

GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS

2003 EDITON

ADDENDUM NO. 4, January 2006

The changes in this addendum are marked by wide vertical lines inserted to the left of modified text or by overwriting the left border of most tables. The Federal Regulations were changed by 1 amendment that affected 1 section of the guide. Seven transactions affected 16 sections of the Guide.

Editorial updates include application of the Editorial Guidelines, updating reference titles, adjustments to page numbering, and adjustment of text on pages. While only significant editorial updates are marked, all affected pages carry the current addendum footnote. Editorial updates affected 14 sections of the Guide.

The following table shows the affected sections, the pages to be removed, and their replacement pages.

FS Amendment - Amdt. Number
New or Updated GM - TR Number
GM Under Review - GMUR
Editorial Update - EU

Guide Section	Reason For Change	Pages to be Removed	Replacement Pages
Title Page	EU	i/ii	i/ii
Table of Contents	EU	vii/viii	vii/viii
Historical Reconstruction of Part 192	EU	xxiii/xxiv and xxvii/xxviii	xxiii/xxiv and xxvii/xxviii
Historical Record of Amendments to Part 192	EU	xlvi/xlviii thru lvii/lviii	xlvi/xlviii thru lv/lvi
Membership List	EU		
192.3	EU, TR2003-31, TR2003-38	13/14 thru 17/18	13/14 thru 17/18
192.9	EU	20(c)/20(d)	20(c)/20(d)
192.150	TR2004-28	55/56	55/56
192.171	EU	71/72	71/72
192.195	EU	81/82	81/82
192.225	TR2004-14	89/90	89/90
192.245	TR2004-14	95/96	95/96
192.479	TR2003-38	161/162 thru	161/162 thru
192.481	TR2003-38	166(a)/166(b)	166(a)/166(b)
192.490	Amdt 192-101		
192.491	EU		
192.505	TR2001-24	169/170 thru 173/174	169/170 thru 173/174
192.507	TR2001-24		
192.509	TR2001-24		
192.511	TR2001-24		
192.513	TR2001-24		
192.515	TR2001-24		
192.613	EU	197/197(a)	197/197(a)
192.713	EU, TR2004-14	231/232	231/232
192.739	TR2003-43	243/244	243/244
192.743	TR2003-43	247/248	247/248
192.751	EU	255/(256, 257, & 258)	255/(256, 257, & 258)
Appendix C	TR2004-24	267/268	267/268
GMA G-192-1	EU	321/322, 325/326	321/322, 325/326
GMA G-192-17	EU	409/410	409/410

Guide for Gas Transmission and Distribution Piping Systems

2003 Edition

Addendum No. 4, January 2006

Author:
Gas Piping Technology Committee (GPTC) Z380
Accredited by ANSI

Approved by
American National Standards Institute (ANSI)
January 11, 2006

Secretariat:
American Gas Association

ANSI/GPTC Z380.1-2003
Catalog Number: X603064

PLEASE NOTE

Addenda to this Guide will also be issued in loose-leaf format so that users will be able to keep the Guide up-to-date by replacing the pages that have been revised with the new pages. It is advisable, however, that pages which have been revised be retained so that the chronological development of the Federal Regulations and the Guide is maintained.

CAUTION

As part of subscription service, GPTC (using AGA as Secretariat) will try to keep subscribers informed on the current Federal Regulations as released by the Department of Transportation (DOT). This is done by periodically issuing addenda to update both the Federal Regulations and the guide material. However, the GPTC assumes no responsibility in the event the material that is automatically mailed to subscribers never reaches its destination, or is delivered late. Otherwise, the subscriber is reminded that the changes to the Regulations can be timely noted on the Federal Register's web site.

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HISTORICAL RECONSTRUCTION OF PART 192

(Complete through Amendment 192-101)

