Utilities and Transportation Commission
Standard Inspection Report for Intrastate Gas Systems
Procedures and Plan Review (Form V)

S – Satisfactory U – Unsatisfactory N/A – Not Applicable N/C – Not Checked
If an item is marked U, N/A, or N/C, an explanation must be included in this report.

A completed **Inspection Checklist, Cover Letter and Field Report** are to be submitted to the Chief Engineer within **30 days** from completion of the inspection.

Inspection Report			
Docket Number	100017		
Inspector Name & Submit Date	Lex Vinsel (lead), Kuang Chu (team)/Submit 4/30/2010		
Sr. Eng Name & Review/Date	Joe Subsits, 5/5/2010		
Operator Information			
Name of Operator:	Cardinal Pacific FG	**OP ID #:**	32176
Name of Unit(s):	Cardinal FG		
Records Location:	Winlock WA		
Date(s) of Last Review:	November 5-7, 2007	**Inspection Date**	March 29-31, 2010

Inspection Summary:

Cardinal FG is located at 545 Avery Road West in Winlock WA. The Company operates approximately 3.25 miles of six inch natural gas transmission pipeline in Lewis County WA beginning at the Williams Northwest Pipeline Interconnection at the Williams Chehalis Compressor Station and ending at the Cardinal Glass Facility. This pipeline is commonly known as the Cardinal Pipeline.

We conducted a natural gas inspection from March 29-31, 2010 of Cardinal FG. The inspection included Operations and Maintenance Manual review, a records review, OQ inspections of field personnel and a field inspection of the pipeline facilities.

During the Operations and Maintenance Manual review portion of the inspection it was found that the operators Cathodic Protection (CP) program did NOT consider IR drop when evaluating the level of CP on the pipeline facility. (Item #196)

HQ Address:		**System/Unit Name & Address:**	
Cardinal Glass 545 Avery Road West Winlock WA 98596		N/A	
Co. Official:	Steve Smith	**Phone No.:**	N/A
Phone No.:	(360) 242-4289	**Fax No.:**	N/A
Fax No.:	(360) 266-0047	**Emergency Phone No.:**	N/A
Emergency Phone No.:	(360) 262-3998		N/A

Persons Interviewed	Title	Phone No.
Bob Cosentino	Principal Consultant, CCI	530.690.1442
Chuck Miller	Mechanical Engineer	360.242.4296

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GAS SYSTEM OPERATIONS		
Gas Supplier		
Operating Pressure(s):	**MAOP (Within last year)**	**Actual Operating Pressure (At time of Inspection)**
Feeder:		245 – 250 psig
Town:		
Other: 250 psig	1000 psig	
Does the operator have any transmission pipelines? No		

Pipe Specifications:			
Year Installed (Range)	2006	Pipe Diameters (Range)	6 inch, 0.280 wall thickness
Material Type	Steel	Line Pipe Specification Used	API 5L, X-52 ERW steel pipe
Mileage	3.5 miles	SMYS % (@ MAOP)	22.8%

49 CFR PART 191 & CHAPTER 480-93 WAC

		REPORTING PROCEDURES	S	U	N/A	N/C
1.	480-93-180 (1)	Telephonic reports to **NRC (800-424-8802)** 191.5 Section 9.1.4 & 9.2.1.1 & Procedure P-6	X			
2.		Telephonic Reports to **UTC Pipeline Safety Incident Notification 1-888-321-9146** (Within **2 hours**) for events which; 480-93-200(1)				
3.		(a) Results in a fatality or personal injury requiring hospitalization; Section 9.1.4 & 9.2.1.1 & Procedure P-6	X			
4.		(b) Results in damage to the property of the operator and others of a combined total exceeding fifty thousand dollars; Section 9.1.4 & 9.2.1.1 & Procedure P-6	X			
5.		(c) Results in the evacuation of a building, or high occupancy structures or areas Section 9.2.1.1 & Procedure P-6	X			
6.		(d) Results in the unintentional ignition of gas; Section 9.2.1.1 & Procedure P-6	X			
7.		(e) Results in the unscheduled interruption of service furnished by any operator to twenty-five or more distribution customers; Does not apply to Cardinal			X	
8.		(f) Results in a pipeline or system pressure exceeding the MAOP plus ten percent or the maximum pressure allowed by proximity considerations outlined in WAC 480-93-020; Section 9.2.1.1	X			
9.		g) Is significant, in the judgment of the operator, even though it does not meet the criteria of (a) through (e) of this subsection; or Section 9.2.1.1	X			
10.	480-93-180 (1)	Telephonic Reports to UTC Pipeline Safety Incident Notification 1-888-321-9146 (Within **24 hours**) for; 480-93-200(2) Section 9.2.1.1	X			
11.		(a) The uncontrolled release of gas for more than two hours; Section 9.2.1.1	X			
12.		b) The taking of a high pressure supply or transmission pipeline or a major distribution supply pipeline out of service; Section 9.2.1.1	X			
13.		(c) A pipeline or system operating at low pressure dropping below the safe operating conditions of attached appliances and gas equipment; or Does not apply to Cardinal			X	
14.		(d) A pipeline or system pressure exceeding the MAOP. Section 9.2.1.1	X			
15.		Annual reports; (DOT Form F 7100.1) 191.17 Section 9.1.2 (code cite is incorrect, should be 191.17 for transmission lines)	X			
16.		30 day written incident (federal) reports; (DOT Form F 7100.2-1) 191.15 Section 9.1.4.4 (code cite is incorrect, should be 191.15 for transmission lines)	X			
17.		Supplemental incident reports 191.15 Section 9.1.4.4 (code cite is incorrect, should be 191.15 for transmission lines)	X			
18.		Written incident reports including supplemental reports (within 30 days); and include the following; 480-93-200(4) (a) thru (g) Section 9.2.1.2	X			

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		REPORTING PROCEDURES	S	U	N/A	N/C
19.	480-93-180 (1)	Written report within 45 days of receiving the failure analysis of any incident or hazardous condition due to construction defects or material failure 480-93-200(6) Section 9.2.3	X			
20.		Annual Report (DOT Form PHMSA F-7100.2-1) For Transmission & Gathering 191.17(a) Section 9.1.2	X			
		Annual Reports filed no later than March 15 for the proceeding calendar year 480-93-200(7)				
21.	480-93-180 (1)	• A copy of PHMSA form F-7100.1-1 or F-7100.2-1 annual report required by the PHMSA/OPS 480-93-200(7)(a) Section 9.2.4.(a)	X			
22.		• Annual Damage Prevention Statistics Report (eff 6/02/05) including the following; 480-93-200(7)(b)(i) thru (iii) Section 9.2.4.(b)	X			
23.		Annual report on construction defects or material failures 480-93-200(7)(c) Section 9.2.4.(c)	X			
24.		Providing updated emergency contact information to the Commission and appropriate officials 480-93-200(8) Section 9.2.5	X			
25.		Providing daily construction and repair activities reports 480-93-200(9) Section 9.2.6	X			
26.		Submitting copy of DOT Drug and Alcohol Testing MIS Data Collection Form (when required) 480-93-200(10) Section 9.2.7	X			
27.		Safety related condition reports (SRCR) 191.23 Section 9.1.3	X			
28.		Filing the SRCR within 5 days of determination, but not later than 10 days after discovery 191.25 Section 9.1.3.3	X			

	Required Submission of Data to the National Pipeline Mapping System Under the Pipeline Safety Improvement Act of 2002		S	U	N/A	N/C
	49 U.S.C. 60132, Subsection (b)	Operators are required to make update submissions every 12 months if any system modifications have occurred. If no modifications have occurred since the last complete submission (including operator contact information), send an email to opsgis@rspa.dot.gov stating that fact. Include operator contact information with all updates.	X			
	RCW 81.88.080	Pipeline Mapping System: Has the operator provided accurate maps (or updates) of pipelines, operating over two hundred fifty pounds per square inch gauge, to specifications developed by the commission sufficient to meet the needs of first responders? **No pipeline over 250 psig.**			X	

Comments:

Item #7 – Cardinal has NO distribution.
Item #13 – No Distribution – NO attached appliances and/or gas equipment.

		49 CFR PART 192 SUBPART A – GENERAL CHAPTER 480-93 WAC – GAS COMPANIES---SAFETY	S	U	N/A	N/C
29.	480-93-180 (1)	Procedures for notifying new customers, within **90 days**, of their responsibility for those selections of service lines not maintained by the operator. §192.16 Section 2.6	X			
30.		Conversion to Service - Any pipelines previously used in service not subject to Part 192? 192.14 Section 6.9	X			

Comments:

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		SUBPART B - MATERIALS	S	U	N/A	N/C
		Are minimum requirements prescribed for the selection and qualification of pipe and components for use in pipelines 192.51				
31.	480-93-180 (1)	For **steel** pipe, manufactured in accordance with and meet the listed specification found under Appendix B 192.55 Section 11.3	X			
		For **new** plastic pipe, qualified for use under this part if: 192.59(a) (Cardinal uses no plastic)				
32.	480-93-180 (1)	• It is manufactured in accordance with a listed specification; and 192.59(a)(1) • It is resistant to chemicals with which contact may be anticipated. 192.59(a) (2) (Cardinal uses no plastic)			X	
		For **used** plastic pipe, qualified for use under this part if: 192.59(b) (Cardinal uses no plastic)				
33.	480-93-180 (1)	• It was manufactured in accordance with a listed specification; 192.59(b)(1) • It is resistant to chemicals with which contact may be anticipated; 192.59(b)(2) • It has been used only in natural gas service. 192.59(b)(3)(4) • Its dimensions are still within the tolerances of the specification to which it was manufactured: and, 192.59(b) • It is free of visible defects. 192.59(b)(5) (Cardinal uses no plastic)			X	
34.		Marking of Materials 192.63 Section 11.3			X	

Comments:

Items #31B-34 N/A – No plastic pipe.

