Pressure Protection (OPP) test records for transmitters PT802, PT902, PT101 and PT103. GLGT was unable to produce the testing records. GLGT stated that the GLGT employee responsible for testing and documenting the testing of the transmitter left the company. A GLGT supervisor contacted the ex-employee via phone and the ex-employee stated that the work had been completed, however the paperwork was not completed.

2. **192.731 Compressor stations: Inspection and testing of relief devices.**

(c) Each remote control shutdown device must be inspected and tested at intervals not exceeding 15 months, but at least once each calendar year, to determine that it functions properly.

Great Lakes Gas Transmission (GLGT) failed to test and inspect each remote control shutdown device at intervals not exceeding 15 months, but at least once each calendar year, to determine that it functions properly. Specifically, GLGT did not inspect the pipeline suction transmitters EQ# 10019330 and EQ#10019331 at the Boyne Falls compressor station.

During the field inspection of the Boyne Falls Compressor Station, a state agent inspector for PHMSA reviewed the Over Pressure Protection (OPP) transmitter testing records for the GLGT assets. The test records documented that the pressure transmitters were tested in 2014 and 2016, but the transmitters were not tested in 2015 and 2017. The compressor station is a bi-directional facility. These pipeline suction transmitters protected the discharge side of the pipeline MAOP during reverse flow operations. Because of the bi-directional flow capabilities at this station, the transmitters should have been tested once each calendar year, not to exceed 15 months and not bi-annually.

3. **192.473 External corrosion control: Interference currents**

(a) Each operator whose pipeline system is subjected to stray currents shall have in effect a continuing program to minimize the detrimental effects of such currents.

Great Lakes Gas Transmission (GLGT) failed to have in effect a continuing program to minimize the detrimental effects of stray currents.

During the field inspection, at the Superior meter station, a PHMSA inspector observed alternating current (AC) voltage readings greater than 4 volts AC. The 100 line's AC voltage measurement was 6.29 volts AC and the 200 line's AC voltage measurement was 5.2 volts AC. PHMSA also reviewed the most recent CP survey record at the same location and 10 volts AC voltage measurement was recorded. AC voltages in excess of 15 VAC are a risk for personal step and touch potential hazards on buried or submerged pipelines. Although the voltages measured on GLGT pipeline are well below this threshold, there are risks associated with AC current densities on the pipeline as it may result in accelerated corrosion. NACE provides guidance to help correlate between the AC current density and the risk of corrosion. By not requiring a study until 15 volts AC or greater, GLGT neglects the potential risk for corrosion that could occur at the lower voltage levels and therefore, did not have a continuing program to minimize the detrimental effects of stray currents.

4. **192.609 Change in class location: Required study.**

Whenever an increase in population density indicates a change in class location for a segment of an existing steel pipeline operating at hoop stress that is more than 40 percent of SMYS, or indicates that the hoop stress corresponding to the established maximum allowable operating pressure for a segment of existing pipeline is not commensurate with the present class location, the operator shall immediately make a study to determine:

(a) The present class location for the segment involved.
(b) The design, construction, and testing procedures followed in the original construction, and the comparison of these procedures with those required for the present class location by the applicable provisions of this part.
(c) The physical condition of the segment to the extent it can be ascertained from the available records;
(d) The operating and maintenance history of the segment;
(e) The maximum actual operating pressure and the corresponding operating hoop stress, taking pressure gradient into account, for the segment of pipeline involved; and

(f) The actual area affected by the population density increase and physical barriers or other factors which may limit further expansion of the more densely populated area.

Great Lakes Gas Transmission (GLGT) failed to perform the required study when the population along its pipeline increased at three locations:

- The Frontier Campground in Saxon, WI. The existence of Frontier Campground was evident on aerial maps as far back as 2005 and each year thereafter. GLGT failed to identify this location in its patrols and leakage surveys until April 2017. The commensurate MAOP study indicated the pipe cannot support the current MAOP. A remediation plan is in place to replace the pipe in 2019. PHMSA received notification from GLGT that it had reduced the MAOP for Line 100 and Line 200 from 974 psig to 812 psig until the pipe replacement project (February – April 2019). Records for 2015 and 2016 indicate that the campground was identified, but the criteria for determination of class 3 was not adequate. This condition dates to the inspection years of 2013, 2014, 2015 and 2016.
- Pet-O-Sega Campground, located in Michigan, was also identified in April 2017. Historic aerial imagery indicates the campground was functioning as far back as 1998, and GLGT indicates the campground has been operational since the 1930's. In 2009 the campground was classified as an identified site resulting in HCA's GLGT-128 and GLGT-264. According to an agreement with GLGT, Pet-O-Sega plans to restrict usage of the campground to within 300 feet of the pipeline and the buildings within 300 feet of the pipeline will be removed or relocated in 2019.
- Victorian Heights Assisted Living Facility, located in Crystal Falls, MI was constructed in 2001 and did not become a class three location until August 2017. In 2004, GLGT classified the Victorian Heights assisted living facility as an identified site, meeting both the limited mobility and occupancy criteria. However, the number of dwelling units within the facility were not accounted for. This was corrected and the facility identified as a class 3 location in August 2017. Pipe replacement is scheduled to be complete before August 2019.

Frontier Campground, Pet-O-Sega Campground and Victorian Heights Assisted Living Facility were identified by GLGT after implementing their new survey/patrol procedure.

5. 192.745 Valve maintenance: Transmission Line Valves

(a) Each transmission line valve that might be required during any emergency must be inspected and partially operated at intervals not exceeding 15 months, but at least once each calendar year.

Great Lakes Gas Transmission (GLGT) failed to inspect and partially operate at intervals not exceeding 15 months, but at least once each calendar year, valves which are required to be used during an emergency.

- During the inspection of the Saginaw Valley Unit in Michigan, a PHMSA inspector identified that cross-over valve 12-1-Z would be used to blow down Line 100 between Chippewa Meter Station and Midland Meter Station in an emergency. This valve was inspected every other year. Records indicated it was inspected on 9/19/14 and 9/21/16 not meeting the compliance requirement of intervals not exceeding 15 months but at least once each calendar year for 2015 and 2017.

- During the review of annual valve inspection records for the Blue Lake Unit in Michigan, a PHMSA state agent inspector identified several valves indicated as Emergency Isolation Valves (EIV), but they were not inspected at least once each calendar year for 2015 and 2017. These valves were Sault St. Marie Lateral valves MB-22, MY-60, 660.8-10, 660.8-12, 660.8-12.2. Upon further investigation, it was determined that some valves may have been misclassified in the SAP (work scheduling) data base. After this discovery, GLGT reviewed line diagrams to verify EIV's and reconciled the SAP data base ensure proper classification and inspection periods.

6. 192.739 Pressure limiting and regulating stations: Inspection and testing.

(a) Each pressure limiting station, relief device (except rupture discs), and pressure regulating station and its equipment must be subjected at intervals not exceeding 15 months, but at least once each calendar year, to inspections and tests to determine that it is- ...

(3) Except as provided in paragraph (b) of this section, set to control or relieve at the correct pressure consistent with the pressure limits of 192.201(a);

Great Lakes Gas Transmission (GLGT) failed to inspect and test each pressure limiting station, relief device, and pressure regulating station and its equipment at intervals not exceeding 15 months, but at least once each calendar year, to determine that it is set to control or relieve at the correct pressure consistent with the pressure limits of 49 CFR 192.201(a).

While performing a field inspection at the Shevlin Compressor Station, located in Minnesota, the MNOPS inspector requested records to verify the pressure gauge's calibration date and identified that the last time the pressure gauge was calibrated was in 2015. The operator's procedure requires calibration gauges be calibrated annually. GLGT's employee used a pressure gauge for inspection of a pressure relief valve that had an elapsed calibration certification. Failure to calibrate gages, including pressure gages, reduces the likelihood of having accurate calibration gauges for set point control and relief pressures settings. As such, the relief device could not be properly tested to determine that the pressure was consistent with the pressure limits of 49 CFR 192.201(a).

7. **192.739 Pressure limiting and regulating stations: Inspection and testing.**

   (a) Each pressure limiting station, relief device (except rupture discs), and pressure regulating station and its equipment must be subjected at intervals not exceeding 15 months, but at least once each calendar year, to inspections and tests to determine that it is-
   (4) properly installed and protected from dirt, liquids, or other conditions that might prevent proper operation.

