

<b>TR Number</b>	<b>22-72</b>
<b>Primary Reference</b>	192.614,
<b>Secondary Reference</b>	GMA-G-16,
<b>Purpose</b>	Review Guide Material to address damage prevention associated with dredging near or at a submerged natural gas pipeline.
<b>Origin/Rationale</b>	Although the accident involved a hazardous liquid pipeline, PHMSA has previously encouraged gas and liquid pipeline operators (ADB-2014-02) to review past and future NTSB recommendations that the NTSB provides to pipeline operators following incident investigations. Operators should proactively implement improvements to their pipeline safety programs based on these observations and recommendations so that the entire industry can benefit from the mistakes of one operator.  In regards to GM Appendix G-192-16 Substructure Damage Prevention Guidelines (Blasting Operations), if there is an abundance of guide material on dredging operations consider amending Appendix G-192-16.
<b>Notes</b>	For details about the accident, refer to NTSB Report MAR21/05, Docket DCA0FM026 and the following link <a href="https://data.nts.gov/Docket?ProjectID=101843">https://data.nts.gov/Docket?ProjectID=101843</a> Accepted because specific to “dredging”
<b>Assigned to</b>	DPER

**Note:** Revisions are shown in **yellow highlight** and **red font**.

**Section 192.613**

**3 PE PIPELINES**

**3.1 Brittle-like cracking.**

...

(i) References concerning brittle-like cracking in PE materials include the following.

(1) NTSB Reports

(i) PAB-98-02 available at

[www.nts.gov/investigations/AccidentReports/Pages/pipeline.aspx](http://www.nts.gov/investigations/AccidentReports/Pages/pipeline.aspx)

[www.nts.gov/investigations/AccidentReports/Reports/PAB9802.pdf](http://www.nts.gov/investigations/AccidentReports/Reports/PAB9802.pdf)

(ii) SIR-98-01 available at

[www.nts.gov/safety/safety-studies/Pages/SafetyStudies.aspx](http://www.nts.gov/safety/safety-studies/Pages/SafetyStudies.aspx)

[www.nts.gov/safety/safety-studies/Documents/SIR9801.pdf](http://www.nts.gov/safety/safety-studies/Documents/SIR9801.pdf)

**Section 192.614**

*Note:* Section 192.616 requires most operators, including Type A and Type B gathering line operators, to develop and implement a written continuing public education program that follows the guidance provided in API RP 1162 for identifying and notifying excavators and the affected public about damage prevention. These identification and notification activities are required by §192.614. Guide material for these program activities is provided in 2.3, 2.4, and 2.5 below.

**1 SCOPE ...**

**2 WRITTEN PROGRAM**

Written procedures, when required, should state the purpose and objectives of the damage prevention program and provide methods to achieve them. For program content, operators should

review applicable state and local one-call requirements. A reference for state requirements is the One Call Systems International (OCSI) Resource Guide, which provides a summary of the damage prevention laws in each state, found at <https://commongroundalliance.com/map>. In addition, operators should review the Common Ground Alliance’s "Best Practices" Guide, found at <https://commongroundalliance.com/bestpractices-guide>. The procedures should include the following.

2.1 *Definition of excavation activities.*

...

2.7 *Responding to excavation notification*

- (a) Preparation. ...
- (b) Response. Where facilities exist in the area of excavation activity, the operator should respond to the notification prior to the planned start of the excavation activity. The operator should consider documenting the response. The response should include the following.
  - (1) Marking the operator’s pipeline facilities, ....
  - (2) Conducting an onsite meeting if ...
  - (3) Reviewing for accuracy any maps, ...
  - (4) Participating in, coordinating, or conducting pre-excavation meetings, when appropriate ...
  - (5) Ensuring adequate separation ...
  - (6) Advising excavators who plan to use trenchless methods ...
  - (7) For operators of cast iron facilities, ...
  - (8) For operators of cast iron facilities, ...
  - (9) If dredging operations are involved, consider an enhanced tolerance zone and other precautions listed in the following resources.
    - (i) Recommended Best Practice Guide for Safe Dredging near Underwater Gas and Liquid Pipelines, Council for Dredging and Marine Construction Safety (<https://cdmcs.org>)
    - (ii) Coastal and Marine Operators’ Pipeline Industry Initiative ([www.camogroup.org](http://www.camogroup.org))
- (c) Records. Operators should document their responses to excavation notifications.

