Table 7. Valve Body/Trim Temperature Capabilities for Metal Trim Parts (Continued)

VALVE BODY MATERIAL	VALVE BODY SIZE, NPS	TEMPERATURE CAPABILITIES									
		Trim for Equal Percentage (Including Micro-Form), Linear, and Quick Opening Valve Plugs					Trim for Micro-Flute and Micro-Flow Valve Plugs				
		Trim Designation	°C		°F		Trim Designation	°C		°F	
			Min	Max	Min	Max		Min	Max	Min	Max
CF8M (316 stainless steel)	2	87, 127	-198	260	-325	500	154	-198	593	-325	1100
		127H(3)	-198	593	-325	1100	---	---	---	---	---
		86, 128	-198	260(1)	-325	500(1)	---	---	---	---	---
		85, 129	-198	260(1)	-325	500(1)	156	-198	149	-325	300
		137	-101	299	-150	570	158	-101	299	-150	570
		139	-101	299(1)	-150	570(1)	157	-101	149	-150	300
	3	101	-29	216	-20	420	---	---	---	---	---
		104, 139	-101	227(1)	-150	440(1)	---	---	---	---	---
		120	-198	316	-325	600	---	---	---	---	---
		87, 127	-198	377	-325	700	---	---	---	---	---
		127H(3)	-198	593	-325	1100	---	---	---	---	---
		85, 86, 128, 129	-198	377(1)	-325	700(1)	---	---	---	---	---
		137	-101	227	-150	440	---	---	---	---	---
	4	101	-29	177	-20	350	---	---	---	---	---
		104, 139	-101	182(1)	-100	360(1)	---	---	---	---	---
		120	-198	316	-325	600	---	---	---	---	---
		87, 127	-198	371	-325	700	---	---	---	---	---
		127H(3)	-198	593	-325	1100	---	---	---	---	---
		85, 86, 128, 129	-198	371(1)	-325	700(1)	---	---	---	---	---
		137	-101	182	-150	360	---	---	---	---	---
WC9 chrome moly steel	1/2, 3/4, 1, 1-1/2, or 2	101	-29	427	-20	800	151	-29	316	-20	600
		104	-29	427(1)	-20	800(1)	152	-29	149	-20	300
		120	-29	316	-20	600	153	-29	316	-20	600
		87, 127	-29	260	-20	500	154	-29	565	-20	1050(2)
		127H	-29	565	-20	1050	---	---	---	---	---
		86, 128	-29	260(1)	-20	500(1)	---	---	---	---	---
		85, 129	-29	260(1)	-20	500(1)	156	-29	149	-20	300
		137	-29	427	-20	800	158	-29	427	-20	800(1)
		139	-29	427(1)	-20	800(1)	157	-29	149	-20	300
	3	101	-29	427	-20	800	---	---	---	---	---
		104, 139	-29	371(1)	-20	700(1)	---	---	---	---	---
		120	-29	316	-20	600	---	---	---	---	---
		87, 127	-29	343	-20	650	---	---	---	---	---
		127H	-29	510	-20	950	---	---	---	---	---
		85, 86, 128, 129	-29	343(1)	-20	650(1)	---	---	---	---	---
		137	-29	371	-20	700	---	---	---	---	---
	4	101	-29	427	-20	800	---	---	---	---	---
		104, 139	-29	371(1)	-20	700(1)	---	---	---	---	---
		120	-29	316	-20	600	---	---	---	---	---
		87, 127	-29	316	-20	450	---	---	---	---	---
		127H	-29	338	-20	640	---	---	---	---	---
		85, 86, 128, 129	-29	232(1)	-20	450(1)	---	---	---	---	---
		137	-29	371	-20	700	---	---	---	---	---

1. With non-lubricating fluids, temperature is limited to 149°C (300°F).
2. For NPS 2 valve body, maximum temperature is 466°C (870°F).
3. May be used up to 593°C (1100°F) if manufacturing process controls carbon content to 0.04% minimum or 0.08% maximum.