		SUBPART C – PIPE DESIGN				
		Procedures for assuring that the minimum requirements for design of pipe are met				
		For Steel Pipe	**S**	**U**	**N/A**	**N/C**
35.		Pipe designed of sufficient wall thickness, or installed with adequate protection, to withstand anticipated external pressures and loads that will be imposed on the pipe after installation. 192.103 Section 11.2.1	X			
36.		Design formula for steel pipe. 192.105(a) Section 11.2.1 & Appendix D	X			
37.		Yield strength (S) for steel pipe. 192.107 Section 11.2.1 & Appendix D	X			
38.	480-93-180 (1) 480-93-180 (1)	Nominal wall thickness (t) for steel pipe. 192.109 (a) & (b) (a) If the nominal wt is not known….. Determined by measuring the thickness of each piece of pipe at quarter points on one end unless….. (b) If the pipe is of uniform grade, size, and thickness and more than 10 lengths of pipeline, only 10 percent of the individual lengths, but not less than 10 lengths, need be measured. The thickness of the lengths that are not measured must be verified by applying a gauge set to the minimum thickness found by the measurement. The nominal wall thickness to be used in the design formula in §192.105 is the next wall thickness found in commercial specifications that is below the average of all the measurements taken. However, the nominal wall thickness used may not be more than 1.14 times the smallest measurement taken on pipe less than 20 inches (508 millimeters) in outside diameter, nor more than 1.11 times the smallest measurement taken on pipe 20 inches (508 millimeters) or more in outside diameter. Section 11.3 (note, Cardinal does not use used pipe)			X	
39.		Design factor (F) for steel pipe. 192.111 Section 11.2.1 & Appendix D	X			

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		SUBPART C – PIPE DESIGN				
40.		(a) Except as otherwise provided in paragraphs (b), (c), and (d) of this section, the design factor to be used in the design formula in §192.105 is determined in accordance with the following Class location Design factor (F) table. Section 11.2.1 & Appendix D Class 1 **0.72**, Class 2 **0.60**, Class 3 **0.50**, Class 4 **0.40 Cardinal is Class 3**	X			
41.		(b) A design factor of 0.60 or less must be used in the design formula in §192.105 for steel pipe in Class 1 locations that: (1) Crosses the right-of-way of an unimproved public road, without a casing; (2) Crosses without a casing, or makes a parallel encroachment on, the right-of-way of either a hard surfaced road, a highway, a public street, or a railroad; (3) Is supported by a vehicular, pedestrian, railroad, or pipeline bridge; or (4) Is used in a fabricated assembly, (including separators, mainline valve assemblies, cross-connections, and river crossing headers) or is used within five pipe diameters in any direction from the last fitting of a fabricated assembly, other than a transition piece or an elbow used in place of a pipe bend which is not associated with a fabricated assembly. Section 11.2.1 & Appendix D	X			
42.		(c) For Class 2 locations, a design factor of 0.50, or less, must be used in the design formula in §192.105 for uncased steel pipe that crosses the right-of-way of a hard surfaced road, a highway, a public street, or a railroad. Section 11.2.1 & Appendix D	X			
43.		(d) For Class 1 and Class 2 locations, a design factor of 0.50, or less, must be used in the design formula in §192.105 for- (1) Steel pipe in a compressor station, regulating station, or measuring station, and (2) Steel pipe, including a pipe riser, on a platform located offshore or in inland navigable waters. Section 11.2.1 & Appendix D	X			
44.		Longitudinal joint factor (E) for steel pipe. 192.113 Section 11.2.1 & Appendix D	X			
45.	480-93-180 (1)	Temperature derating factor (T) for steel pipe. 192.115 Section 11.2.1 & Appendix D	X			
		For Plastic Pipe				
46.	480-93-180 (1)	Subject to the limitations of §192.123, for determining the design pressure for plastic pipe in accordance with either formula listed. 192.121 Cardinal does not use plastic pipe			X	
47.		For assuring that the design limitations for plastic pipe are not exceeded. 192.123 (a) thru (e) Cardinal does not use plastic pipe			X	

Comments:

Item #38 – N/A-Cardinal does not use USED pipe.
Items # 46, 47 – Cardinal does not use Plastic pipe.

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		SUBPART D – DESIGN OF PIPELINE COMPONENTS	S	U	N/A	N/C
		For the design and installation of pipeline components and facilities, and relating to protection against accidental over-pressuring. 192.141				
48.	480-93-180 (1)	General requirements.... 192.143 Section 11.1	X			
49.		Qualifying metallic components. 192.144 (a) & (b) Section 11.1	X			
50.		For steel valves: meeting the minimum requirements of API 6D, or other standard that provides an equivalent performance level. 192.145 (a) thru (e) Section 11.2.4	X			
51.		For each flange or flange accessory (other than cast iron) must meet the minimum requirements of ASME/ANSI B16.5, MSS SP-44, or the equivalent. 192.147 (a) thru (c) Section 11.1	X			
52.		For ensuring that each new transmission line and each replacement of line pipe, valve, fitting, or other line component in a transmission line is designed and constructed to accommodate the passage of instrumented internal inspection devices. 192.150 (a) thru (c) Section 11.2.4	X			
53.		Components fabricated by welding. 192.153 (a) thru (d) Section 11.1	X			
54.		Welded branch connections. 192.155 Section 11.1	X			
55.		Flexibility. 192.159 Section 11.1	X			
56.		Supports and Anchors 192.161(a) (a) thru (f) Section 11.1	X			
		Compressor Stations				
57.	480-93-180 (1)	Compressor stations: Design and construction. 192.163 (a) thru (e) Cardinal has no compression			X	
58.		Compressor stations: Liquid removal. 192.165 (a) & (b) Cardinal has no compression			X	
59.		Compressor stations: Emergency shutdown. 192.167 (a) thru (c) Cardinal has no compression			X	
60.	480-93-180 (1)	Compressor stations: Pressure limiting devices. 192.169 (a) & (b) Cardinal has no compression			X	
61.		Compressor stations: Additional safety equipment. 192.171 (a) thru (e) Cardinal has no compression			X	
62.		Compressor stations: Ventilation. 192.173 Cardinal has no compression			X	
63.		Pipe-type and bottle-type holders. 192.175 Cardinal has no such holders			X	
64.		Additional provisions for bottle-type holders. 192.177 Cardinal has no such holders			X	
65.	480-93-180 (1)	Transmission line valves.192.179 (a) thru (d) Section 11.2.4	X			
66.		Distribution line valves. 192.181(a) thru (c) Cardinal has no distribution			X	
67.	480-93-180 (1)	Vaults: Structural design requirements 192.183 (a) thru (c) Cardinal has no vaults			X	
68.		Vaults: Accessibility 192.185 (a) thru (c) Cardinal has no vaults			X	
69.		Vaults: Sealing, venting, and ventilation. 192.187 (a) thru (c) Cardinal has no vaults			X	
70.		Vaults: Drainage and waterproofing 192.189 (a) thru (c) Cardinal has no vaults			X	
71.		Design pressure of plastic fittings 192.191 (a) & (b) Cardinal does not use plastic pipe			X	
72.		Valve installation in plastic pipe. 192.193 Cardinal does not use plastic pipe			X	
73.		Protection against accidental over-pressuring 192.195 (a) & (b) Section 2.4.3 & 11.2.5	X			
74.		Control of the pressure of gas delivered from high-pressure distribution systems. 192.197 (a) thru (c) Cardinal is not distribution			X	
75.	480-93-180 (1)	Except for rupture discs, each pressure relief or pressure limiting device must: 192.199 (a) thru (h) Cardinal does not use pressure limiting devices, see sections 2.4.3 & 11.2.5			X	
76.		Required capacity of pressure relieving and limiting stations. 192.201(c) Cardinal does not use pressure limiting devices, see sections 2.4.3 & 11.2.5			X	
77.		Instrument, Control, and Sampling Pipe and Components 192.203(a) & (b) Section 11.2.6	X			

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Comments:

Items #48-56 – Use minimum requirements of § 192 Subpart D.
Items #57-62 – No Compressor Stations.
Items #63, 64 – No bottle holders used.
Items #66-70 – No vaults
Items # 71,72 – No Plastic pipe.
Item # 74 – Cardinal is NOT distribution
Items #75-76 – Cardinal does not use overpressure protection.

		SUBPART E – WELDING OF STEEL IN PIPELINES WAC 480-93-080 – WELDER & PLASTIC JOINER IDENTIFICATION and QUALIFICATION	S	U	N/A	N/C
78.	480-93-180(1)	Welding procedures must be qualified under **Section 5 of API 1104** (19th ed.1999, 10/31/01 errata) or **Section IX of ASME Boiler and Pressure Code** (2001 ed.) by destructive test. .225(a) Section 11.5.2.(a)	X			
79.		Retention of welding procedure – details and test .225(b) Section 11.5.2.(a)	X			
80.		Welders must be qualified by **Section 6 of API 1104** (19th ed.1999, 10/31/01 errata) or **Section IX of ASME Boiler and Pressure Code** (2001 ed.) See exception in .227(b). .227(a) Section 11.5.3	X			
81.		Welders may be qualified under **section I of Appendix C** to weld on lines that operate at < **20% SMYS.** .227(b) Cardinal does not use this provision in the code.			X	
		Oxyacetylene welders may qualify under 49 CFR § 192 Appendix C, but may only weld the following size pipe: 480-93-080(1)(a) Cardinal does not use OA welding	S	U	N/A	N/C
82.	480-93-180 (1)	• Nominal **two-inch** or smaller branch connections to nominal **six-inch** or smaller main or service pipe. 480-93-080(1)(a)(i) Cardinal does not use OA welding			X	
83.		• Nominal **two-inch** or smaller below ground butt welds 480-93-080(1)(a)(ii) • Cardinal does not use OA welding			X	
84.	480-93-180(1)	• Nominal **four-inch** or smaller above ground manifold and meter piping operating at 10 psig or less. 480-93-080(1)(a)(iii) Cardinal does not use OA welding			X	
85.		• Appendix C Welders re-qualified **2/Yr (7.5Months)** 480-93-080(1)(a)(iv) • Cardinal does not use OA welding			X	
86.		Use of testing equipment to record and document essential variables 480-93-080(1)(b) (eff 6/02/05) Section 11.5.2.(a)	X			
87.		Qualified written welding procedures must be located on-site where welding is being performed 480-93-080(1)(d) Section 11.5.2.(d)	X			
88.		Identification and qualification cards/certificates w/name of welder/joiner, their qualifications, date of qualification and operator whose qualification procedures were followed. 480-93-080(3) (eff 6/02/05) Section 11.5.2.(c)	X			
89.	480-93-180(1)	To weld on compressor station piping and components, a welder must successfully complete a destructive test .229(a) Cardinal has no compression			X	
90.		Welder must have used welding process within the preceding **6 months** .229(b) Section 11.5.4	X			
91.		A welder qualified under .227(a)... .229(c)				
92.		• May not weld on pipe that operates at ≥ 20% SMYS unless within the preceding 6 calendar months the welder has had one weld tested and found acceptable under the **sections 6 or 9 of API Standard 1104**; may maintain an ongoing qualification status by performing welds tested and found acceptable at least **twice per year**, not exceeding **7½ months**; may not requalify under an earlier referenced edition. .229(c)(1) Section 11.5.4	X			
93.		• May not weld on pipe that operates at < 20% SMYS unless is tested in accordance with .229(c)(1) or re-qualifies under .229(d)(1) or (d)(2). .229(c)(2) • Cardinal does not use this provision in the code.			X	
		Welders qualified under .227(b) may not weld unless: .229(d)	S	U	N/A	N/C
94.		• Re-qualified within **1 year/15 months**, or .229(d)(1) Section 11.5.4	X			

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95.	480-93-180(1)	• Within **7½ months** but at least **twice per year** had a production weld pass a qualifying test .229(d)(2) Section 11.5.4	X			
96.		Welding operation must be protected from weather .231 Section 11.5.5.(a)	X			
97.		Miter joints **(consider pipe alignment)** .233 Section 11.5.5.(e)	X			
98.		Welding preparation and joint alignment .235 Section 11.5.5.(a)	X			
99.		Visual inspection must be conducted by an individual qualified by appropriate training and experience to ensure: .241(a) thru (c) Section 11.5.5.(b)	X			
100.		Nondestructive testing of welds must be performed by any process, other than trepanning, that clearly indicates defects that may affect the integrity of the weld .243 (a) thru (f) Section 11.5.5.(b), (c), (d)	X			
101.		Repair or removal of defects.245 (a) thru (c) Section 11.5.6	X			
		• Sleeve Repair – low hydrogen rod **(Best Practices –ref. API 1104 App. B, In Service Welding)** Section 11.5.6.3.(d)				

Comments:

Item #81 – Cardinal does NOT use this provision of the code.
Items # 82-85 – Cardinal does NOT use OA welding.
Item #89 – No compressors
Item #93 – Cardinal does NOT use this provision of the code.