Part 192 Subpart	Part 192 Section	Effective Date of Original Version if other than 11/12/70	Amendments (if any)
SUBPART A – GENERAL	192.1		192-27, 192-67, 192-78, 192-81
	192.3		192-92, RIN 2137-AD77
			192-13, 192-27, 192-58, 192-67, 192-72 + Ext., 192-78, 192-81, 192-85, 192-89, RIN 2137-AD43
			192-93, 192-94, 192-98, RIN 2137-AD77
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			192-94, RIN 2137-AD77, 192-99
	192.9		192-72 + Ext., 192-95 Corr.
	192.10	03/19/98	192-81, RIN 2137-AD77
	192.11	11/13/72	192-68, 192-75, 192-78
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	[192.17]	01/01/71	192-1, 192-27A Ext., 192-38 (removed)
	192.51		
	192.53		
	192.55		192-3, 192-12, 192-51, 192-68, 192-85
	192.57		192-62 (removed and reserved)
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	192.63		192-3, 192-31, 192-31A, 192-61, 192-61A, 192-62, 192-68, 192-76
			192-12, 192-17, 192-68
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	192.119		192-62 (removed and reserved)
	192.121		192-31, 192-78, 192-85, 192-94
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SUBPART G – GENERAL CONSTRUCTION REQUIREMENTS FOR TRANSMISSION LINES AND MAINS	192.301 192.303 192.305 192.307 192.309 192.311 192.313 192.315 192.317 192.319 ■ 192.321 192.323 192.325 ■ 192.327		192-3, 192-85, 192-88 192-93 192-26, 192-29, 192-49, 192-85 192-85 192-27, 192-78 192-27, 192-78, 192-85 192-78, 192-85, 192-93, 192-94 192-85 192-27, 192-78, 192-85, 192-98

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Part 192 Subpart	Part 192 Section	Effective Date of Original Version if other than 11/12/70	Amendments (if any)
SUBPART H – CUSTOMER METERS, SERVICE REGULATORS, AND SERVICE LINES	192.351		192-85, 192-93
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	192.379	11/03/72	192-8
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	192.383	02/03/98	192-83
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	192.459	08/01/71	192-4, 192-87
	192.461	08/01/71	192-4
	192.463	08/01/71	192-4
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	192.477	08/01/71	192-4, 192-33
	192.479	08/01/71	192-4, 192-33, 192-93
	192.481	08/01/71	192-4, 192-27, 192-33, 192-93
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	192.485	08/01/71	192-4, 192-33, 192-78, 192-88
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	192.491	08/01/71	192-4, 192-33, 192-78

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(Continued)

Amdt 192-	Subject	Vol FR Pg#	Published Date	Docket No.	Effective Date	Affected Sections 192.
95	Pipeline Integrity Management	68 FR 69778	12/15/03	RSPA 00-7666	01/14/04	901, 903, 905, 907, 909, 911, 913, 915, 917, 919, 921, 923, 925, 927, 929, 931, 933, 935, 937, 939, 941, 943, 945, 947, 949, 951, App. A & E
95	Correction	69 FR 2307	01/15/04	RSPA 00-7666	02/14/04	Correct Effective Date
95	Correction & Petition for Reconsideration	69 FR 18228	04/06/04	RSPA 00-7666	04/06/04	9, 903, 909, 911, 913, 917, 921, 925, 927, 929, 933, 935, 937, 939, 941, 943, 945, 947, App. A & E
95	Correction	69 FR 29903	05/26/04	RSPA 00-7666	05/26/04	903, 925, 935, App. E
96	Pressure Limiting and Regulating Stations*	69 FR 27861	05/17/04	RSPA 02-13208	09/14/04	739, 743
96	DFR Confirmation	69 FR 54248	09/08/04	RSPA 02-13208	10/08/04	739, 743

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Amdt 192-	Subject	Vol FR Pg#	Published Date	Docket No.	Effective Date	Affected Sections 192.
97	Passage of Internal Inspection Devices	69 FR 36024	06/28/04	RSPA 03-16330	07/28/04	150
98	Periodic Underwater Inspections	69 FR 48400	08/10/04	RSPA 97-3001	09/09/04	3, 327, 612
99 (Shown as 100)	Pipeline Operator Public Awareness Program	70 FR 28833	05/19/05	RIN 2137-AD96	06/20/05	7, 616
99	Correction	70 FR 35041	06/16/05	RIN 2137-AD96	06/20/05	Corr. Amdt. No., 616
100	Operator Qualifications; Statutory Changes*	70 FR 10332	03/03/05	RSPA 03-15734	07/01/05	805, 809
100	DFR Confirmation	70 FR 34693	06/15/05	RSPA 03-15734	07/15/05	805, 809
--	Agency Reorganization	70 FR 11135	03/08/05	RIN 2137-AD77	03/08/05	1, 3, 7, 10, 727, 949, 951
101	Standards for Direct Assessment of Gas and Hazardous Liquid Pipelines	70 FR 61571	10/25/05	RIN 2137-AD97	11/25/05	490
* Issued as a Direct Final Rule (DFR).						