Table 8. Bonnet Selection Guidelines

BONNET STYLE	PACKING MATERIAL	IN-BODY PROCESS TEMPERATURE LIMITS(1)	
		°C	°F
Plain: ■ Standard for NPS 1/2, 3/4, 1, and 1-1/2 inch valves with 2-1/8 inch yoke boss diameter ■ Standard for NPS 2, 3, and 4 valves with 2-13/16 inch yoke boss diameter ■ Optional for NPS 2, 3, and 4 valves with 3-9/16 inch yoke boss diameter	PTFE V-ring	-18 to 232	0 to 450
	PTFE/Composition	-18 to 232	0 to 450
	Graphite ribbon/filament	-18 to maximum shown in table 6	0 to maximum shown in table 6
Style 1 Cast Extension: ■ Optional for all valve sizes. Check yoke boss diameter	PTFE V-ring	-46 to 427	-50 to 800
	PTFE/Composition		
	Graphite ribbon/filament	-46 to maximum shown in table 6	-50 to maximum shown in table 6
Style 2 Cast Extension: ■ Optional for all valve sizes. Check yoke boss diameter	PTFE V-ring	-101 to 427	-150 to 800
	PTFE/Composition		
	Graphite ribbon/filament	-101 to maximum shown in table 6	-150 to maximum shown in table 6
ENVIRO-SEAL bellows seal bonnet	PTFE	For exceptional stem sealing capabilities. See Bulletin 59.1:070, ENVIRO-SEAL Bellows Seal Bonnets (D101641X012) for pressure/temperature ratings.	
	Graphite	For exceptional stem sealing capabilities. See Bulletin 59.1:070, ENVIRO-SEAL Bellows Seal Bonnets (D101641X012) for pressure/temperature ratings.	

1. These in-body process temperatures assume an outside, ambient temperature of 21°C (70°F) and no insulation on the bonnet. When using any packing at low process temperatures, a cast extension bonnet may have to be used to prevent packing damage which could result from the formation of valve stem frost. Material selection for trim and other components will also be limiting factors.

Table 9. Maximum Allowable Pressure Drops per Trim Designation for Equal Percentage (Including Micro-Form), Linear, and Quick Opening Valve Plugs

TRIM DESIGNATION	VALVE PLUG	VALVE STEM	SEAT RING	SEAT RING RETAINER	GUIDE BUSHING	SHUTOFF PRESSURE DROP		FLOWING PRESSURE DROP	
						Bar	Psig	Bar	Psid
101	S41600 (416 stainless steel) hardened	S31600 (316 stainless steel)	S41600 hardened	CB7Cu-1 (17-4 PH stainless steel)	S17400 (17-4 PH stainless steel)	103	1500	103	1500
104	S31600 (316 stainless steel)	S31600	S31600	CB7Cu-1	S17400	21	300(1)	103	1500
120	N05500	N05500	N05500	M35-1	N05500	55	800(1)	103	1500
87, 127, 127H	S31600 w/CoCr-A seat & guide	S31600	S31600 w/CoCr-A seat	CF8M (316 stainless steel)	Alloy 6B	103	1500	103	1500
86, 128	S31600 w/CoCr-A seat	S31600	S31600 w/CoCr-A seat	CF8M	Alloy 6B	103	1500	103	1500
85, 129	S31600	S31600	S31600	CF8M	Alloy 6B	21	300(1)	103	1500
137	S31600 w/CoCr-A seat & guide	S31600	S31600 w/CoCr-A seat	CB7Cu-1	S17400	103	1500	103	1500
139	S31600 w/CoCr-A seat	S31600	S31600 w/CoCr-A seat	CB7Cu-1	S17400	103	1500	103	1500

1. Trims 104, 120, and 129 may be used up to 103 bar (1500 psid) with clean dry gas.

Table 10. Maximum Allowable Pressure Drops per Trim Designation for Micro-Flute and Micro-Flow Valve Plugs

TRIM DESIGNATION	VALVE PLUG	VALVE STEM	SEAT RING	SEAT RING RETAINER	SHUTOFF PRESSURE DROP		FLOWING PRESSURE DROP	
					Bar	Psig	Bar	Psid
151	S41600 (416 stainless steel) hardened	S31600 (316 stainless steel)	S41600 hardened	CB7Cu-1 (17-4 PH stainless steel)	103	1500	103	1500
152	S31600 (316 stainless steel) w/CoCr-A seat, R30006 tip	S31600	S31600	CB7Cu-1	21	300(1)	103	1500
153	N05500	N05500	N05500	M35-1	55	800(1)	103	1500
87, 154	S31600 w/CoCr-A seat, R30006 tip	S31600	S31600 w/CoCr-A seat & bore	CF8M (316 stainless steel)	103	1500	103	1500
155	S31600 w/CoCr-A seat, R30006 tip	S31600	S31600 w/CoCr-A seat	CF8M	103	1500	103	1500
85, 156	S31600 w/CoCr-A seat, R30006 tip	S31600	S31600	CF8M	21	300(1)	103	1500
157	S31600 w/CoCr-A seat, R30006 tip	S31600	S31600 w/CoCr-A seat	CB7Cu-1	103	1500	103	1500
158	S31600 w/CoCr-A seat, R30006 tip	S31600	S31600 w/CoCr-A seat & bore	CB7Cu-1	103	1500	103	1500

1. Trims 152, 153, and 156 may be used up to 103 bar (1500 psid) with clean dry gas.

Table 11. Gasket Selection Guidelines(1)

Gasket Set	Seat Ring Gasket	Bonnet Gasket	Spiral Wound Gasket	Shim	Temperature Capabilities
2(2)	316 SST/graphite flat sheet	316 SST/graphite flat sheet	N06600/graphite	S31600	-198 to 593°C(3) (-325 to 1100°F)(3)
3	PTFE-coated N04400	PTFE-coated N04400	N04400/PTFE	N04400	-73 to 149°C (-100 to 300°F)

1. See Bulletin 59.1:070, ENVIRO-SEAL Bellows Seal Bonnets (D101641X012) for bellows gasket information.
2. FGM gasket set.
3. Except 427°C (800°F) for oxidizing service.