SUBPART F - JOINING OF PIPELINE MATERIALS OTHER THAN BY WELDING WAC 480-93-080 – WELDER & PLASTIC JOINER IDENTIFICATION and QUALIFICATION			S	U	N/A	N/C
102.	480-93-180(1)	Joining of plastic pipe .281 Cardinal does not use plastic pipe			X	
103.		A plastic pipe joint that is joined by solvent cement, adhesive, or heat fusion may not be disturbed until it has properly set. Plastic pipe may not be joined by a threaded joint or miter joint. 281(a) Cardinal does not use plastic pipe			X	
104.		Each solvent cement joint on plastic pipe must comply with the following: .281(b) Cardinal does not use plastic pipe			X	
105.		• The mating surfaces of the joint must be clean, dry, and free of material which might be detrimental to the joint. .281(b)(1) Cardinal does not use plastic pipe			X	
106.		• The solvent cement must conform to ASTM Designation: D 2513. .281(b)(2) Cardinal does not use plastic pipe			X	
107.		• The joint may not be heated to accelerate the setting of the cement. .281(b)(3) Cardinal does not use plastic pipe			X	
108.		Each heat-fusion joint on plastic pipe must comply with the following: .281(c) Cardinal does not use plastic pipe			X	
109.		• A butt heat-fusion joint must be joined by a device that holds the heater element square to the ends of the piping, compresses the heated ends together, and holds the pipe in proper alignment while the plastic hardens. .281(c)(1) Cardinal does not use plastic pipe			X	
110.		• A socket heat-fusion joint must be joined by a device that heats the mating surfaces of the joint uniformly and simultaneously to essentially the same temperature. .281(c)(2) Cardinal does not use plastic pipe			X	
111.		• An electrofusion joint must be joined utilizing the equipment and techniques of the fittings manufacturer or equipment and techniques shown, by testing joints to the requirements of §192.283(a)(1)(iii), to be at least equivalent to those of the fittings manufacturer. .281(c)(3) Cardinal does not use plastic pipe			X	
112.		• Heat may not be applied with a torch or other open flame. .281(c)(4) Cardinal does not use plastic pipe			X	
113.		Each adhesive joint on plastic pipe must comply with the following: .281(d) Cardinal does not use plastic pipe			X	
114.		• The adhesive must conform to ASTM Designation: D 2517. .281(d)(1) Cardinal does not use plastic pipe			X	

115.		• The materials and adhesive must be compatible with each other. .281(d)(1) Cardinal does not use plastic pipe			X	
116.		Each compression type mechanical joint on plastic pipe must comply with the following: .281(e) Cardinal does not use plastic pipe			X	
117.		• The gasket material in the coupling must be compatible with the plastic. .281(e)(1) Cardinal does not use plastic pipe			X	
118.		• A rigid internal tubular stiffener, other than a split tubular stiffener, must be used in conjunction with the coupling. .281(e)(2) Cardinal does not use plastic pipe			X	
119.	480-93-180(1)	Before any written procedure established under §192.273(b) is used for making plastic pipe joints by a heat fusion, solvent cement, or adhesive method, the procedure must be qualified by subjecting specimen joints made according to the procedure to the following tests: .283(a) Cardinal does not use plastic pipe			X	
120.		The burst test requirements of– .283(a)(1) Cardinal does not use plastic pipe			X	
121.		• Thermoplastic pipe: paragraph 6.6 (sustained pressure test) or paragraph 6.7 (Minimum Hydrostatic Burst Test) or paragraph 8.9 (Sustained Static pressure Test) of ASTM D2513 .283(a)(1)(i) Cardinal does not use plastic pipe			X	
122.		• Thermosetting plastic pipe: paragraph 8.5 (Minimum Hydrostatic Burst Pressure) or paragraph 8.9 (Sustained Static Pressure Test) of ASTM D2517; or .283(a)(1)(ii) Cardinal does not use plastic pipe			X	
123.		• Electrofusion fittings for polyethylene pipe and tubing: paragraph 9.1 (Minimum Hydraulic Burst Pressure Test), paragraph 9.2 (Sustained Pressure Test), paragraph 9.3 (Tensile Strength Test), or paragraph 9.4 (Joint Integrity Tests) of ASTM Designation F1055. .283(a)(1)(iii) Cardinal does not use plastic pipe			X	
124.		For procedures intended for lateral pipe connections, subject a specimen joint made from pipe sections joined at right angles according to the procedure to a force on the lateral pipe until failure occurs in the specimen. If failure initiates outside the joint area, the procedure qualifies for use; and, .283(a)(2) Cardinal does not use plastic pipe			X	
125.	480-93-180(1)	For procedures intended for non-lateral pipe connections, follow the tensile test requirements of ASTM D638, except that the test may be conducted at ambient temperature and humidity If the specimen elongates no less than 25 percent or failure initiates outside the joint area, the procedure qualifies for use. .283(a)(3) Cardinal does not use plastic pipe			X	
126.		Before any written procedure established under §192.273(b) is used for making mechanical plastic pipe joints that are designed to withstand tensile forces, the procedure must be qualified by subjecting five specimen joints made according to the procedure to the following tensile test: .283(b) Cardinal does not use plastic pipe				
127.		• Use an apparatus for the test as specified in ASTM D 638 (except for conditioning). .283(b)(1) Cardinal does not use plastic pipe			X	
128.		• The specimen must be of such length that the distance between the grips of the apparatus and the end of the stiffener does not affect the joint strength. .283(b)(2) Cardinal does not use plastic pipe			X	
129.		• The speed of testing is 0.20 in. (5.0 mm) per minute, plus or minus 25 percent. .283(b)(3) Cardinal does not use plastic pipe			X	
130.		• Pipe specimens less than 4 inches (102 mm) in diameter are qualified if the pipe yields to an elongation of no less than 25 percent or failure initiates outside the joint area. .283(b)(4) Cardinal does not use plastic pipe			X	
131.		• Pipe specimens 4 inches (102 mm) and larger in diameter shall be pulled until the pipe is subjected to a tensile stress equal to or greater than the maximum thermal stress that would be produced by a temperature change of 100° F (38° C) or until the pipe is pulled from the fitting. If the pipe pulls from the fitting, the lowest value of the five test results or the manufacturer's rating, whichever is lower must be used in the design calculations for stress. .283(b)(5) Cardinal does not use plastic pipe			X	
132.		• Each specimen that fails at the grips must be retested using new pipe. .283(b)(6) Cardinal does not use plastic pipe			X	
133.		• Results pertain only to the specific outside diameter, and material of the pipe tested, except that testing of a heavier wall pipe may be used to qualify pipe of the same material but with a lesser wall thickness. .283(b)(7) Cardinal does not use plastic pipe			X	
134.		A copy of each written procedure being used for joining plastic pipe must be available to the persons making and inspecting joints. .283(c) Cardinal does not use plastic pipe			X	

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135.		Pipe or fittings manufactured before July 1, 1980, may be used in accordance with procedures that the manufacturer certifies will produce a joint as strong as the pipe. .283(d) Cardinal does not use plastic pipe			X	
136.		No person may make a plastic pipe joint unless that person has been qualified under the applicable joining procedure by: .285(a) Cardinal does not use plastic pipe				
137.		• Appropriate training or experience in the use of the procedure; and .285(a)(1) Cardinal does not use plastic pipe			X	
138.		• Making a specimen joint from pipe sections joined according to the procedure that passes the inspection and test set forth in paragraph (b) of this section. .285(a)(2) Cardinal does not use plastic pipe			X	
139.	480-93-180(1)	The specimen joint must be: .285(b) Cardinal does not use plastic pipe				
140.		• Visually examined during and after assembly or joining and found to have the same appearance as a joint or photographs of a joint that is acceptable under the procedure; and .285(b)(1) Cardinal does not use plastic pipe			X	
141.		• In the case of a heat fusion, solvent cement, or adhesive joint; .285(b)(2) Cardinal does not use plastic pipe			X	
142.		Tested under any one of the test methods listed under §192.283(a) applicable to the type of joint and material being tested; .285(b)(2)(i) Cardinal does not use plastic pipe			X	
143.		Examined by ultrasonic inspection and found not to contain flaws that may cause failure; or .285(b)(2)(ii) Cardinal does not use plastic pipe			X	
144.	480-93-180(1)	Cut into at least three longitudinal straps, each of which is: .285(b)(2)(iii) Cardinal does not use plastic pipe			X	
145.		Visually examined and found not to contain voids or discontinuities on the cut surfaces of the joint area; and .285(b)(2)(iii)(A) Cardinal does not use plastic pipe			X	
146.		Deformed by bending, torque, or impact, and if failure occurs, it must not initiate in the joint area. .285(b)(2)(iii)(B) Cardinal does not use plastic pipe			X	
147.		A person must be requalified under an applicable procedure, if during any 12-month period that person: .285(c) Cardinal does not use plastic pipe				
148.		• Does not make any joints under that procedure; or .285(c)(1) Cardinal does not use plastic pipe			X	
149.	480-93-180(1)	• Has 3 joints or 3 percent of the joints made, whichever is greater, under that procedure that are found unacceptable by testing under §192.513. .285(c)(2)			X	
150.		Each operator shall establish a method to determine that each person making joints in plastic pipelines in the operator's system is qualified in accordance with this section. .285(d) Cardinal does not use plastic pipe			X	
		Plastic pipe joiners re-qualified **1/Yr (15 Months)** 480-93-080 (2) Cardinal does not use plastic pipe				
151.		• Qualified written plastic joining procedures must be located on-site where plastic joining is being performed. 480-93-080(2)(a) Cardinal does not use plastic pipe			X	
152.	480-93-180(1)	• Plastic pipe joiners re-qualified if no production joints made during any 12 month period 480-93-080(2)(b) (eff 6/02/05) Cardinal does not use plastic pipe			X	
153.		• Tracking production joints or re-qualify joiners **1/Yr (12Months)** 480-93-080(2)(c) (eff 6/02/05) Cardinal does not use plastic pipe			X	
154.	480-93-180(1) / 192.273(b)	No person may carry out the inspection of joints in plastic pipes required by §§192.273(c) and 192.285(b) unless that person has been qualified by appropriate training or experience in evaluating the acceptability of plastic pipe joints made under the applicable joining procedure. .287 Cardinal does not use plastic pipe			X	

Comments:

Items #102-154 – Cardinal does NOT use plastic pipe.

