

TR Number	24-14
Primary Reference	192.613, 192.713, 192.929
Secondary Reference	Appendix G-192-1
Purpose	Check the references for the PRCI Pipeline Repair Manual and update to the latest version or a consistent version.
Origin/Rationale	The Guide references the 1994 version of the PRCI Pipeline Repair manual in GM for 192.713 and 192.929. Conversely, the 2006 version of the Pipeline Repair Manual is listed in GM for 192.613. In Appendix G-192-1 (Section 1.14), the reference may be citing both the 2006 version and the 1994 version. (It appears that PRCI changes the document number with each revision and our citation combines both numbers. I believe that the "L52047" citation is for the 2006 version and the "PR-218-9307" in the same reference is for the 1994 version.) The current version is the 2021 st (with a completely different document number which we do not cite.)
Assigned to	OMOQ

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

Section 192.103

[Editorial note: Updated to reflect the GM version in Addendum 5.]

...
3 REFERENCES

See Guide Material Appendix G-192-13 for design considerations. Numerous references are available for the calculation, investigation, or mitigation of external forces on pipelines. Methods include reliance on experience, empirical formula, and finite element analysis. A partial listing of references follows.

- (a) ...
- ...
- (h) PRCI-~~PR-000-18COMP-R04~~, "Geohazards Compendium."
- ...

Section 192.313

- (a)
- (b) Cold field bends of high-strength line pipe are prone to forming cosmetic ripples. These ripples can appear more pronounced when viewed on thin-film coated (high gloss) pipe. Although not perfectly smooth, these ripples generally do not impair the serviceability of the pipe. However, the operator should ensure that the bending procedures used will not produce ripples that will impair the serviceability of the pipe. A reference for evaluating whether ripples produced in the bending process have impaired the serviceability is PRCI-~~L51740~~, "Evaluation of the Structural Integrity of Cold Field-Bent Pipe."

Section 192.613

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4 STEEL TRANSMISSION LINES - STRESS CORROSION CRACKING (SCC)

4.1 SCC

...
 (e) Mitigation.

(1) The necessity for and type of mitigation activity are typically dependent on the type of cracking present. Primary guidance for SCC mitigation is provided in ASME B31.8S, Appendix A3 and NACE SP0204, Section 6, "Post Assessment." In addition, ASME B31.8S, Table 4 and the PRCI L52047, "Pipeline Repair Manual," list industry-recognized mitigation methods for SCC. These methods are included in Table 192.613ii, below and more than one may be applied.

(2) ...

(3) ...

4.2 References.

(a) ...

...
 (h) PRCI L52047, "Pipeline Repair Manual."
 ...

Section 192.703

...
4 REALIGNMENT OF PIPING

4.1 Steel

(a) General.

Prior to realigning (moving in any direction) piping, the operator should establish a procedure for determining the feasibility of safely realigning the piping and performing the work. A reference for developing such a procedure is PRCI L51717, "Pipeline In-Service Relocation Engineering Manual."

...
 (c) References.

(1) PRCI L51717, "Pipeline In-Service Relocation Engineering Manual," ~~(PR218-9308)~~.

(2) API RP 1117, "Movement of In-Service Pipelines."

Section 192.713

1 GENERAL

...
 1.5 Other.

Other items the operator should consider include the following.

(a) ...

...
 (f) PRCI "Pipeline Repair Manual." ~~(PR-218-9307)~~.

...
5 SPLIT SLEEVE REPAIR (§192.713(a)(2))

...
 5.3 Design considerations for repair sleeve.

A reference for one set of sleeve designs is PRCI L22279, "Further Studies of Two Methods for Repairing Defects in Line Pipe."
 ...
 ...

Section 192.929

- ...
6 REMEDIATION
 (a) ...
 (b) SCC indications found.
 (1) When SCC indications are detected, at least one of the following three mitigation methods is required to be used (ASME B31.8S, Appendix A3.4.1(d)(2)).
 (i) Evaluate repair or removal methods for SCC. Industry research, such as the PRCI "~~Pipeline Repair Manual (PR-218-9307)~~", addresses repair methods for SCC.
 (ii) ...
 ...
- ...
8 REFERENCES
 (a) ...
 ...
 (h) PRCI ~~L52047~~, "Pipeline Repair Manual," ~~PR-218-9307~~
 (i) PRCI ~~L52043~~, "SCC Initiation Susceptibility Ranking/Screening," ~~PR-273-0328~~.
 ...

GMA G-192-1

[Editorial note: Updated to reflect the GM version in Addendum 5.]