Table 12. Maximum Allowable Pressure Drops (Flow Up Only)(1) for Gasket Materials (NPS 1/2 through 1-1/2 Valves)

TEMPERATURE, °C(4)(5)	BAR(2)(3)										
	Valve Body Size, NPS										
	1/2, 3/4, & 1					1-1/2					
	Port Diameter, mm										
	4.8 & 6.4	9.5	12.7	19.1	25.4	4.8 & 6.4	9.5	12.7	19.1	25.4	38.1
N04400/Composition Spiral Wound Gasket (Gasket Set 4)											
-253 to 38	67.6	68.3	69.0	72.4	76.5	58.6	59.0	59.3	61.3	63.4	72.4
93	56.5	57.2	57.9	60.0	64.1	49.0	49.3	49.6	51.0	53.1	60.0
149	47.6	48.3	49.0	51.0	53.8	41.4	41.8	42.1	43.4	44.8	51.0
204	43.4	43.8	44.1	46.2	49.0	37.9	37.9	37.9	39.3	40.7	46.2
232	42.1	42.6	43.1	44.8	47.6	36.5	36.7	36.9	38.3	39.6	44.8
N06600/Graphite Spiral Wound Gasket (Gasket Set 2) or N04400/PTFE Spiral Wound Gasket (Gasket Set 3)(5)											
-253 to 38	94.5	96.2	97.9	104.1	114	77.9	79.0	80.0	82.7	87.6	105
93	89.6	91.4	93.1	98.6	108	73.8	74.5	75.2	78.6	82.7	99.3
149	85.5	87.2	88.9	94.5	103	70.3	71.4	72.4	75.2	79.3	94.5
204	81.4	83.1	84.8	89.6	98.6	66.9	68.0	69.0	71.0	75.2	90.3
260	78.6	80.4	82.1	86.9	95.2	64.8	65.5	66.2	69.0	73.1	87.6
316	76.5	77.9	79.3	84.1	92.4	62.7	63.4	64.1	66.9	71.0	84.8
371	73.8	75.2	76.5	81.4	88.9	60.7	61.4	62.1	64.8	68.3	81.4
427	71.0	72.4	73.8	78.6	86.2	58.6	59.3	60.0	62.1	66.2	78.6
TEMPERATURE, °F(4)(5)	PSI(2)(3)										
	Port Diameter, Inches										
	0.1875 & 0.25	0.375	0.5	0.75	1	0.1875 & 0.25	0.375	0.5	0.75	1	1.5
N04400/Composition Spiral Wound Gasket (Gasket Set 4)											
-425 to 100	980	990	1000	1050	1110	850	855	860	890	920	1050
200	820	830	840	870	930	710	715	720	740	770	870
300	690	700	710	740	780	600	605	610	630	650	740
400	630	635	640	670	710	550	550	550	570	590	670
450	610	618	625	650	690	530	535	535	555	575	650
N06600/Graphite Spiral Wound Gasket (Gasket Set 2) or N04400/PTFE Spiral Wound Gasket (Gasket Set 3)(5)											
-425 to 100	1370	1395	1420	1510	1660	1130	1145	1160	1200	1270	1520
200	1300	1325	1350	1430	1570	1070	1080	1090	1140	1200	1440
300	1240	1265	1290	1370	1500	1020	1035	1050	1090	1150	1370
400	1180	1205	1230	1300	1430	970	985	1000	1030	1090	1310
500	1140	1165	1190	1260	1380	940	950	960	1000	1060	1270
600	1110	1130	1150	1220	1340	910	920	930	970	1030	1230
700	1070	1090	1110	1180	1290	880	890	900	940	990	1180
800	1030	1050	1070	1140	1250	850	860	870	900	960	1140

1. EZ should not be used in flow down service including on-off applications.
2. Pressure drop cannot exceed maximum inlet pressure as indicated in the Specifications section.
3. The trim may be further limited by maximum pressure drops listed in tables 9 and 10.
4. Pressure drops at intermediate temperatures may be interpolated.
5. Maximum temperature capability of PTFE-coated N04400 gaskets as used in gasket set 3 is 149°C (300°F).