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SUBPART G – CONSTRUCTION REQUIREMENTS for TRANSMISSION LINES and MAINS			S	U	N/A	N/C
155.	480-93-180(1)	Compliance with specifications or standards. 192.303 Section 11.4.1	X			
156.		Inspection of each transmission line and main during construction 192.305 Section 11.4	X			
157.		Inspection of materials 192.307 Section 11.4.2	X			
158.		Repair of steel pipe 192.309 (a) thru (e)	X			
159.		Repair of plastic pipe. 192.311 Cardinal does not use plastic pipe			X	
160.		Bends and elbows. 192.313 (a) thru (c)	X			
161.		Wrinkle bends in steel pipe. 192.315 (a) & (b)	X			
162.		Protection from hazards 192.317 (a) thru (c) Section 11.4.3	X			
163.		Installation of Pipe in a ditch 192.319 (a) thru (c)	X			
164.		Installation of plastic pipe. 192.321 (a) thru (h) Cardinal does not use plastic pipe			X	
480-93-178 WAC PROTECTION OF PLASTIC PIPE			**S**	**U**	**N/A**	**N/C**
165.	480-93-180(1)	Procedures for the storage, handling, and installation of plastic pipelines in accordance with the latest applicable manufacturer's recommended practices. 480-93-178(1) Cardinal does not use plastic pipe			X	
166.		Stated acceptable time limit for maximum cumulative ultraviolet light exposure 480-93-178 (2) Cardinal does not use plastic pipe			X	
167.		Separation requirements when installing plastic pipelines parallel to other underground utilities 480-93-178 (4) Cardinal does not use plastic pipe			X	
168.		Separation requirements when installing plastic pipelines perpendicular to other underground utilities 480-93-178 (5) Cardinal does not use plastic pipe			X	
169.		Casings 192.323 (a) thru (d) Cardinal does not use plastic pipe			X	
170.		Casing of pipelines. 480-93-115 (1) thru (4) Cardinal does not use plastic pipe			X	
171.		Underground clearance. 192.325 (a) thru (d). Cardinal does not use plastic pipe			X	
172.		Cover. 192.327 (a) thru (g) Cardinal does not use plastic pipe			X	

Comments:

Items # 159, 164, 165-172 – N/A No Plastic pipe.

SUBPART H - CUSTOMER METERS, SERVICE REGULATORS, and SERVICE LINES						
			S	**U**	**N/A**	**N/C**
173.	480-93-180 (1)	Meters and service regulators installed at locations as prescribed under 192.353 (a) thru (d) Does not apply to Cardinal			X	
174.		Service regulator vents and relief vents installed and protected from damage. Vaults housing meters and regulators protected from loading due to vehicular traffic. 192.355 (a) thru (c) Does not apply to Cardinal			X	
175.	480-93-180 (1)	Meters and regulators installed to minimize stresses and insure that potential releases vent to outside atmosphere. 192.357 (a) thru (d) Does not apply to Cardinal			X	
480-93-140 WAC SERVICE REGULATORS			**S**	**U**	**N/A**	**N/C**
176.	480-93-180 (1)	Procedures for installing, operating, and maintaining service regulators in accordance with federal and state regulations, and manufacturer's recommended installation and maintenance practices. 480-93-140(1) Does not apply to Cardinal			X	
177.		Procedures for inspecting and testing service regulators and associated safety devices during the initial turn-on, and when a customer experiences a pressure problem. Testing must include..... 480-93-140(2) Does not apply to Cardinal			X	
178.		Minimum service line installation requirements as prescribed under **192.361 (a) thru (g)** Does not apply to Cardinal			X	

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SUBPART H - CUSTOMER METERS, SERVICE REGULATORS, and SERVICE LINES						
179.	480-93-180 (1)	Location of service-line valves as prescribed under **192.365 (a) thru (c)** Does not apply to Cardinal			X	
180.		General requirements for locations of service-line connections to mains and use of compression fittings **192.367 (a) thru (b)(2)** Does not apply to Cardinal			X	
181.		Connections of service lines to cast iron or ductile iron mains. 192.369 (a) thru (b) Does not apply to Cardinal			X	
182.		Provisions for new service lines not in use 192.379 (a) thru (c) Does not apply to Cardinal			X	
183.		Excess flow valve performance standards 192.381 (a) thru (e) Does not apply to Cardinal			X	
184.		Excess flow valve customer notification. 192.383 (a) thru (f) Does not apply to Cardinal			X	

Comments:

Inspection form V was revised Feb 2010 to incorporate the following items. Questions for EFV's 183 and 184 were expanded to 183. 184 & 185. Add one to all numbers past the new EFV section. For Cardinal there is no effect. They are not distribution.

183.	480-93-180 (1)	If EFVs are installed, they must meet the performance requirements of §192.381 (a) thru (e)
184.		If the operator **has** a voluntary installation program for excess flow valves, the program must meet the requirements outlined in §192.383.
185.		If the operator **does not** have a voluntary program for EFV installations, customers must be **notified** in accordance with §192.383.

Items #173-184 – Does NOT apply to Cardinal
Items #183-185 – Does NOT apply to Cardinal.

SUBPART I - CORROSION CONTROL			S	U	N/A	N/C
186.	480-93-180(1)	Corrosion procedures established for the Design, Operations, Installation & Maintenance of CP systems, carried out by, or under the direction of, a person qualified in pipeline corrosion control methods .453 Section 4.1	X			
187.	480-93-180(1)	For pipelines installed **after July 31, 1971**, buried segments must be externally coated and .455 (a) cathodically protected within **one year** after construction (see exceptions in code) .455 (b) Section 4.4.1(a)	X			
188.	480-93-180(1)	Aluminum may not be installed in a buried or submerged pipeline if exposed to an environment with a natural **pH in excess of 8** (see exceptions in code) .455 (c) Cardinal does not utilize aluminum components			X	
189.	480-93-180(1)	All effectively coated steel transmission pipelines installed prior to **August 1, 1971**, must be cathodically protected .457 (a) Cardinal does not have piping installed prior to August 1, 1971			X	
190.		If installed **before August 1, 1971**, cathodic protection must be provided in areas of active corrosion for: bare or ineffectively coated transmission lines, and bare or coated c/s, regulator sta., meter sta. piping, and (except for cast iron or ductile iron) bare or coated distribution lines. .457 (b) Cardinal does not have piping installed prior to August 1, 1971			X	
191.		Written procedures explaining how cathodic protection related surveys, reads, and tests will be conducted. 480-93-110(4) see appendix H, procedures P-25, 26, 30, 31, 32	X			
192.		Examination of buried pipeline when exposed: if corrosion is found, further investigation is required .459 Section 4.2 and procedure P-3	X			
193.		Recording the condition of all underground metallic facilities each time the facilities are exposed. 480-93-110(6) Section 4.2 and procedure P-3	X			

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		SUBPART I - CORROSION CONTROL	S	U	N/A	N/C
194.		CP test reading on all exposed facilities where coating has been removed 480-93-110(8) (eff 6/02/05) Section 4.2 and procedure P-3	X			
195.	480-93-180(1)	Procedures must address the protective coating requirements of the regulations. External coating on the steel pipe must meet the requirements of this part. .461 Section 4.3	S	U	N/A	N/C
196.		Cathodic protection level according to **Appendix D** criteria .463 Section 4.4.1.(b)		X		
197.		Pipe-to-soil monitoring (**1 per yr/15 months**) .465(a) Section 4.4.2.(b)	X			
198.		Rectifier monitoring (**6 per yr/2½ months**) .465(b) Section 4.4.2.(c) Note, Cardinal does not have rectifiers installed.			X	
199.		Interference bond monitoring (**as required**) .465(c) Section 4.4.2.(c) Note, Cardinal does not have interference bonds installed.			X	
200.		Remedial action taken within 90 days (Up to 30 additional days if other circumstances. Must document) 480-93-110(2) Section 4.8.2	X			
201.	480-93-180(1)	Electrical surveys (closely spaced pipe to soil) on bare/unprotected lines, cathodically protect active corrosion areas (**1 per 3 years/39 months**) .465(e) Cardinal does not have bare/unprotected pipe			X	
202.		Sufficient test stations to determine CP adequacy .469 Section 4.4.3.(a)	X			
203.		Test lead maintenance .471 Section 4.4.3.(c)	X			
204.		Interference currents .473 Section 4.5.3	X			
205.		Proper procedures for transporting corrosive gas? .475(a) Cardinal does not transport corrosive gas Section 4.7			X	
206.		Written program to monitor for indications of internal corrosion. The program must also have remedial action requirements for areas where internal corrosion is detected. 480-93-110(7) (eff 6/02/05) Section 4.7.2	X			
207.		Removed pipe must be inspected for internal corrosion. If found, the adjacent pipe must be inspected to determine extent. Certain pipe must be replaced. Steps must be taken to minimize internal corrosion. .475(b) Section 4.7.2.(b)	X			
208.		Systems to reduce internal corrosion Amdt 192- (no number) Pub. 4/23/07, eff. 5/23/07 (a) New construction .476 No new construction.			X	
209.		(b) Exceptions – offshore pipeline and systems replaced before 5/23/07 None			X	
210.		(c) Evaluate impact of configuration changes to exisiting systems No change			X	
211.	480-93-180(1)	Internal corrosion control coupon (or other suit. Means) monitoring (**2 per yr/7½ months**) .477 Cardinal does not transport corrosive gas (section 4.7) and does not have corrosion coupons installed			X	
212.		Each exposed pipe must be cleaned and coated (see exceptions under **.479(c)**) .479(a) section 4.6	X			
213.		Offshore splash zones and soil-to-air interfaces must be coated section 4.6.1.(b)	X			
214.		• Coating material must be suitable .479(b) section 4.6.1.(a)	X			
215.		Coating is not required where operator has proven that corrosion will: .479(c) section 4.6.1.(e), (f), (g)	X			
216.		1. Only be a light surface oxide, or .479(c)(1) section 4.6.1.(e), (f), (g)	X			
217.		2. Not affect safe operation before next scheduled inspection .479(c)(2) section 4.6.1.(e), (f), (g)	X			
218.		Written atmospheric corrosion control monitoring program. The program must have time frames for completing remedial action. 480-93-110(9) (eff 6/02/05) section 4.6 and procedure P-31	X			
219.		Atmospheric corrosion control monitoring (**1 per 3 yrs/39 months onshore; 1 per yr/15 months offshore**) .481(a) section 4.6.1.(b), (c), (d)	X			
220.		Special attention required at soil/air interfaces, thermal insulation, under dis-bonded coating, pipe supports, splash zones, deck penetrations, spans over water .481(b) section 4.6.1.(b).	X			
221.		Protection must be provided if atmospheric corrosion is found (**per §192.479**) .481(c) section 4.6.1.(c)	X			
222.		Replacement and required pipe must be coated and cathodically protected (see code for exceptions) .483 section 10.1.3	X			
223.		Procedures to replace pipe or reduce the **MAOP** if general corrosion has reduced the wall thickness? .485(a) section 4.8.1	X			
224.		Procedures to replace/repair pipe or reduce **MAOP** if localized corrosion has reduced wall thickness (unless reliable engineering repair method exists)? .485(b) section 4.8	X			

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		SUBPART I - CORROSION CONTROL	S	U	N/A	N/C
225.	480-93-180(1)	Procedures to use **Rstreng** or **B-31G** to determine remaining wall strength? .485(c) section 4.8.3	X			
226.		Remedial measures (distribution lines other than cast iron or ductile iron) .487 Cardinal has no distribution			X	
227.		Remedial measures (cast iron and ductile iron pipelines) .489 Cardinal has no cast iron pipe			X	
228.		Records retained for <u>each</u> cathodic protection test, survey, or inspection required by 49 CFR Subpart I, and chapter 480-93 WAC. 480-93-110 section 1.11.13.(c) and section 4.10	X			
229.		Corrosion control maps and record retention (**pipeline service life or 5 yrs**) .491 section 1.11.13.(c) and section 4.10	X			
		WAC 480-93-110 Corrosion Requirements	**S**	**U**	**N/A**	**N/C**
230.	480-93-180(1)	Casings inspected/tested annually not to exceed **fifteen months** 480-93-110(5) section 4.5.2			X	
231.		Casings w/no test leads installed prior to 9/05/1992. Demonstrate other acceptable test methods 480-93-110(5)(a) section 4.5.2			X	
232.		Possible shorted conditions – Perform confirmatory follow-up inspection within **90** days 480-93-110(5)(b) section 4.5.2			X	
233.		Casing shorts cleared when practical 480-93-110(5)(c) section 4.5.2			X	
234.	480-93-180(1)	Shorted conditions leak surveyed within 90 days of discovery. **Twice annually/7.5 months** 480-93-110(5)(d) section 4.5.2			X	
235.		CP Test Equipment and Instruments checked for accuracy/intervals (Mfct Rec or Opr Sched) 480-93-110(3) section 4.9	X			

Comments:

Item #188 – NO Aluminum in Cardinal system.
Items #189, 190 – NO pipe prior to August 1, 1971
Item #196 – U – IR drop NOT considered when determining level of Cathodic protection.
Item #198 – NO rectifiers in Cardinal system.
Item #199 – NO Interference Bonds
Item #201 – Cardinal has NO bare/unprotected pipe.
Items #205 – Cardinal does NOT transport corrosive gas.
Items #208-210 – No new construction, no changes in design.
Items #211 – Cardinal does NOT transport corrosive gas.
Item #226 – Cardinal has no distribution.
Item #227 – Cardinal has no cast iron pipe.
Items #230-234 – NO casings in Cardinal system.