GAS PIPING TECHNOLOGY COMMITTEE MEMBERSHIP LIST

Abbreviations: Chairperson: Chair First Vice Chairperson: 1 st V Chair Second Vice Chairperson: 2 nd V Chair Secretary: Sec Damage Prevention - Emergency Response: DP/ER Operation and Maintenance: O&M	Main Body	DIVISIONS			TASK GROUPS					SECTIONS			
		Distribution	Manufacturers	Transmission	Design	DP/ER	IMP/Corrosion	O&M/OQ	Plastic Pipe	Regulations	Editorial	Executive	Liaison
Abraham, Richard A. New England Gas Co., Providence, RI	X	X				X					X		
Affonso, Joaquin J. Consumers Energy Co., Jackson, MI	X			X		X	X						
Alexander, Thomas D. Willbros Engr., Inc., Tulsa, OK	X			X	X								
Armstrong, Glen F., Jr. EN Engineering, Woodridge, IL	X	Chair				X	X		X	X		X	
Barkei, David E. We Engeries, Milwaukee, WI		X			X		X						
Batten, Charles H. Batten & Associates., Inc., Locust Grove, VA	X	X				X		X					
Becken, Robert C. Energy Experts Int. Pleasant Hill, CA				X	X			X			X		
Bennett, Frank M. PPL Gas Utilities Corp., Lancaster, PA		X				X	X						
Bezner, William A. CSR PolyPipe, Inc., Gainesville, TX			X						X				
Blaney, Steven D. NY State Dept. of Public Service, Albany, NY	X	X				X	X				X		

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Blanton, Glynn TN Regulatory Authority, Nashville, TN		X				X		X					
Booth, Lloyd E. Southern Cross Corp., Coppel, TX			X		X			X					
Boros, Stephen Plastics Pipe Institute, Washington, DC			X						X				
Borski, Lawrence W. Williams Gas Pipeline-Transco, Houston, TX				X				X					
Brown, Anthony Atmos Energy Corp, Metairie, LA		X						X					
Bull, David E. ViaData LP, Tobyhanna, PA		X				SEC		X					
Burnley, Steven P. Columbia Gas Trmn. Corp., Binghamton, NY				X	X					X	X		
Cabot, Paul W. American Gas Association, Washington, DC	SEC											SEC	
Cadorin, Robert J. Great Lakes Gas Trmn. Co., Troy, MI				X				X					
Caldwell, Joseph C. Caldwell & Assoc., Arlington, VA	X			X								X	Chair
Carey, Willard S. Public Service Elec. & Gas Co., Newark, NJ	X	X				X		Chair					

GAS PIPING TECHNOLOGY COMMITTEE MEMBERSHIP LIST

(Continued)

	Main Body	DIVISIONS			TASK GROUPS					SECTIONS			
		Distribution	Manufacturers	Transmission	Design	DP/ER	IMP/Corrosion	O&M/OQ	Plastic Pipe	Regulations	Editorial	Executive	Liaison
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Chin, John S. El Paso Corp., Farmington Hills, MI	X			X	X	X	Chair			X		X	
Clarke, Allan M. Duke Energy Corp., Houston, TX				Sec	X	X	X						
Craig, Jim M. McElroy Mfg., Inc., Tulsa, OK			X					X	X				
De Leon, Cesar PanAm P/L Technology, Inc., San Antonio, TX	X			X				X					
Del Buono, Amerigo J. Steel Forgings, Inc., League City, TX	X		Chair									X	
DeVore, James C. Consultant, Green Valley, AZ	X		X		X		X		X				
Dockweiler, Ken Kinder Morgan, Inc., Casper, WY				X		X		X					
Erickson, John P. American Public Gas Association, Washington, DC		X						X					
Fleet, F. Roy F. Roy Fleet, Inc., Westmont, IL	X			X		X					X		
Frantz, John H. PECO Energy, Philadelphia, PA	Chair											X	
Frederick, Victor M., III Utility Line Services, Conshohocken, PA		X						X	X				

GAS PIPING TECHNOLOGY COMMITTEE MEMBERSHIP LIST

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		Distribution	Manufacturers	Transmission	Design	DP/ER	IMP/Corrosion	O&M/OQ	Plastic Pipe	Regulations	Editorial	Executive	Liaison
Fuller, William R. Xcel Energy, Inc., Denver, CO	X	X			X		X		X				
Groeber, Steve A. Philadelphia Gas Works, Philadelphia, PA		X				X		X	X		X		
Gunther, Karl M. NTSB, Washington, DC		X							X				
Hart, Thomas L. NSTAR Electric & Gas Corp., Westwood, MA		X				X		X					
Hazelden, Glyn Gas Technology Institute, Des Plaines, IL		X				X		X					
Heintz, James R. UGI Utilities, Inc., Reading, PA	X	X				X	X		Chair	X		X	
Henningsgaard, David R. CenterPoint Energy-Minnegasco, Minneapolis, MN		X			X	X		X					
Henry, Jill A. Ohio PUC, Columbus, OH	X	X				X			X				
Higgins, Dan J. CO Springs Utilities, Colorado Springs, CO		X						X					
Hill, Gregrory N. El Paso Natural Gas Co., Flagstaff, AZ	X			X		X		X					
Hotinger, James M. VA State Corp. Comm., Richmond, VA		X				X	X						