Table 13. Maximum Allowable Pressure Drops (Flow Up Only)(1) for Gasket Materials (NPS 2 through 4 Valves)

TEMPERATURE, °C(4)(5)	BAR(2)(3)									
	Valve Body Size, NPS									
	2						3		4	
	Port Diameter, mm									
	4.8 & 6.4	9.5	12.7	19.1	25.4	50.8	50.8	76.2	50.8	101.6
N04400/Composition Spiral Wound Gasket (Gasket Set 4)										
-253 to 38	52.4	52.8	53.1	54.5	55.8	70.3	55.2	70.3	49.0	73.8
93	43.4	43.8	44.1	45.5	46.9	58.6	46.2	58.6	40.7	61.4
149	37.2	37.2	37.2	37.9	39.3	49.6	38.6	49.6	34.5	51.7
204	33.8	33.8	33.8	34.5	35.9	44.8	35.2	45.5	31.0	46.9
232	32.8	32.8	32.8	33.4	34.8	43.4	34.1	44.1	30.3	45.5
N06600/Graphite Spiral Wound Gasket (Gasket Set 2) or N04400/PTFE Spiral Wound Gasket (Gasket Set 3)(5)										
-253 to 38	67.6	68.2	68.7	70.3	73.1	101	69.6	97.2	65.5	114
93	63.4	64.1	64.8	66.9	69.6	95.8	66.2	92.4	62.1	108
149	60.7	61.4	62.1	63.4	66.2	91.7	62.7	88.3	58.6	103
204	57.9	58.3	58.6	60.7	62.7	86.9	60.0	83.4	55.8	97.9
260	55.8	56.5	57.2	58.6	61.4	84.1	57.9	81.4	54.5	94.5
316	54.5	54.9	55.2	56.5	59.3	81.4	56.5	78.6	52.4	91.7
371	52.4	52.8	53.1	55.2	57.2	78.6	54.5	75.8	51.0	88.3
427	50.3	51.0	51.7	53.1	55.2	75.8	52.4	73.1	49.0	85.5
TEMPERATURE, °F(4)(5)	**PSI(2)(3)**									
	Port Diameter, Inches									
	0.1875 & 0.25	0.375	0.5	0.75	1	2	2	3	2	4
N04400/Composition Spiral Wound Gasket (Gasket Set 4)										
-425 to 100	760	765	770	790	810	1020	800	1020	710	1070
200	630	635	640	660	680	850	670	850	590	890
300	540	540	540	550	570	720	560	720	500	750
400	490	490	490	500	520	650	510	660	450	680
450	475	475	475	485	505	630	495	640	440	660
N06600/Graphite Spiral Wound Gasket (Gasket Set 2) or N04400/PTFE Spiral Wound Gasket (Gasket Set 3)(5)										
-425 to 100	980	985	990	1020	1060	1470	1010	1410	950	1650
200	920	930	940	970	1010	1390	960	1340	900	1560
300	880	890	900	920	960	1330	910	1280	850	1490
400	840	845	850	880	910	1260	870	1210	810	1420
500	810	820	830	850	890	1220	840	1180	790	1370
600	790	795	800	820	860	1180	820	1140	760	1330
700	760	765	770	800	830	1140	790	1100	740	1280
800	730	740	750	770	800	1100	760	1060	710	1240

1. EZ should not be used in flow down service including on-off applications.
2. Pressure drop cannot exceed maximum inlet pressure as indicated in the Specifications section.
3. The trim may be further limited by maximum pressure drops listed in tables 9 and 10.
4. Pressure drops at intermediate temperatures may be interpolated.
5. Maximum temperature capability of PTFE-coated N04400 gaskets as used in gasket set 3 is 149°C (300°F).

Table 14. Maximum Flow Coefficient for Full-Sized Trim with Equal Percentage Characteristic and Normal Flow Direction(1)

Valve Body Size, NPS	C_v at Max Valve Plug Travel
1/2	4.47
3/4	9.00
1	13.2
1-1/2	28.1
2	53.8
3	114
4	190

1. Flow coefficients for linear and quick-opening valve plugs normally are somewhat greater.

Table 15. Port Diameters, Valve Plug Travel, and Stem and Yoke Boss Diameters

VALVE BODY SIZE, NPS	PORT DIAMETER, mm			MAX VALVE PLUG TRAVEL, mm	VALVE STEM AND YOKE BOSS DIAMETERS, mm			
					Standard		Optional	
	Equal Percentage(1)	Quick Opening	Linear		Stem	Yoke Boss	Stem	Yoke Boss
1/2 or 3/4	4.8(2), 6.4(3), 9.5, 12.7, 19.1, 25.4	25.4	---	19	9.5	54	12.7	71
1	4.8(2), 6.4(3), 9.5, 12.7, 19.1, 25.4	25.4	25.4					
1-1/2	4.8(2), 6.4(3), 9.5, 12.7, 19.1, 25.4, 38.1	38.1	38.1					
2	4.8(2), 6.4(3), 9.5, 12.7, 19.1, 25.4, 50.8	50.8	50.8	29	12.7	71	19.1	90
3	50.8, 76.2	76.2	76.2	38				
4	50.8, 101.6	101.6	101.6	51				
Inches								
1/2 or 3/4	0.1875(2), 0.25(3), 0.375, 0.5, 0.75, 1	1	---	0.75	3/8	2-1/8	1/2	2-13/16
1	0.1875(2), 0.25(3), 0.375, 0.5, 0.75, 1	1	1					
1-1/2	0.1875(2), 0.25(3), 0.375, 0.5, 0.75, 1, 1.5	1.5	1.5					
2	0.1875(2), 0.25(3), 0.375, 0.5, 0.75, 1, 2	2	2	1.125	1/2	2-13/16	3/4	3-9/16
3	2, 3	3	3	1.5				
4	2, 4	4	4	2				