Great Lakes Gas Transmission (GLGT) failed to inspect and maintain the relief vents from the relief devices to protect from dirt, liquids or other conditions that might prevent proper operation. During the field inspection in Michigan and Minnesota, locations were identified where the relief vents were damaged or inadequate.

The following locations were found not to meet the requirements of this section:

- The relief fuel gas system at the Brevort Compressor Station was found without protection from accumulation of water, ice or snow as it has no cap or is not designed to restrict water and snow getting into the pipe and down to the relief device by other means.

- At the Cloquet, MN Compressor Station, on the Unit 502 starter, a relief valve rain cap was damaged and not preventing accumulation of ice, water or snow.

- At the Crystal Falls, MI Compressor Station - Unit 1, two vents on the east side of the building need caps. On Unit 2, vents on the west side of the building had no caps and were open straight to the elements.

8. **192.935 What additional preventative and mitigative measures must an operator take?**

   (c) ***Automatic shut-off valves (ASV) or Remote control valves (RCV).*** **If an operator determines, based on a risk analysis, that an ASV or RCV would be an efficient means of adding protection to a high consequence area in the event of a gas release, an operator must install the ASV or RCV. In making that determination an operator must, at least, consider the following factors - swiftness of leak detection and pipe shutdown capabilities, the type of gas being transported, operating pressure, the rate of potential release, pipeline, profile, the potential of ignition, and location of nearest response personnel.**

Great Lakes Gas Transmission (GLGT) has not completed the system wide ASV/RCV study since the issue was identified in 2015. GLGT was unable to provide a record for periodic ASV/RCV study due to expansion of an HCA or identification of a new HCA.

At the time of the inspection, records presented were incomplete and many of the valves indicated that they were under review or gathering data. For the valves that indicate the study has been completed, GLGT was unable to provide a record of what was considered in the study and why actions were taken or not taken.

GLGT provided a list of the valves with line-break controls; all pipeline block valves have line-break controls. The Gas Control group performed a study and identified the low-pressure settings for each main line valve. The TEP-ASV-RCV-US outlines the process used to determine if a valve should be considered for modification. Yet GLGT did not have a record of these studies even though new HCA and Class 3 locations have been identified each year within the inspection scope.

While GLGT has line break control on all mainline valves, periodic review is required to be focused on high consequence areas, especially when new HCA's are identified. GLGT provided a listing of valves that bounded an HCA segment. These are all ASV with low pressure point activation.

9. 192.909 How can an operator change its integrity management program?

(b) Notification. An operator must notify OPS, in accordance with 192.949, of any change to the program that may substantially affect the program's implementation or may significantly modify the program or schedule for carrying out the program elements. An operator must also notify a State or local pipeline safety authority when either a covered segment is located in a State where OPS has an interstate agent agreement, or an interstate covered segment is regulated by that State. An operator must provide the notifications within 30 days after adopting this type of change into its program.

Great Lakes Gas Transmission (GLGT) failed to notify OPS, in accordance with 192.949, of any change to its integrity management program (IMP) that may substantially affect the program's implementation or may significantly modify the program or schedule for carrying out the program elements. Specifically, GLGT did not make notification to PHMSA nor appropriate State authorities after adopting and implementing a Probabilistic Risk model in 2016 for its IMP.

This was a significant change from a Relative Risk Model previously utilized for its IMP as it required new formulas, new risk ranking factors, and new procedures. TC/GLGT did perform a results comparison between the two models as a way to vet the new model

and documented those results. GLGT never provided notification to OPS, either by electronic mail or mail, as required by 192.949.

10. 192.481 Atmospheric corrosion control: Monitoring

(a) Each operator must inspect each pipeline or portion of pipe that is exposed to the atmosphere for evidence of atmospheric corrosion, as follows:

If the pipeline is located:	Then the frequency of inspection is:
Onshore	At least once every 3 calendars years, but with intervals not exceeding 39 months
Offshore	At least once each calendar year, but with intervals not exceeding 15 months

(b) During inspections the operator must give particular attention to pipe at the soil-to-air interfaces, under thermal insulation, under disbanded coatings, at pipe supports in splash zones, at deck penetrations, and in spans over water.

(c) If atmospheric corrosion is found during an inspection, the operator must provide protection against the corrosion as required by 192.479.