		SUBPART J – TEST REQUIREMENTS	S	U	N/A	N/C
236.	480-93-180(1)	Procedures to ensure that the provisions found under 192.503(a) thru (d) for new segments of pipeline, or Return to Service segments of pipeline which have been relocated or replaced are met. section 11.5.7	X			
237.		Strength test requirements for steel pipeline to operate at a hoop stress of 30 percent or more of SMYS. 192.505 (a) thru (e) section 11.5.7 and appendix D	X			
238.		Test requirements for pipelines to operate at a hoop stress less than 30 percent of SMYS and at or above 100 psig. 192.507 (a) thru (c) Does not apply to Cardinal			X	
239.		Test requirements for pipelines to operate below 100 psig. 192.509 (a) & (b) Does not apply to Cardinal			X	
240.		Test requirements for service lines. 192.511 (a) thru (c) Does not apply to Cardinal			X	
241.		Test requirements for plastic pipelines. 192.513 (a) thru (d) Cardinal does not use plastic pipe			X	
242.		Environmental protection and safety requirements. 192.515 (a) & (b) section 11.5.7.5			X	
243.		Records 192.517 Refer also to 480-93-170 (7) (a-h) below. section 11.5.7.7 and section 1.11.13.(c)	X			

Comments:

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Items #238-242 – Do NOT apply to Cardinal.

		WAC 480-93-170 PRESSURE TEST PROCEDURES	S	U	N/A	N/C
244.	480-93-180(1)	Notification in writing, to the commission, at least two business days prior to any pressure test of a gas pipeline that will have a MAOP that produces a hoop stress of twenty percent or more of the SMYS 480-93-170(1) section 11.5.7.5	X			
245.		• In Class 3 or Class 4 locations, as defined in 49 CFR § 192.5, or within one hundred yards of a building, must be at least eight hours in duration. 480-93-170(1)(a) section 11.5.7.6	X			
246.		• When the test medium is to be a gas or compressible fluid, each operator must notify the appropriate public officials so that adequate public protection can be provided for during the test. 480-93-170(1)(b) section 11.5.7.3	X			
247.		• In an emergency situation where it is necessary to maintain continuity of service, the requirements of subsection (1) of this section and subsection (1)(a) may be waived by notifying the commission by telephone prior to performing the test. 480-93-170(1)(c) section 11.5.7.3	X			
248.		Minimum test pressure for any steel service line or main, must be determined by multiplying the intended MAOP by a factor determined in accordance with the table located in 49 CFR § 192.619 (a)(2)(ii). 480-93-170(2) section 11.5.7.3 and appendix D	X			
249.	480-93-180(1)	Re-testing of service lines broken, pulled, or damaged, resulting in the interruption of gas supply to the customer, must be pressure tested from the point of damage to the service termination valve prior to being placed back into service. 480-93-170(4) Cardinal does not have any distribution			X	
250.		Maintain records of all pressure tests performed for the life of the pipeline and document information as listed under 480-93-170(7) (a-h). section 11.5.7.7 and section 1.11.13.(c)	X			
251.		Maintain records of each test where multiple pressure tests are performed on a single installation. 480-93-170(9) section 11.5.7.7 and section 1.11.13.(c)	X			
252.		Pressure testing equipment must be maintained, tested for accuracy, or calibrated, in accordance with the manufacturer's recommendations.480-93-170(10) section 11.5.7.4	X			
253.		• When there are no manufacturer's recommendations, then tested at an appropriate schedule determined by the operator. section 11.5.7.4	X			
254.		• Test equipment must be tagged with the calibration or accuracy check expiration date. section 11.5.7.4	X			

Comments:

Item #249 – Cardinal does NOT have distribution.

		SUBPART K - UPRATING	S	U	N/A	N/C
		Provisions for meeting the minimum requirements for increasing maximum allowable operating pressure (uprating) for pipelines.				
255.	480-93-180(1)	General requirements. 192.553 (a) thru (d) section 2.4.5	X			
256.		Uprating to a pressure that will produce a hoop stress of **30 % or more** of SMYS in steel pipelines. 192.555 (a) thru (e) section 2.4.5	X			
257.		Uprating: Steel pipelines to a pressure that will produce a hoop stress **less than 30 %** of SMYS: (plastic, iron, and ductile iron pipelines.) 192.557 (a) thru (d) section 2.4.5	X			
		WAC 480-93-155 - UPRATING				
258.		Notification of uprate and submission of written plan 480-93-155 (1) section 2.4.5			X	

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SUBPART K - UPRATING						
259.	480-93-180(1)	Content of written plan… 480-93-155 (1) (a) thru (j) section 2.4.5			X	
260.		Uprates must be based on a previous or current pressure test that will substantiate the intended MAOP. 480-93-155 (2) section 2.4.5			X	

Comments:

Items #258-260 – Cannot up-rate this pipeline over the current MAOP.

SUBPART L - OPERATIONS			S	U	N/A	N/C
261.	480-93-180(1) / 192.605(a)	Procedural Manual Review – Operations and Maintenance (**1 per yr/15 months**) 192.605(a) section 1.13	X			
262.		Availability of construction records, maps, operating history to operating personnel 192.605(b)(3) section 3.2.1	X			
263.		Start up and shut down of the pipeline to assure operation within **MAOP** plus allowable buildup 192.605(b)(5) section 2.4.3			X	
264.		Periodic review of personnel work – effectiveness of normal O&M procedures 192.605(b)(8) section 1.10	X			
265.		Taking adequate precautions in excavated trenches to protect personnel from the hazards of unsafe accumulations of vapors or gas, and making available when needed at the excavation, emergency rescue equipment, including a breathing apparatus and a rescue harness and line 192.605(b)(9) section 5.8	X			
266.		Routine inspection and testing of pipe-type or bottle-type holders 192.605(b)(10) Cardinal has no such holders			X	
267.		Responding promptly to a report of a gas odor inside or near a building, unless the operator's emergency procedures under §192.615(a)(3) specifically apply to these reports. 192.605(b)(11) section 3.7	X			

Comments:

Item #263 – Cannot overpressure pipe from gas source. (Williams delivery is 960 psig)
Item #266 – Cardinal has NO pipe-type or bottle-type holders.

SUBPART L – OPERATIONS ABNORMAL OPERATING PROCEDURES – TRANSMISSION LINES						
		Procedures for responding to, investigating, and correcting the cause of: 192.605(c)(1)	S	U	N/A	N/C
268.	480-93-180(1) / 192.605(a)	• Unintended closure of valves or shut downs 192.605(c)(1)(i) section 8.5.1.(a) and Appendix F	X			
269.		• Increase or decrease in pressure or flow rate outside of normal operating limits 192.605(c)(1)(ii) section 8.5.1.(b) and Appendix F	X			
270.		• Loss of communications 192.605(c)(1)(iii) section 8.5.1.(c) and Appendix F	X			
271.		• The operation of any safety device 192.605(c)(1)(iv) section 8.5.1.(d) and Appendix F	X			
272.		• Malfunction of a component, deviation from normal operations or personnel error 192.605(c)(1)(v) section 8.5.1.(e) and Appendix F	X			

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SUBPART L – OPERATIONS ABNORMAL OPERATING PROCEDURES – TRANSMISSION LINES						
273.		Checking variations from normal operation after abnormal operations ended at sufficient critical locations 192.605(c)(2) section 8.6	X			
274.		Notifying the responsible operating personnel when notice of an abnormal operation is received 192.605(c)(3) section 8.4.2	X			
275.		Periodic review of personnel work – effectiveness of abnormal operation procedures 192.605(c)(4) section 8.4.3	X			

Comments:

SUBPART – L CHANGE in CLASS LOCATION PROCEDURES			S	U	N/A	N/C
276.	480-93-180(1) /	Class location study 192.609 section 3.5	X			
277.	192.605(a)	Confirmation or revision of MAOP 192.611 section 3.5.8	X			

SUBPART – L CONTINUING SURVEILLANCE PROCEDURES			S	U	N/A	N/C
278.	192.613	Procedures for surveillance and required actions relating to change in class location, failures, leakage history, corrosion, substantial changes in CP requirements, and unusual operating and maintenance conditions 192.613(a) section 3.4	X			
279.	192.613	Procedures requiring **MAOP** to be reduced, or other actions to be taken, if a segment of pipeline is in unsatisfactory condition 192.613(b) section 3.4.5	X			

SUBPART – L DAMAGE PREVENTION PROGRAM PROCEDURES			S	U	N/A	N/C
280.	480-93-180(1) / 192.605(a)	Participation in a qualified one-call program, or if available, a company program that complies with the following: section 5.4	X			
281.		Identify persons who engage in excavating .614(c)(1) section 5.3.1	X			
282.		Provide notification to the public in the One Call area .614(c) (2) section 5.4	X			
283.		Provide means for receiving and recording notifications of pending excavations .614(c) (3) section 5.4	X			
284.		Provide notification of pending excavations to the members .614(c) (4) section 5.4	X			
285.		Provide means of temporary marking for the pipeline in the vicinity of the excavations .614(c) (5) section 5.4 & Procedure P-1	X			
286.		Provides for follow-up inspection of the pipeline where there is reason to believe the pipeline could be damaged .614(c) (6) section 5.4.7 & 5.6.3 & 5.7.3	X			
287.		Inspection must be done to verify integrity of the pipeline .614(c)(6)(i) section 5.4.7 & 5.6.3 & 5.7.3	X			
288.		After blasting, a leak survey must be conducted as part of the inspection by the operator .614(c)(6)(ii) section 5.7.2.(e)	X			
289.		**Damage Prevention (Operator Internal Performance Measures)**				
290.		Does the operator have a quality assurance program in place for monitoring the locating and marking of facilities? **Not in writing, but every year for the Cardinal statistics report, Bob reviews every locate ticket and would note if there was a call back or mis-locate. There have been NO such problems to date.** Do operators conduct regular field audits of the performance of locators/contractors and take action when necessary? (CGA Best Practices v. 6.0. Best Practice 4-18. Recommended only, not required)	X			