GAS PIPING TECHNOLOGY COMMITTEE MEMBERSHIP LIST

(Continued)

	Main Body	DIVISIONS			TASK GROUPS					SECTIONS			
		Distribution	Manufacturers	Transmission	Design	DP/ER	IMP/Corrosion	O&M/OQ	Plastic Pipe	Regulations	Editorial	Executive	Liaison
Abbreviations: Chairperson: Chair First Vice Chairperson: 1 st V Chair Second Vice Chairperson: 2 nd V Chair Secretary: Sec Damage Prevention - Emergency Response: DP/ER Operation and Maintenance: O&M													
Humes, Dennis W. Mueller Co.- Gas Products Div., Decatur, IL	X		X							X			
Hurbanek, Stephen F. Pennsylvania PUC, Darlington, PA		X				X							
Huriaux, Richard D. PHMSA, Washington, DC	X			X			X						
Kirkland, David L. Columbia Gas Trmn. Corp., Charleston, WV				X		X	X						
Kottwitz, John D. MO Public Service Comm., Jefferson City, MO	X	X				Chair		X			X	X	
Lathrap, Philip A. Retired-Pacific Gas & Elec. Co., Lafayette, CA	X	X			X	X		X					
Lewis, Raymond D. Rosen USA, Houston, TX	X			X			X						
Lively, Karen S. Performance Pipe, Div. Chevron Phillips Chemical Co., LP, Plano, TX			X		X				X				
Loker, Jon O. Pipeline Safety Consultant, Saint Albans, WV	X			X							Chair	X	
Lomax, George S. Heath Consultants, Inc., Montoursville, PA	X		X			X		X					
Lueders, John D. DTE Energy - MichCon, Grand Rapids, MI		X				X		X					

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		Distribution	Manufacturers	Transmission	Design	DP/ER	IMP/Corrosion	O&M/OQ	Plastic Pipe	Regulations	Editorial	Executive	Liaison
Mackay-Smith, Seth UMAC, Inc., Exton, PA	X		X		X	X							
Marek, Marti Southwest Gas Corp., Las Vegas, NV	X	X				X	X				X		
Mason, James F. Arkema, Inc., King of Prussia, PA			X						X				
McMaine Jeffrey B. Texas Gas Trmn., LLC, Owensboro, KY				X	X		X						
Miller, D. Lane Transportation Safety Inst., Oklahoma City, OK	X	X					X		X		Sec		
Moore, Clarence W. Dominion, Cleveland, OH		X				X			X				
Naper, Robert C. KeySpan Corp., Waltham, MA		X				X							
Oleksa, Paul E. Oleksa & Assoc., Akron, OH	X	X			X		X				X		
Palermo, Eugene F. Palermo Plastics Pipe Consulting, Oak Hill, VA	X		X		X				X				
Peters, Kenneth C. El Paso Corp. Pipeline Group, Birmingham, AL	X			Chair		X		X				X	
Pioli, Christopher A. Jacobs Consultancy, Pasadena, CA		X			X	X	X						

GAS PIPING TECHNOLOGY COMMITTEE MEMBERSHIP LIST

(Continued)