1. 6.4 through 19.1 mm (0.25 through 0.75-inch) port diameters use Micro-Form valve plug.
2. Micro-Flow valve plug.
3. Also available in 1-flute and 3-flute Micro-Flute valve plugs.

Table 16. Typical Combinations of Metal Trim Parts for Equal Percentage (Including Micro-Form), Linear, and Quick Opening Valve Plugs for Compatibility with NACE MR0175 / ISO 15156 and MR0103 Specifications (Environmental Restrictions Apply, Refer to Standard)

Trim Designation	Valve Plug	Seat Ring Retainer	Bushing	Seat Ring	Valve Stem, Packing Follower, Lantern Ring, Packing Box Ring, Pins, and Disk Retainer
85	S31600 (316 stainless steel)	CF8M (316 stainless steel)	Alloy 6B	S31600	S20910 (Valve Stem) S31600 (All Other Parts)
85C(1)	S31600/PTFE	CF8M	Alloy 6B	S31600	
86	S31600 w/CoCr-A seat	CF8M	Alloy 6B	Alloy 6	
87	S31600 w/CoCr-A seat & guide	CF8M	Alloy 6B	Alloy 6	
87C(1)	S31600/PTFE w/CoCr-A guide	CF8M	Alloy 6B	Alloy 6	

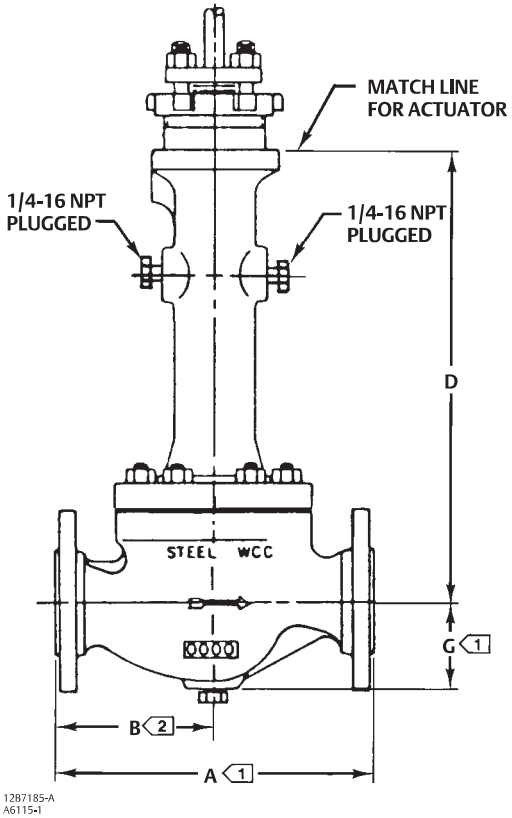
1. 85C and 87C are trims for PTFE-seat construction.

Table 17. Bolting Materials and Temperature Limits for Bolting Compliance with NACE MR0175-2002, NACE MR0175/ISO 15156, and NACE MR0103 (Environmental Restrictions May Apply)

VALVE BODY MATERIAL		BOLTING MATERIAL	TEMPERATURE CAPABILITIES			
			°C		°F	
			Min	Max	Min	Max
Non-exposed bolting (Standard)						
WCC and CF8M (316 SST)	Studs	Steel SA-193-B7	-48(1)	427	-55(1)	800
	Nuts	Steel SA-194-2H				
Exposed bolting (Optional) Requires Derating of Valve(2) When These Body-to-Bonnet Bolting Materials are Used						
WCC and CF8M	Studs	Steel SA-193-B7M	-48(1)	427	-55(1)	800
	Nuts	Steel SA-194-2HM				

1. -29°C (-20°F) with WCC valve body material.
2. Derating is not required for CL300 valves. Derating is required for valves rated at CL600 and above. Contact your Emerson sales office or Local Business Partner for assistance in determining the derating of valves when these body-to-bonnet bolting materials are used.

Figure 5. ENVIRO-SEAL Bellows Seal Bonnet Dimensions (also see table 18)



Notes:
1 For A and G dimensions, see figure 6.
2 B=A/2.