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		Cardinal will observe locators in the future.				
291.		Does operator including performance measures in facility locating services contracts with corresponding and meaningful incentives and penalties? **No incentives or penalties in contract, however with only 1 contract employee if there was a miss-locate then the contract employee would be retrained.**	X			
292.		Do locate contractors address performance problems for persons performing locating services through mechanisms such as re-training, process change, or changes in staffing levels? **Yes, both NW Fab and Cardinal address performance problems.**	X			
293.		Does the operator periodically review the Operator Qualification plan criteria and methods used to qualify personnel to perform locates? **NW Fab uses Neccer for all OQ including locating. NW FAB OQ has not changed. After Weyerhaeuser 2005 inspection, Jack Dent did an independent 3rd party review of NW FAB OQ plan.**	X			
294.		Review operator locating and excavation procedures for compliance with state law and regulations. **This is reviewed during O&M review. O&M Section H, Procedure P1.**	X			
295.		Are locates are being made within the timeframes required by state law and regulations? Examine record sample. **Yes, reviewed 7 locates, Cardinal completed all within the required time frame.**	X			
296.		Are locating and excavating personnel properly qualified in accordance with the operator's Operator Qualification plan and with federal and state requirements? **In 2005 Jack Dent did an independent 3rd party review of NW FAB OQ. The OQ plan has not changed since that time.**	X			
297.		**PHMSA Areas of Emphasis:** • Does the operator have directional drilling/boring procedures which include taking actions necessary to protect their facilities from the dangers posed by drilling and other trenchless technologies? Cardinal does not perform drilling or boring			X	
298.		• Does the operator review records of accidents and failures due to excavation damage to ensure causes of failures are addressed to minimize the possibility of reoccurrence?			X	

Comments:

Item #297 – No drilling or directional bore.
Item #298 – No excavation damage recorded.

		SUBPART – L EMERGENCY PROCEDURES	**S**	**U**	**N/A**	**N/C**
299.	480-93-180(1) / 192.615	Receiving, identifying, and classifying notices of events which require immediate response by the operator .615(a)(1) **Note:** Including third-party damage EPM Section 2.4	X			
300.		Establish and maintain communication with appropriate public officials regarding possible emergency .615(a)(2) EPM Section 6	X			
301.		Prompt response to each of the following emergencies: .615(a)(3) EPM Section 4	X			
302.		(i) Gas detected inside a building EPM appendix D, Level 1 response	X			
303.		(ii) Fire located near a pipeline EPM appendix E, Level 2 response	X			
304.		(iii) Explosion near a pipeline EPM appendix E, Level 2 response	X			
305.		(iv) Natural disaster EPM appendix G	X			
306.		**Note:** Including third-party damage Section 2.5.1 d	X			
307.		Availability of personnel, equipment, instruments, tools, and material required at the scene of an emergency .615(a)(4) EPM Section 8	X			
308.		Actions directed towards protecting people first, then property .615(a)(5) EPM Section 4.1	X			
309.		Emergency shutdown or pressure reduction to minimize hazards to life or property .615(a)(6) EPM Section 4.4 & EPM appendix D, E, F, G, H	X			

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310.	480-93-180(1) / 192.615	Making safe any actual or potential hazard to life or property .615(a)(7) EPM Section 4.1	X			
311.		Notifying appropriate public officials required at the emergency scene and coordinating planned and actual responses with these officials .615(a)(8) EPM Section 4.3.1.(b)	X			
312.		Instructions for restoring service outages after the emergency has been rendered safe .615(a)(9) EPM Section 5.2 & Figure 5.1	X			
313.		Investigating accidents and failures as soon as possible after emergency .615(a)(10) O&M Section 8.8	X			
314.		Furnishing applicable portions of the emergency plan to supervisory personnel who are responsible for emergency action .615(b)(1) EPM Section 1.6.4	X			
315.		Training appropriate employees as to the requirements of the emergency plan and verifying effectiveness of training .615(b)(2) EPM Section 1.8	X			
316.		Reviewing activities following emergencies to determine if the procedures were effective .615(b)(3) EPM Section 1.9	X			
317.		Establish and maintain liaison with appropriate public officials, such that both the operator and public officials are aware of each other's resources and capabilities in dealing with gas emergencies .615(c) EPM Section 6	X			

Comments:

SUBPART – L PUBLIC AWARENESS PROGRAM PROCEDURES (Also in accordance with API RP 1162)			S	U	N/A	N/C
318.	480-93-180(1) / 192.605(a)	Public Awareness Program in accordance with API RP 1162 (Amdt 192-99 pub. 5/19/05, eff. 06/20/05 and Amdt 192 – not numbered pub 12/13/07 eff. 12/13/07). .616	X			
319.		The operators program must specifically include provisions to educate the public, appropriate government organizations, and persons engaged in excavation related activities on: .616(d)	X			
320.		(1) Use of a one-call notification system prior to excavation and other Section 5.3.5.(a)	X			
321.		(2) Possible hazards associated with unintended releases from a gas pipeline facility; Section 5.3.5.(c)	X			
322.		(3) Physical indications of a possible release; Section 5.3.5.(d)	X			
323.		(4) Steps to be taken for public safety in the event of a gas pipeline release; Section 5.3.5.(f), (g), (h)	X			
324.		Does program include activities to advise affected municipalities, school districts, businesses, and residents of pipeline facility locations. .616(e) Section 5.3.4	X			
325.		The operators program and the media used must be comprehensive enough to reach all areas the operator transports gas. .616(f) Section 5.3.2	X			
326.		Is the program conducted in English and any other languages commonly understood by a significant number of the population? .616(g) Section 5.3.2	X			
327.		Operations of a master meter Cardinal does not operate a master meter system			X	
328.		Operators of a Master Meter or petroleum gas system (unless the operator transports gas as a primary activity) must develop/implement a written procedure to provide it's customers public awareness messages twice annually: .616(j) Cardinal does not operate a master meter system (1) A description of the purpose and reliability of the pipeline; (2) An overview of the hazards of the pipeline and prevention measures used; (3) Information about damage prevention; (4) How to recognize and respond to a leak; and (5) How to get additional information. Cardinal does not operate a master meter system			X	

SUBPART – L FAILURE INVESTIGATION PROCEDURES			S	U	N/A	N/C
329.	480-93-180(1) / 192.617	Analyzing accidents and failures including laboratory analysis where appropriate to determine cause and prevention of recurrence .617 Section 8.8	X			

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Comments:
Items #327, 328 – Cardinal does not operate a master meter system.

		SUBPART – L MAOP PROCEDURES	S	U	N/A	N/C
330.	480-93-180(1) 192.605(a)	Establishing **MAOP** so that it is commensurate with the class location .619 Section 2.4 & appendix D	X			
331.		**MAOP** cannot exceed the lowest of the following:				
332.		• Design pressure of the weakest element; .619(a)(1) Section 2.4 & appendix D	X			
333.		• Test pressure divided by applicable factor .619(a)(2) Section 2.4 & appendix D	X			
334.	480-93-180(1) / 192.605(a)	• The highest actual operating pressure to which the segment of line was subjected during the 5 years preceding the applicable date in second column, unless the segment was tested according to .619(a)(2) after the applicable date in the third column or the segment was uprated according to subpart K. .619(a)(3) Does not apply to Cardinal			X	
335.	480-93-180(1) 192.605(a)	• Maximum safe pressure determined by operator. .619(a)(4) Section 2.4 & appendix D	X			
336.		• Overpressure protective devices must be installed if .619(a)(4) is applicable .619(b) Section 2.4 , Cardinal does not have overpressure devices installed.			X	
337.		• The requirements on pressure restrictions in this section do not apply in the following instance. An operator may operate a segment of pipeline found to be in satisfactory condition, considering its operating and maintenance history, at the highest actual operating pressure to which the segment was subjected during the 5 years preceding the applicable date in the second column of the table in paragraph (a)(3) of this section. An operator must still comply with § 192.611 .619(c) Does not apply to Cardinal			X	
338.		MAOP - High Pressure Distribution Systems .621 Does not apply to Cardinal **Note:** New PA-11 design criteria is incorporated into 192.121 & .123 (Final Rule Pub. 12/24/08)			X	
339.		Max./Min. Allowable Operating Pressure - Low Pressure Distribution Systems .623 Does not apply to Cardinal			X	

Pipeline segment	Pressure date	Test date
-- Onshore transmission line that was a gathering line not subject to this part before March 15, 2006.	March 15, 2006, or date line becomes subject to this part, whichever is later.	5 years preceding applicable date in second column.
All other pipelines.	July 1, 1970.	July 1, 1965.

Comments:

Item #334 – Cardinal pipeline was constructed after this time period.
Item #336 – No overpressure protection required due to Williams maximum pressure less than pipeline MAOP.
Item #337 – No high 5 for Cardinal.
Items #338, 339 – No distribution.

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	WAC 480-93-015 ODORIZATION PROCEDURES		S	U	N/A	N/C
340.	480-93-180(1)	Odorization of gas at the proper concentration in air 480-93-015 (1) section 6.2	X			
341.		Use of odorant testing instrumentation/Monthly testing interval 480-93-015 (2) section 6.2	X			
342.		Odorant Testing Equipment Calibration/Intervals (Annually or Manufacturers Recommendation) 480-93-015 (3) section 6.2	X			
343.	480-93-180(1)	Records maintained for usage, odorant tests performed and equipment calibration (**5yrs**) 480-93-015(4) section 6.2	X			

Comments:

	SUBPART – L TAPPING PIPELINES UNDER PRESSURE PROCEDURES		S	U	N/A	N/C
344.	480-93-180(1)	Hot taps must be made by a qualified crew **NDT** testing is suggested prior to tapping the pipe. Reference API RP 2201 for **Best Practices**. .627 section 6.6.2.(e)	X			

	SUBPART – L PIPELINE PURGING PROCEDURES		S	U	N/A	N/C
345.	480-93-180(1)	Purging of pipelines must be done to prevent entrapment of an explosive mixture in the pipeline .629 **Section 6.5**	X			
346.	480-93-180(1)	(a) Lines containing **air** must be properly purged. section 6.5.2	X			
347.	480-93-180(1)	(b) Lines containing **gas** must be properly purged section 6.5.3, & 4	X			

Comments:

	SUBPART – M MAINTENANCE PROCEDURES		S	U	N/A	N/C
348.	480-93-180(1)	Each segment of pipeline that becomes unsafe must be replaced, repaired, or removed from Service .703(b) section 10.1.2	X			
349.	480-93-180(1)	Hazardous leaks must be repaired promptly .703(c) section 3.7	X			

Comments:

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		SUBPART - M TRANSMISSION LINES - PATROLLING & LEAKAGE SURVEY PROCEDURES	S	U	N/A	N/C
350.	480-93-180(1) /192.605(b)	Patrolling ROW conditions .705(a) section 3.6	X			
351.		Maximum interval between patrols of lines: .705 (b) **Class Location** / **At Highway and Railroad Crossings** / **At All Other Places** **1 and 2** / **2/yr (7½ months)** / **1/yr (15 months)** **3** / **4/yr (4½ months)** / **2/yr (7½ months)** **4** / **4/yr (4½ months)** / **4/yr (4½ months)**	X			
352.		Leakage surveys – **1 year/15 months** .706 section 3.6	X			
353.		Leak **detector equipment** survey requirements for lines transporting **un-odorized** gas (N/A - All pipelines in WA require odorization) Cardinal does not transport unodorized gas			X	