Great Lakes Gas Transmission (GLGT) failed to give particular attention to pipe under taped flanges and also under insulation during its atmospheric corrosion inspection.

- At Shevlin, Unit 3, GLGT failed to inspect flanges in the compressor building for atmospheric corrosion because there was masking tape around the flange outside ring. This made the flange face area and bolts during the atmospheric corrosion inspection not visible to the inspector. In most cases, the tape became a pseudo insulation, so corrosion under the tape did not take place. Atmospheric inspection records for 2017 would have had the tape on the flanges as was evident from the old paint. Therefore, no visual inspection took place. It was explained that the tape was in place to help with leak detection inside the building at the flange face. It is unknown how long the tape had been in place. After being identified by the PHMSA inspection team, the tape was removed and the flanges were inspected; no significant corrosion was identified. However, on one flange it was observed that some rusting was occurring due to concentrating water vapor from the cold wall effect near the compressors. PHMSA requested all compressor stations be checked and correct, which GLGT completed.

- Most recent (2016) atmospheric corrosion inspection record for Unit 8903 MI Saginaw Valley Saint Clair Meter Station discharge header siphon valve MY-92 and suction header siphon valve MY-77 did not include line items for these valves. There was also no record of removal of insulation nor repairs made following the AC inspection. During the field inspection, staff could not examine the Saint Clair Meter Station discharge header siphon valve MY-92 or suction header siphon valve MY-77 because they were covered in insulation. GLGT removed the insulation, performed the inspection and found Grade 3 corrosion. The insulation has been removed permanently and valves posted for inspection.

- At MLV 2-1 MP 80 the GLGT crew dug out a small intended above ground valve because it was buried in the dirt. MLV 2-1: A few small diameter gas lines, valves, and flanges at valve sites that are installed low near the ground were in contact or partially covered by soil. The locations were fully exposed/remediated from contact with soil at the time of the inspection, none of which revealed coating condition higher than grade 3.

11. 192.605 Procedural manual for operations, maintenance, and emergencies.

(a) ***General.*** **Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response. For transmission lines, the manual must also include procedures for handling abnormal operations. This manual must be reviewed and updated by the operator at intervals not exceeding 15 months, but at least once each calendar year. This manual must be prepared before operations of a pipeline system commence. Appropriate parts of the manual must be kept at locations where operations and maintenance activities are conducted.**

(b) ***Maintenance and normal operations.*** **The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.**

(1) Operating, maintaining and repairing the pipeline in accordance with each of the requirements of this subpart and subpart M of this part.

Great Lakes Gas Transmission (GLGT) failed to follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response, including operating, maintaining and repairing the pipeline in accordance with each of the requirements of subparts L and M of Part 192. Specifically, GLGT did not observe during patrols to repair and maintain fences at stations where fences were in disrepair, as required by 192.705. 49 CFR 192.705(a) requires operators have patrol programs to observe "other factors affecting safety and operations".

During the inspection of the Ashland Unit in Wisconsin, the PHMSA inspector identified several locations where either the gap between the ground and fence was large due to frost heave or where the fence and gates were unstable and falling down. These conditions can allow access of unauthorized personnel, fences or posts to fall on to pipeline facilities, or cause injury to authorized personnel accessing the site.

12. 192.167 Compressor stations: Emergency shutdown

(a) Except for unattended field compressor stations of 1,000 horsepower (746 kilowatts) or less, each compressor station must have an emergency shutdown system that meets the following:

(1) .....

(4) It must be operable from at least two locations, each of which is:

(i) Outside the gas area of the station:

(ii) Near the exit gates, if the station is fenced or near emergency exits, if not fenced; and

(iii) Not more than 500 feet (153 meters) from the limits of the station.

Great Lakes Gas Transmission's (GLGT) emergency shutdown (ESD) system was not operable from at least two locations, each of which was outside the gas area of the compressor stations and near the stations' exit gates.