Table 18. ENVIRO-SEAL Bellows Seal Bonnet Dimensions

VALVE SIZE, NPS	D					
	ENVIRO-SEAL Bellows Seal Bonnet					
	Stem Diameter, mm			Stem Diameter, Inches		
	9.5	12.7	19.0	3/8	1/2	3/4
1	321	---	---	12.62	---	---
1-1/2	317	---	---	12.50	---	---
2	---	384	---	---	15.12	---
3	---	518	518	---	20.38	20.38
4	---	541	---	---	21.31	---

Ordering Information

Inlet pressure and temperature must always be limited by the applicable ASME pressure/temperature rating. Pressure drop information for various trim material combinations is provided in tables 10 and 11. Pressure drop information for gasket materials is listed in tables 12 and 13. The maximum allowable pressure drop for the application must not exceed the lowest value indicated for the combination of materials selected.

Table 19. Standard Dimensions

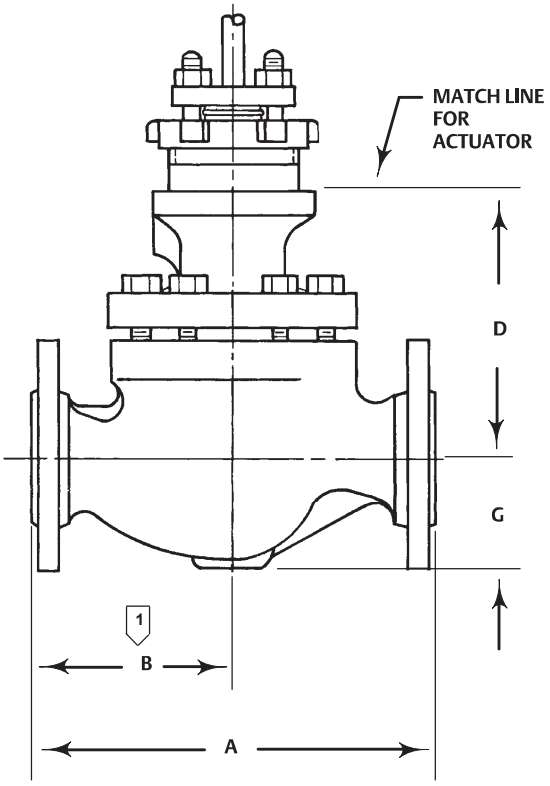
VALVE SIZE, NPS	D								
	Plain Bonnet			Extension Bonnet					
				Style 1			Style 2		
	Stem Diameter, mm								
	9.5	12.7	19.0	9.5	12.7	19.0	9.5	12.7	19.0
1/2 or 3/4	127	149	---	213	251	---	303	319	---
1	127	149	---	213	251	---	303	319	---
1-1/2	124	146	---	210	248	---	300	316	---
2	---	165	162	---	267	272	---	465	---
3	---	191	187	---	292	297	---	495	487
4	---	221	217	---	322	327	---	526	518
	Stem Diameter, Inches								
	3/8	1/2	3/4	3/8	1/2	3/4	3/8	1/2	3/4
1/2 or 3/4	5.00	5.88	---	8.38	9.88	---	11.94	12.56	---
1	5.00	5.88	---	8.38	9.88	---	11.94	12.56	---
1-1/2	4.88	5.75	---	8.25	9.75	---	11.81	12.44	---
2	---	6.50	6.38	---	10.50	10.69	---	18.31	---
3	---	7.50	7.38	---	11.50	11.69	---	19.50	19.19
4	---	8.69	8.56	---	12.69	12.88	---	20.69	21.38

Table 20. Standard Dimensions

VALVE SIZE, NPS	A									G (MAX)
	Scrd or SWE	CL125 FF or CL150 RF	CL150 RTJ	CL250 RF or CL300 RF	CL300 RTJ	BW or CL600 RF	CL600 RTJ	PN16-40(1)	PN63-100(1)	
	mm									
1/2 or 3/4	165	---	---	---	---	---	---	---	---	55
1	210	184	197	197	210	210	210	160	230	60
1-1/2	251	222	235	235	248	251	251	200	260	71
2	286	254	267	267	282	286	289	230	300	78
3	---	298	311	317	333	337	340	310	380	97
4	---	353	365	368	384	394	397	350	430	129
Inches										
1/2 or 3/4	6.50	---	---	---	---	---	---	See mm	See mm	2.12
1	8.25	7.25	7.75	7.75	8.25	8.25	8.25			2.38
1-1/2	9.88	8.75	9.25	9.25	9.75	9.88	9.88			2.81
2	11.25	10.00	10.50	10.50	11.12	11.25	11.38			3.06
3	---	11.75	12.25	12.50	13.12	13.25	13.38			3.81
4	---	13.88	14.38	14.50	15.12	15.50	15.62			5.06

1. Valves which meet EN flange standards and have DN face-to-face dimensions are available only from Europe. Valves which meet EN flange standards but not DN face-to-face standards are available in the US. Consult your Emerson sales office or Local Business Partner.