Abbreviations: Chairperson: Chair First Vice Chairperson: 1 st V Chair Second Vice Chairperson: 2 nd V Chair Secretary: Sec Damage Prevention - Emergency Response: DP/ER Operation and Maintenance: O&M	Main Body	DIVISIONS			TASK GROUPS					SECTIONS			
		Distribution	Manufacturers	Transmission	Design	DP/ER	IMP/Corrosion	O&M/OQ	Plastic Pipe	Regulations	Editorial	Executive	Liaison
Quezada, Leticia Nicor Gas, Naperville, IL	X	X				X			X	Chair		X	
Reynolds, Donald Lee NiSource Inc., Columbus, OH		X			Chair		X					X	
Robertson, Joseph P. Williams Gas Pipeline-NW, Salt Lake City, UT				X		X	X						
Schmidt, Robert A. Trinity Industry, Russellville, AR	X		X		X								
Scott, Edward W. AmerenIP, Pawnee, IL		X					X		X				
Seamands, Patrick A. Laclede Gas Co., Saint Louis, MO		X				X			X		X		
Sher, Philip CT Dept. Public Utility Control, New Britain, CT	2 nd V Chair											X	
Slagle, Richard Vectren Energy Delivery of OH, Evansville, IN		SEC				X			X				
Sprenger, Roger W. San Diego Gas & Elec. Co., San Diego, CA		X				X		X					
Strohm, Billy J. George Fischer Sloane, Little Rock, AR			X						X				
Petto, Anthony AEGIS Insurance Services, Inc., Jersey City, NJ		X						X	X				

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Themig, Jerome S. Ameren Services Co., Pawnee, IL		X				X	X						
Ulanday, Alfredo S. Peoples Energy Corp., Chicago, IL		X				X		X					
Veerapaneni, Ram DTE Energy - MichCon, Detroit, MI		X				X	X				X		
Volgstadt, Frank R. Volgstadt & Associates, Inc., Madison, OH	X		SEC						SEC				
Weber, David E. Keyspan Corp., Waltham, MA		X							X		X		
Wolf, Brian D. Iroquois Pipeline Operating Co., Shelton, CT					X	X	X						
Wolf, Russell A. Willbros Engr., Inc., Tulsa, OK				X	X								
Zapalac, Daniel P. R.W. Lyall & Co., Inc., Corona, CA			X						X				

Hazard to navigation means, for the purposes of this part, a pipeline where the top of the pipe is less than 12 inches (305 millimeters) below the underwater natural bottom (as determined by recognized and generally accepted practices) in waters less than 15 feet (4.6 meters) deep, as measured from the mean low water.

High pressure distribution system means a distribution system in which the gas pressure in the main is higher than the pressure provided to the customer.

Line section means a continuous run of transmission line between adjacent compressor stations, between a compressor station and storage facilities, between a compressor station and a block valve, or between adjacent block valves.

Listed specification means a specification listed in section I of Appendix B of this part.

Low-pressure distribution system means a distribution system in which the gas pressure in the main is substantially the same as the pressure provided to the customer.

Main means a distribution line that serves as a common source of supply for more than one service line.

Maximum actual operating pressure means the maximum pressure that occurs during normal operations over a period of 1 year.

Maximum allowable operating pressure (MAOP) means the maximum pressure at which a pipeline or segment of a pipeline may be operated under this part.

Municipality means a city, county, or any other political subdivision of a state.

Offshore means beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

Operator means a person who engages in the transportation of gas.

Outer Continental Shelf means all submerged lands lying seaward and outside the area of lands beneath navigable waters as defined in Section 2 of the Submerged Lands Act (43 U.S.C. 1301) and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control.

Person means any individual, firm, joint venture, partnership, corporation, association, state, municipality, cooperative association, or joint stock association, and including any trustee, receiver, assignee, or personal representative thereof.

Petroleum gas means propane, propylene, butane, (normal butane or isobutanes), and butylene (including isomers), or mixtures composed predominantly of these gases, having a vapor pressure not exceeding 208 psi (1434 kPa) gage at 100 °F (38 °C).

Pipe means any pipe or tubing used in the transportation of gas, including pipe-type holders.

Pipeline means all parts of those physical facilities through which gas moves in transportation, including pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies.

Pipeline facility means new and existing pipelines, rights-of-way, and any equipment, facility, or building used in the transportation of gas or in the treatment of gas during the course of transportation.

Service line means a distribution line that transports gas from a common source of supply to an individual customer, to two adjacent or adjoining residential or small commercial customers, or to multiple residential or small commercial customers served through a meter header or manifold. A service line ends at the outlet of the customer meter or at the connection to a customer's piping, whichever is further downstream, or at the connection to customer piping if there is no meter.

Service regulator means the device on a service line that controls the pressure of gas delivered from a higher pressure to the pressure provided to the customer. A service regulator may serve one customer or multiple customers through a meter header or manifold.

SMYS means specified minimum yield strength is:

(1) For steel pipe manufactured in accordance with a listed specification, the yield strength specified as a minimum in that specification; or

(2) For steel pipe manufactured in accordance with an unknown or unlisted specification, the yield strength determined in accordance with §192.107(b).

State means each of the several states, the District of Columbia, and the Commonwealth of Puerto Rico.