		WAC 480-93-185 GAS LEAK INVESTIGATION	S	U	N/A	N/C
		Procedures for the prompt investigation of any notification of a leak, explosion, or fire, which may involve gas pipelines or other gas facilities.				
354.	480-93-180(1)	• received from any outside source such as a police or fire department, other utility, contractor, customer, or the general public 480-93-185(1) section 3.7	X			
355.	480-93-180(1)	• Grade leak in accordance with WAC 480-93-186, and take appropriate action 480-93-185(1) section 3.6	X			
356.	480-93-180(1)	• retain the leak investigation record for the life of the pipeline. 480-93-185(1) section 1.11.3.c.1	X			
357.	480-93-180(1)	Prevent removal of any suspected gas facility until the commission or the lead investigative authority has designated the release of the gas facility and keep the facility intact until directed by the lead investigative authority 480-93-185(2) section 8.8	X			
358.	480-93-180(1)	Taking appropriate action when leak indications originating from a foreign source. Notification requirements. 480-93-185(3) section 3.8.10	X			

		WAC 480-93-186 LEAK EVALUATION	S	U	N/A	N/C
359.	480-93-180(1)	Grade leaks as defined in WAC 480-93-18601 to establish the leak repair priority. 480-93-186(1) section 3.7	X			
360.	480-93-180(1)	procedure for evaluating the concentration and extent of gas leakage 480-93-186(2) procedure P-8	X			
361.	480-93-180(1)	Use of a combustible gas indicator to check the perimeter of a leak area. Follow-up inspection on repaired leaks no later than thirty days following repair. 480-93-186(3) section 3.7	X			
362.	480-93-180(1)	Grade 1 and 2 leaks downgraded once to Grade 3 leak without a physical repair. After downgrade, repair must be made not to exceed twenty-one months 480-93-186(4) Not allowed	X			

Comments:

Item #353 – Cardinal does NOT transport un-odorized gas.

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	WAC 480-93-187 GAS LEAK RECORDS		S	U	N/A	N/C
		Gas leak records must contain, at a minimum, the criteria outlined in 480-93-187 (1-13)				
363.	480-93-180(1)	1) Date and time the leak was detected, investigated, reported, and repaired, and the name of the employee(s) conducting the investigation; (2) Location of the leak (sufficiently described to allow ready location by other qualified personnel); (3) Leak grade; (4) Pipeline classification (e.g., distribution, transmission, service); (5) If reported by an outside party, the name and address of the reporting party; (6) Component that leaked (e.g., pipe, tee, flange, valve); (7) Size and material that leaked (e.g., steel, plastic, cast iron); (8) Pipe condition; (9) Type of repair; (10) Leak cause; (11) Date pipe installed (if known); (12) Magnitude and location of CGI readings left; and (13) Unique identification numbers (such as serial numbers) of leak detection equipment. section 3.7, procedure P-8, P-33 & Form F-14	X			

Comments:

	WAC 480-93-188 GAS LEAK SURVEYS		S	U	N/A	N/C
364.	480-93-180(1)	gas leak surveys using a gas detection instrument covering areas listed in 480-93-188(1)(a-e) section 3.8.3	X			
365.		Gas detection instruments tested for accuracy/intervals (Mfct rec or monthly not to exceed 45 days) 480-93-188(2) section 3.8.6	X			
366.		Surveys conducted according to the minimum frequencies outlined under 480-93-188(3)(a-d) section 3.8.2	X			
367.		Surveys conducted under the following circumstances outlined under 480-93-188(4)(a-e) section 3.8.3	X			
368.		Survey records must be kept for a minimum of five years and contain information required under 480-93-188(5)(a-f) section 1.11.3.c.1	X			
369.		Self audits as necessary, but not to exceed three years between audits and meet the criteria outlined under 480-93-188(6)(a-e)	X			

Comments:

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		PIPELINE MARKERS PROCEDURES	S	U	N/A	N/C
370.	480-93-180(1)	Placement of markers - railroad, road, irrigation and drainage ditch crossings... 480-93-124 (1) section 5.5.1 & .2	X			
371.		Placement of markers - Separation/Other locations... 480-93-124 (2) & 192.707 section 5.5.1 & .2	X			
372.		Installed at each end of bridges or other spans / Inspected **1/YR (15 Months)** 480-93-124 (3) section 5.5.1 & .2	X			
373.		Markers reported missing or damaged replaced within **45 days?** 480-93-124(4) section 5.5.7	X			
374.		Surveys of pipeline markers – Not to exceed **5/YR** Records 10/Yrs minimum 480-93-124(5) section 5.5.6 & procedure P-37	X			
375.		Maintain maps, drawings or other records indicating class locations and other areas where pipeline markers are required 480-93-124(6) section 5.5.5 & form F-34	X			

Comments:

		SUBPART - M TRANSMISSION RECORD KEEPING PROCEDURES	S	U	N/A	N/C
376.	480-93-180(1) / 192.605 (b)	Records must be maintained... .709 section 1.11.3.(c)	X			
377.		(a) Repairs to the pipe – **life of system** section 1.11.3.(c)	X			
378.		(b) Repairs to "other than pipe" – **5 years** section 1.11.3.(c)	X			
379.		(c) Operation (Sub L) and Maintenance (Sub M) patrols, surveys, tests – **5 years** or until next one section 1.11.3.(c)	X			

		SUBPART - M TRANSMISSION LINE FIELD REPAIR PROCEDURES	S	U	N/A	N/C
		Imperfections and Damages				
380.	480-93-180(1) / 192.605 (b)	Repairs of imperfections and damages on pipelines operating above **40% SMYS**			X	
381.		• Cut out a cylindrical piece of pipe and replace with pipe of ≥ design strength .713(a)(1) section 10.4	X			
382.		• Use of a reliable engineering method .713(a)(2) section 10.4	X			
383.		Reduce operating pressure to a safe level during the repair .713(b) section 10.4.1	X			
		Permanent Field Repair of Welds				
384.	480-93-180(1) / 192.605 (b)	Welds found to be unacceptable under §192.241(c) must be repaired by: .715				
385.		(a) Taking the line out of service and repairing in accordance with **§192.245:** section 11.5.6	X			
386.		• Cracks longer than **8%** of the weld length (except offshore) must be removed section 11.5.6.2.(a)	X			
387.		• For each weld that is repaired, the defect must be removed down to clean metal and the pipe preheated if conditions demand it section 11.5.6.2.(b)	X			
388.		• Repairs must be inspected to ensure acceptability section 11.5.6.2.(c)	X			
389.		• Crack repairs or defect repairs in previously repaired areas must be done in accordance with qualified written welding procedures section 11.5.6.1	X			
390.		(b) If the line remains in service, the weld may be repaired in accordance with **§192.245** if:	X			
391.		• The weld is not leaking (1) section 11.5.6.3.(a)	X			
392.		• The pressure is reduced to produce a stress that is **20% of SMYS or less** (2) section 11.5.6.3.(b)	X			

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		SUBPART - M TRANSMISSION LINE FIELD REPAIR PROCEDURES	S	U	N/A	N/C
393.		• Grinding is limited so that **⅛ inch** of pipe weld remains (3) section 11.5.6.3.(c)	X			
394.		• If the weld cannot be repaired in accordance with **(a) or (b)** above, a full encirclement welded split sleeve must be installed (c) section 11.5.6.3.(d)	X			
		Permanent Field Repair of Leaks				
395.		Field repairs of leaks must be made as follows: .717				
396.	480-93-180(1) / 192.605 (b)	• Replace by cutting out a cylinder and replace with pipe similar or of greater design (a) section 10.2	X			
397.		• Install a full encirclement welded split sleeve of an appropriate design unless the pipe is **joined by mechanical couplings** and **operates at less than 40% SMYS** (b)(1) section 10.2	X			
398.		• A leak due to a corrosion pit may be repaired by installing **a bolt on leak clamp** (b)(2) section 10.2	X			
399.	480-93-180(1) / 192.605 (b)	• For a corrosion pit leak, if a pipe is not more than **40,000 psi SMYS**, the pits may be repaired by **fillet welding a steel plate**. • The plate must have **rounded corners** and the same **thickness or greater** than the pipe, and **not more than ½D** of the pipe size (b)(3) Not allowed	X			
400.		• Submerged offshore pipe or pipe in inland navigable waterways may be repaired with a mechanically applied full encirclement split sleeve of appropriate design (b)(4) Cardinal does not have any such pipe.			X	
401.		• Apply reliable engineering method (b)(5) section 10.2	X			
		Testing of Repairs				
402.	480-93-180(1) / 192.605 (b)	Replacement pipe must be pressure tested to meet the requirements of a new pipeline .719(a) section 10.6	X			
403.		(b) For lines of **6-inch diameter or larger** and that **operate at 20% or more of SMYS,** the repair must be nondestructively tested in accordance with **§192.241(c)** section 10.6.4			X	

		SUBPART - M DISTRIBUTION SYSTEM PATROLLING & LEAKAGE SURVEY PROCEDURES	S	U	N/A	N/C
404.	480-93-180(1) / 192.605 (b)	Frequency of patrolling mains must be determined by the severity of the conditions which could cause failure or leakage (i.e., consider cast iron, weather conditions, known slip areas, etc.) .721(a) Cardinal is not a distribution system			X	
405.		Patrolling surveys are required in business districts at intervals not exceeding 4½ months, but at least four times each calendar year .721 (b)(1) Cardinal is not a distribution system			X	
406.		Patrolling surveys are required outside business districts at intervals not exceeding 7½ months, but at least twice each calendar year .721 (b)(2) Cardinal is not a distribution system			X	
407.		Periodic leak surveys determined by the nature of the operations and conditions. .723 (a)& (b) Cardinal is not a distribution system			X	
408.		In business districts as specified, **1/yr (15 months)** .723(b)(1)			X	
409.		Outside of business districts as specified, once every 5 calendar years/63 mos.; for unprotected lines subject to . Cardinal is not a distribution system 465(e) where electrical surveys are impractical, once every 3 years/39 mos. .723 (b)(2)			X	

		SUBPART - M TEST REQUIREMENTS FOR REINSTATING SERVICE LINES	S	U	N/A	N/C
410.	480-93-180(1) / 192.605 (b)	Except for .725(b), disconnected service lines must be tested the same as a new service line. .725(a) Cardinal is not a distribution system			X	
411.		Service lines that are temporarily disconnected must be tested from the point of disconnection, the same as a new service line, before reconnect. See code for exception to this. .725(b) Cardinal is not a distribution system			X	

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Comments:
Item #400 – Cardinal does NOT have any offshore pipeline.
Item #403 – Cardinal pipeline operates at less than 20% SMYS.
Items #404-411 – Cardinal is NOT a distribution system.