Figure 6. Standard Dimensions (also see tables 19 and 20)



AR4967-A
A0925-2

EZ VALVE BODY

Notes:

1 $B = \frac{A}{2}$

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Singapore 128461 Singapore

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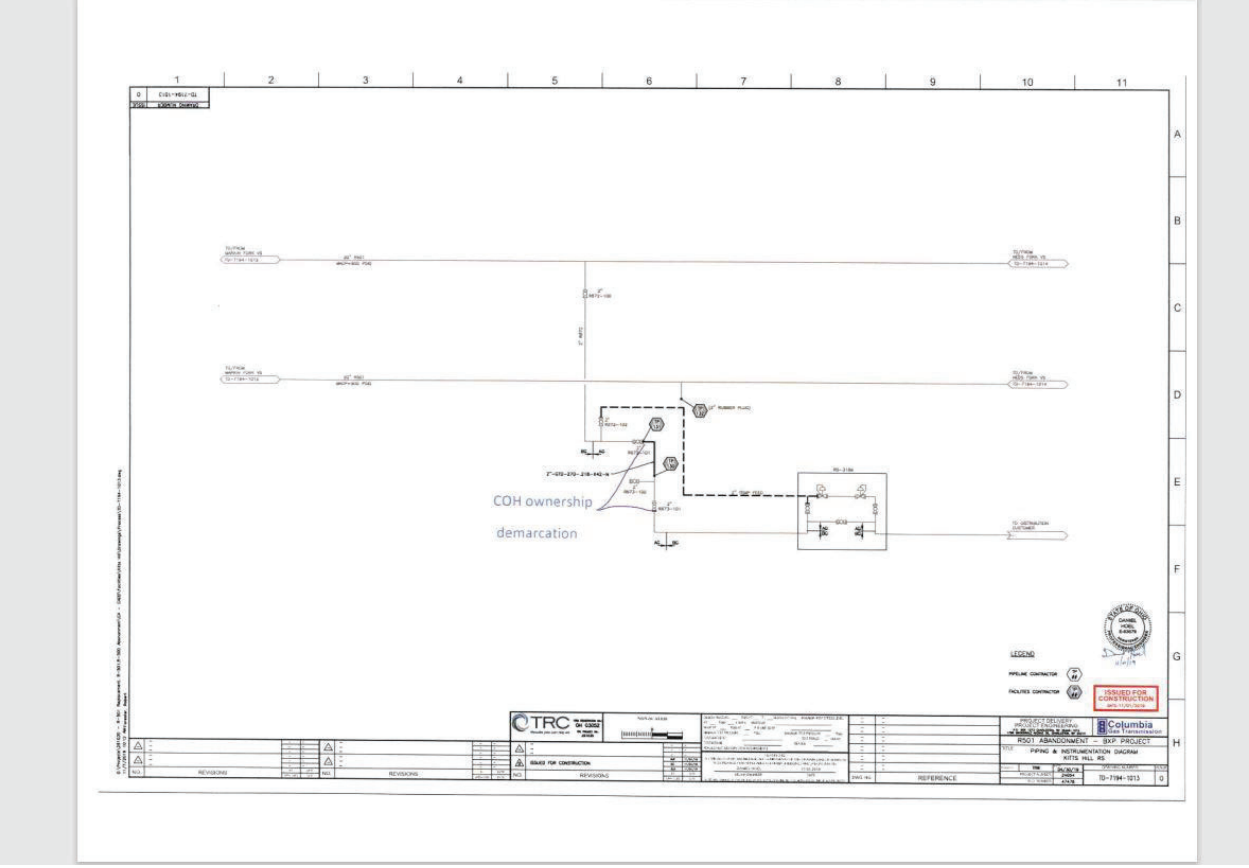
Kitts Hill Facility MS712573