2.8 *Inspecting pipelines.*

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**Guide Material Appendix G-192-1**

**2 GOVERNMENTAL DOCUMENTS**

<a href="#"><u>NTSB Report MAR-21-05</u></a>	<a href="#"><u>Marine Accident Report - Hazardous Liquid Pipeline Strike and Subsequent Explosion and Fire aboard Dredging Vessel Waymon Boyd, Corpus Christi, Texas, August 21, 2020</u></a>	<a href="#"><u>GMA G-192-13</u></a>
NTSB Report PAB-98-02	Pipeline Accident Brief – Fire and Explosion, Midwest Gas Company, Waterloo, Iowa, October 17, 1994	§192.613
NTSB Report SIR-98-01	Special Investigation Report – Brittle-Like Cracking in Plastic Pipe for Gas Service	§192.613

**3 TECHNICAL PAPERS & PUBLICATIONS**

3.5 SAFETY AND INTEGRITY MANAGEMENT RELATED	
<a href="https://www.camogroup.org/">Coastal and Marine Operators' Pipeline Industry Initiative (https://www.camogroup.org/)</a>	§192.614 GMA G-192-13
<a href="https://cdmcs.org/">Recommended Best Practice Guide for Safe Dredging near Underwater Gas and Liquid Pipelines, Council for Dredging and Marine Construction Safety (https://cdmcs.org/)</a>	§192.614 GMA G-192-13

6 SUMMARY OF PRIMARY WEBSITES

Site Reference	Website Link	Guide Location
<a href="https://www.camogroup.org/">Coastal and Marine Operators' Pipeline Industry Initiative</a>	<a href="http://www.camogroup.org">www.camogroup.org</a>	§192.614 GMA G-192-13
<a href="https://cdmcs.org/">Council for Dredging &amp; Marine Construction Safety</a>	<a href="https://cdmcs.org">https://cdmcs.org</a>	§192.614 GMA G-192-13

GMA G-192-13

CONSIDERATIONS TO MINIMIZE DAMAGE BY OUTSIDE FORCES

1 INTRODUCTION

2 DESIGN

2.1 Selecting pipe locations

...

2.5 Navigable waterways. *[Editorial note: TR 2022-40 also proposing changes to this section.]*

- (a) Where facilities will be installed in navigable waterways, the following should be considered.
  - (1) Dynamic interaction between the water and bottom.
  - (2) Flotation.
  - (3) Scouring.
  - (4) Erosion (e.g., loss of embankment, loss of cover).
  - (5) Impacts of major storms.
  - (6) Potential dredging or anchoring activities and establishing a tolerance zone.
  - (7) Land-based warning signage for ships and boats.
- (b) The use of models, such as hydrologic or land mass movement, might be beneficial.
- (c) For information about work in harbors, see the regarding protection of structures in navigable waters:
  - (1) National Research Council report, "Improving the Safety of Marine Pipelines" (1994), available ~~online~~ from National Academies Press (NAP) at [www.nap.edu/read/2347](http://www.nap.edu/read/2347).
  - (2) [Council for Dredging and Marine Construction Safety \(https://cdmcs.org\)](https://cdmcs.org)
  - (3) [Coastal and Marine Operators' Pipeline Industry Initiative \(www.camogroup.org\)](http://www.camogroup.org)
  - (4) [NTSB Report MAR-21-05 available at www.nts.gov/investigations/AccidentReports/Reports/MAR2105.pdf](http://www.nts.gov/investigations/AccidentReports/Reports/MAR2105.pdf).