		SUBPART - M ABANDONMENT or DEACTIVATION of FACILITIES PROCEDURES	S	U	N/A	N/C
412.	480-93-180(1) / 192.605 (b)	Operator must disconnect both ends, purge, and seal each end before abandonment or a period of deactivation where the pipeline is not being maintained. Offshore abandoned pipelines must be filled with water or an inert material, with the ends sealed .727(b) section 6.7	X			
413.		Except for service lines, each inactive pipeline that is not being maintained under Part 192 must be disconnected from all gas sources/supplies, purged, and sealed at each end. .727 (c) section 6.7			X	
414.		Whenever service to a customer is discontinued, do the procedures indicate one of the following: .727(d) Cardinal is not a distribution system			X	
415.		The valve that is closed to prevent the flow of gas to the customer must be provided with a locking device or other means designed to prevent the opening of the valve by persons other than those authorized by the operator .727(d) (1) Cardinal is not a distribution system			X	
416.		A mechanical device or fitting that will prevent the flow of gas must be installed in the service line or in the meter assembly .727(d)(2) Cardinal is not a distribution system			X	
417.		The customer's piping must be physically disconnected from the gas supply and the open pipe ends sealed .727(d) (3) section 6.7	X			
418.		If air is used for purging, the operator shall ensure that a combustible mixture is not present after purging .727 (e) section 6.7	X			
419.		Operator must file reports upon abandoning underwater facilities crossing navigable waterways, including offshore facilities. .727(g) Cardinal has no underwater facilities			X	

Comments:

Items #413-416 – Cardinal is NOT a distribution system.
Item #419 – Cardinal has no underwater facilities.

		SUBPART - M PRESSURE LIMITING and REGULATING STATION PROCEDURES	S	U	N/A	N/C
420.	480-93-180(1) / 192.605 (b)	Inspection and testing procedures for pressure limiting stations, relief devices, pressure regulating stations and equipment (**1 per yr/15 months**) .739(a) section 3.10.1	X			
421.		In good mechanical condition .739(a) (1) section 3.10.1.(a)	X			
422.		Adequate from the standpoint of capacity and reliability of operation for the service in which it is employed .739(a)(2) section 3.10.1.(b)	X			
423.		Set to control or relieve at correct pressures consistent with .201(a), except for .739(b). .739(a) (3) section 3.10.1.(c)	X			
424.		Properly installed and protected from dirt, liquids, other conditions that may prevent proper oper. .739(a)(4) section 3.10.1.(d)	X			
425.		For steel lines if MAOP is determined per .619(c) and the MAOP is 60 psi gage or more . . . .739(b)			X	
426.	480-93-180(1) / 192.605 (b)	If MAOP produces hoop stress that: Is greater than 72 percent of SMYS — Then the pressure limit is: MAOP plus 4 percent			X	

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		Is unknown as a percent of SMYS . A pressure that will prevent unsafe operation of the pipeline considering its operating and maintenance history and MAOP					
427.	480-93-180(1) / 192.605 (b)	Pressure limiting and regulating stations: Telemetering or recording gages 192.741(a) thru (c)			X		
428.		Testing of Relief Devices .743 (a) thru (c) Cardinal has no relief devices installed			X		

Comments:

Items #425-428 – Cardinal pipeline MAOP is 1000 psig and maximum source pressure from Williams line with MAOP of 960 psig. Operating input pressure was 650 psig during time of field inspection.

		SUBPART - M VALVE AND VAULT MAINTENANCE PROCEDURES	**S**	**U**	**N/A**	**N/C**
429.	480-93-180(1) / 192.605 (b)	Written valve maintenance program detailing the valve selection process, inspection, maintenance, and operating procedures. The written program must detail which valves will be maintained under 49 CFR § 192.745, 49 CFR § 192.747, and 480-93-100. 480-93-100(1) section 3.9, procedure P-17, P-18, form F-4	X			
		Transmission Valves				
430.	480-93-180(1) / 192.605 (b)	Inspect and partially operate each transmission valve that might be required during an emergency **(1 per yr/15 months)** .745(a) section 3.9	X			
431.		Prompt remedial action required, or designate alternative valve .745(b) section 3.9	X			
		Distribution Valves				
432.	480-93-180(1) / 192.605 (b)	Check and service each valve that may be necessary for the safe operation of a distribution system **(1 per yr/15 months)** .747(a) Cardinal is not a distribution system			X	
433.		Prompt remedial action required, or designate alternative valve .747(b) Cardinal is not a distribution system			X	
		Service Valves	**S**	**U**	**N/A**	**N/C**
434.	480-93-180(1) / 192.605 (b)	Written service valve installation and maintenance program detailing the valve selection process, inspection, maintenance, and operating procedures. Does the program consider the criteria listed under 480-93-100(2)(a-f)? Cardinal is not a distribution system			X	
435.		Service valve maintenance **(1 per yr/15 months)** 480-93-100(3) Cardinal is not a distribution system			X	
436.		Service valve installation and maintenance program fully implemented by 6/01/07? 480-93-100(4)			X	
		Vaults				
437.	480-93-180(1) / 192.605 (b)	Inspection of vaults greater than **200 cubic feet (1 per yr/15 months)** .749 Cardinal has no vaults			X	

		SUBPART - M PREVENTION of ACCIDENTAL IGNITION PROCEDURES	**S**	**U**	**N/A**	**N/C**
438.	480-93-180(1) / 192.605 (b)	Reduce the hazard of fire or explosion by: (a) When a hazardous amount of gas is being vented into open air, each potential source of ignition must be removed from the area and a fire extinguisher must be provided. (b) Gas or electric welding or cutting may not be performed on pipe or on pipe components that contain a combustible mixture of gas and air in the area of work. (c) Post warning signs, where appropriate. 192.751 (a) thru (c) section 6.1	X			

Comments:

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Items #432-436 – Cardinal is NOT a distribution system.
Item #437 – Cardinal has NO vaults.

		SUBPART - M CAULKED BELL AND SPIGOT JOINTS PROCEDURES	S	U	N/A	N/C
439.	480-93-180(1) / 192.605 (b)	Cast-iron caulked bell and spigot joint repair: .753 Cardinal has no cast iron				
440.		• When subject to more than 25 psig, sealed with mechanical clamp, or sealed with material/device which does not reduce flexibility, permanently bonds, and seals and bonds as prescribed in §192.753(a)(2)(iii) .753(a) Cardinal has no cast iron			X	
441.		• When subject to 25 psig or less, joints, when exposed for any reason, must be sealed by means other than caulking .753(b) Cardinal has no cast iron			X	

		SUBPART - M PROTECTING CAST-IRON PIPELINE PROCEDURES	S	U	N/A	N/C
442.	480-93-180(1) / 192.605 (b)	Operator has knowledge that the support for a segment of a buried cast-iron pipeline is disturbed must provide protection. .755 Cardinal has no cast iron				
443.		• Vibrations from heavy construction equipment, trains, trucks, buses or blasting? .755(a) Cardinal has no cast iron			X	
444.		• Impact forces by vehicles? .755(b) Cardinal has no cast iron			X	
445.		• Earth movement? .755(c) Cardinal has no cast iron			X	
446.		• Other foreseeable outside forces which might subject the segment of pipeline to a bending stress .755(d) Cardinal has no cast iron			X	
447.		Provide permanent protection for the disturbed section as soon as feasible .755(e)Cardinal has no cast iron			X	

Comments:

Items #439-441 – Cardinal has NO caulked bell and spigot joints.
Items #442-447 – Cardinal has NO cast iron.

		SUBPART N — QUALIFICATION of PIPELINE PERSONNEL	S	U	N/A	N/C
Date of last UTC staff OQ plan review						
448.	192.801 192.809	Any revisions to plan since last review? Yes No X If yes, review revisions made.	X			
449.	480-93-180(1)	Have "New Construction" activities been identified and included in the operator's covered task list? 480-93-013			X	

Comments:

Item #449 – Operator does NOT have any new construction.

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		FILING REQUIREMENTS for DESIGN, SPECIFICATION, and CONSTRUCTION	S	U	N/A	N/C
450.	480-93-180(1)	Submittal of construction procedures, designs, and specifications used for each pipeline facility prior to operating the pipeline. All procedures must detail the acceptable types of materials, fittings, and components for the different types of facilities in the operator's system. 480-93-017(1) section 9.2.6			X	
451.	480-93-180(1)	Construction plans not conforming with a gas company's existing and accepted construction procedures, designs, and specifications on file with the commission, submitted to the commission for review at least forty-five days prior to the initiation of construction activity. 480-93-017(2) section 9.2.6			X	

		MAPS, DRAWINGS, and RECORDS of GAS FACILITIES	S	U	N/A	N/C
452.	480-93-180(1)	Records updated no later then **6 months** from completion of construction activity and made available to appropriate personnel. 480-93-018(3) section 1.11.1.(e)			X	

		PROXIMITY CONSIDERATIONS	S	U	N/A	N/C
453.	480-93-180(1)	Each operator must submit a written request and receive commission approval prior to: 480-93-20(1) section 2.5.2	X			
		Operating any gas pipeline facility at greater than five hundred psig that is within five hundred feet of any of the following places: 480-93-20 (1)(a)				
454.	480-93-180(1)	• A building that is in existence or under construction prior to the date authorization for construction is filed with the commission, and that is not owned and used by the petitioning operator in its gas operations; or : 480-93-20 (1)(a)(i) section 2.5.2	X			
455.	480-93-180(1)	• A high occupancy structure or area that is in existence or under construction prior to the date authorization for construction is filed with the commission; or : 480-93-20(1)(a)(ii) section 2.5.2	X			
456.	480-93-180(1)	• A public highway, as defined in RCW 81.80.010(3). 480-93-20 (1)(a)(iii) section 2.5.2	X			
457.	480-93-180(1)	Operating any gas pipeline facility at greater than two hundred fifty psig, up to and including five hundred psig, that is operated within one hundred feet of either of the following places: 480-93-20(1)(b) section 2.5.2	S	U	N/A	N/C
458.	480-93-180(1)	• A building that is in existence or under construction prior to the date authorization for construction is filed with the commission, and that is not owned and used by the petitioning operator in its gas operations; or: 480-93-20(1)(b)(i) section 2.5.2	X			
459.	480-93-180(1)	• A high occupancy structure or area that is in existence or under construction prior to the date authorization for construction is filed with the commission. 480-93-20(1)(b)(ii) section 2.5.2	X			
460.	480-93-180(1)	For proposed new construction, document evidence to demonstrate that it is not practical to select an alternate route that will avoid areas or which demonstrates that the operator has considered future development of the area and has designed their pipeline facilities accordingly. 480-93-20(2) section 2.5.2	X			

Recent Gas Pipeline Safety Advisory Bulletins: (Last 2 years)

Number	Date	Subject
ADB-07-01	April 27, 2007	Pipeline Safety: Senior Executive Signature and Certification of Integrity Management Program Performance Reports
ADB-07-02	September 6, 2007	Pipeline Safety: Updated Notification of the Susceptibility to Premature Brittle-

		Like Cracking of Older Plastic Pipe
ADB-07-02	February 29, 2008	Correction - Pipeline Safety: Updated Notification of the Susceptibility to Premature Brittle-Like Cracking of Older Plastic Pipe
ADB-08-02	February 28, 2008	Identifying Issues with Mechanical Couplings that Could Lead to Failure
ADB-08-03	March 10, 2008	Dangers of Abnormal Snow and Ice Build-Up on Gas Distribution Systems
ADB-08-04	June 5, 2008	Pipeline Safety - Installation of Excess Flow Valves into Gas Service Lines

Comments:
Items #450-452 – NO construction since original install in 2006.