GUIDE MATERIAL APPENDIX G-192-1

SUMMARY OF REFERENCES AND RELATED SOURCES

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Table Continued		
1.9 CORROSION RELATED (Continued)		
...
PRCI L52043 / PR-273-0328	SCC Initiation Susceptibility Ranking/Screening	§192.929
...

Table Continued		
1.14 OTHER DOCUMENTS		
...
PRCI L22279	Further Studies of Two Methods for Repairing Defects in Line Pipe	§192.713
PRCI L51406	Pipeline Response to Buried Explosive Detonations	GMA G-192-16
PRCI L51574	Non-Conventional Means for Monitoring Pipelines in Areas of Soil Subsidence or Soil Movement	GMA G-192-13
PRCI L51717	Pipeline In-Service Relocation Engineering Manual	§192.703
PRCI L51725	Drilling Fluids in Pipeline Installation by Horizontal Directional Drilling-A Practical Applications Manual	GMA G-192-15A GMA G-192-15B
PRCI L51740	Evaluation of the Structural Integrity of Cold Field-Bent Pipe.	§192.313
PRCI L52047	Pipeline Repair Manual (PR-218-9307)	§192.613 §192.713 §192.929

PRCI PC-PISCES	Personal Computer - Pipeline Soil Crossing Evaluation System (PC-PISCES), Version 2.0 (Related to API RP 1102)	GMA G-192-15
PRCI PR-000-18COMP-R04	Geohazards Compendium	§192.103 GMA G-192-13
PRCI PR-277-144507	Installation of Pipelines Using Horizontal Directional Drilling – An Engineering Design Guide	GMA G-192-15A GMA G-192-15B
PRCI PR-430-153706-R04	Hydrostatic Test Guidelines for Integrity Management	GMA G-192-9A
...

GMA G-192-13

[Editorial note: Updated to reflect the GM version in Addendum 5.]

GUIDE MATERIAL APPENDIX G-192-13

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CONSIDERATIONS TO MINIMIZE DAMAGE BY OUTSIDE FORCES

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2 DESIGN

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2.3 *Earth movement.*

(a) ...

...

(c) The following guidelines and references may assist the operator when identifying geological forces which might impose stresses on a pipeline and designing mitigative measures.

(1) ...

...

(5) PRCI ~~PR-000-18COMP-R04~~, "Geohazards Compendium".

...

4 MINING ACTIVITIES

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(c) Operators with pipelines in areas of mining activity should consider the following actions.

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(1) ...

...

(6) Monitor subsidence and strain levels. A reference for monitoring subsidence is PRCI ~~L51574~~, "Non-Conventional Means for Monitoring Pipelines in Areas of Soil Subsidence or Soil Movement."

GMA G-192-15A

GUIDE MATERIAL APPENDIX G-192-15A

HORIZONTAL DIRECTIONAL DRILLING (HDD) FOR STEEL PIPELINES

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5 PIPE DESIGN CRITERIA

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5.2 *Stress calculation.*

(a) Individual stresses (e.g., tensile, bending, hoop) and combined stresses are calculated for construction and in-service conditions and compared with allowable stress limits addressed in

pipeline standards (see PRCI [PR-277-144507](#), "Installation of Pipelines Using Horizontal Directional Drilling – An Engineering Design Guide").

...
8

REFERENCES

(a) ...

...

(c) PRCI [L51725](#), "Drilling Fluids in Pipeline Installation by Horizontal Directional Drilling-A Practical Applications Manual."

(d) PRCI [PR-277-144507](#), "Installation of Pipelines Using Horizontal Directional Drilling – An Engineering Design Guide."

GMA G-192-15B

GUIDE MATERIAL APPENDIX G-192-15B

HORIZONTAL DIRECTIONAL DRILLING (HDD) FOR PLASTIC PIPE

...
9

REFERENCES

(a) ...

...

(h) PRCI [L51725](#), "Drilling Fluids in Pipeline Installation by Horizontal Directional Drilling-A Practical Applications Manual."

(i) PRCI [PR-277-144507](#), "Installation of Pipelines Using Horizontal Directional Drilling – An Engineering Design Guide."

GMA G-192-16

GUIDE MATERIAL APPENDIX G-192-16

**SUBSTRUCTURE DAMAGE PREVENTION GUIDELINES
BLASTING OPERATIONS**

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1

SCOPE

These guidelines provide criteria for planning and precautions when blasting operations are to be done in proximity to gas pipeline facilities.

These guidelines are general in nature and contain some recommended procedures. Specific technical information on the effect of various blasting charges on the pipeline facilities involved is not included. A reference for evaluating stresses induced in steel pipelines is PRCI [L51406](#), "Pipeline Response to Buried Explosive Detonations."

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