There are 14 compressor stations on the GLGT system with a total of 29 units. Nine stations had new units installed after 1970 and therefore, GLGT should have modified the emergency shutdown (ESD) systems to meet the requirements of two ESD switches outside the gas area near the exit gates, but failed to do so. While GLGT did provide numerous ESD push button stations around the station at entry gates, outside buildings and inside the control rooms, they failed meet the minimum requirement of two locations near the exit gates, if the station is fenced or near emergency exits. The compressor stations that were found not to meet the minimum requirements were:

- CS 2 – Thief River Falls
- CS 3 - Shevlin
- CS 5 - Cloquet
- CS 6 – Iron River
- CS 7 - Wakefield
- CS 8 – Crystal Falls
- CS 10 - Naubinway
- CS 11 – Boyne Falls
- CS 13 – Otisville

These conditions were observed during the field inspections as well as a review of the station line diagrams indicating the ESD "button" locations provided by GLGT.

Proposed Civil Penalty

Under 49 U.S.C. § 60122 and 49 CFR § 190.223, you are subject to a civil penalty not to exceed $213,268 per violation per day the violation persists, up to a maximum of $2,132,679 for a related series of violations. For violation occurring on or after November 2, 2015 and before November 27, 2018, the maximum penalty may not exceed $209,002 per violation per day, with a maximum penalty not to exceed $2,090,022. For violations occurring prior to November 2, 2015, the maximum penalty may not exceed $200,000 per violation per day, with a maximum penalty not to exceed $2,000,000 for a related series of violations The Compliance Officer has reviewed the circumstances and supporting documentation involved in the above probable violation(s) and has recommended that you be preliminarily assessed a civil penalty of $152,800 as follows:

Item number	PENALTY
Item 1	$25,200
Item 2	$28,600
Item 4	$37,600
Item 6	$27,600
Item 12	$33,800

Warning Items

With respect to items 3,5,7,8,9,10 and 11 we have reviewed the circumstances and supporting documents involved in this case and have decided not to conduct additional enforcement action or penalty assessment proceedings at this time. We advise you to promptly correct these item(s). Failure to do so may result in additional enforcement action.

Proposed Compliance Order

With respect to item 12 pursuant to 49 U.S.C. § 60118, the Pipeline and Hazardous Materials Safety Administration proposes to issue a Compliance Order to Great Lakes Gas Transmission (GLGT). Please refer to the *Proposed Compliance Order*, which is enclosed and made a part of this Notice.

Response to this Notice

Enclosed as part of this Notice is a document entitled *Response Options for Pipeline Operators in Compliance Proceedings*. Please refer to this document and note the response options. All material you submit in response to this enforcement action may be made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. 552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. 552(b).

Following the receipt of this Notice, you have 30 days to submit written comments, or request a hearing under 49 CFR § 190.211. If you do not respond within 30 days of receipt of this Notice, this constitutes a waiver of your right to contest the allegations in this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to you and to issue a Final Order. If you are responding to this Notice, we propose that you submit your correspondence to my office within 30 days from receipt of this Notice. This period may be extended by written request for good cause.

In your correspondence on this matter, please refer to **CPF 3-2019-1003** and, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,

Allan C. Beshore
Director, Central Region, OPS
Pipeline and Hazardous Materials Safety Administration

Enclosures: *Proposed Compliance Order*
Response Options for Pipeline Operators in Enforcement Proceedings

PROPOSED COMPLIANCE ORDER

Pursuant to 49 United States Code § 60118, the Pipeline and Hazardous Materials Safety Administration (PHMSA) proposes to issue to Great Lakes Gas Transmission (GLGT) a Compliance Order incorporating the following remedial requirements to ensure the compliance of Great Lakes Gas Transmission (GLGT) with the pipeline safety regulations:

1. In regard to Item Number 12 of the Notice pertaining to emergency shutdowns at compressor stations, Great Lakes Gas Transmission (GLGT) must modify its ESD shutdowns to provide a minimum of two locations operable from outside of the gas areas near the exit gates at Thief River Falls, Shevlin, Cloquet, Iron River, Wakefield, Crystal Falls, Naubinway, Boyne Falls and Otisville Compressor Stations within six months of the final order.

2. It is requested (not mandated) that Great Lakes Gas Transmission (GLGT) maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to Allan Beshore, Director, Central Region, Pipeline and Hazardous Materials Safety Administration. It is requested that these costs be reported in two categories: 1) total cost associated with preparation/revision of plans, procedures, studies and analyses, and 2) total cost associated with replacements, additions and other changes to pipeline infrastructure.