Scope of work

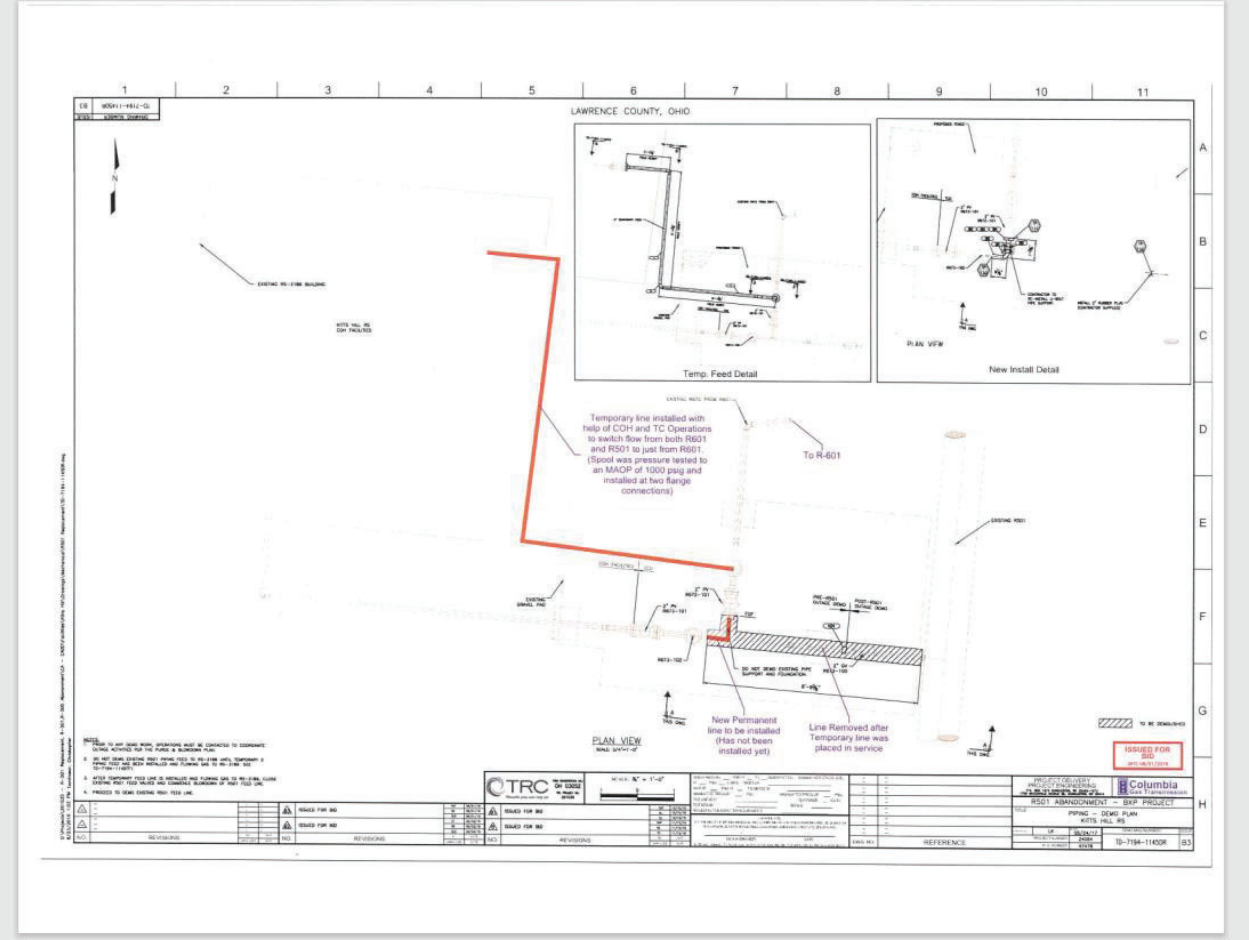
Disconnect Kitts Hill Line R-673 side connect from Line R-501 to Columbia Gas of Ohio (COH) Kitts Hill RS in preparation for abandonment of Line R-501. Lines R-501 and R-673 and both operated and maintained by Columbia Gas Transmission, LLC (TCO). TCO is a subsidiary of TC Energy.

- On September 30th, 2020 at approximately 09:15 Eastern Daylight Time (EDT), two TCO employees met with an APEX representative (contractor), Dustin Harper and Mark Hansen who are both COH Measurement and & Regulation (M&R) representatives as pre-arranged to make a temporary connection to the regulator station (RS) from Line R-601 to supply the market while Lines R-501/R-673 facilities were being abandoned.
- Reviewed Job Safety Assessment, Lock-out/Tag-out (LOTO) procedure and the scope of work with the attending COH personnel.
- COH placed the RS on the bypass run and TCO personnel assisted COH personnel in blowing down and the isolation of the main RS.
- A temporary 2-inch carbon steel pipeline feed was installed from valve R-673-102 to the inlet of the regulator run by removing an inlet 90-degree ell on the regulator run.
- The temporary pipe from R-673-102 (2-inch valve) to the ½-inch blow-off was purged at COH's outlet valve. Confirmed 100% GIA 3 times and completed and purge and load.
- COH took control of the regulators to re-establish the service through the regulation. TCO personnel monitored and observed the for approximately 15 minutes to ensure that the regulators were controlling properly. COH M&R personnel verified the regulation was in control.
- TCO personnel applied an operational lock to valve R-673-102 to prevent tampering with the set-up, since the building window had been removed for temporary feed.
- TCO personnel applied LOTO to valves R-672-101, R-673-100, R-673-101 and COH's regulator station inlet valve. COH locked on the LOTO and signed TCO forms.

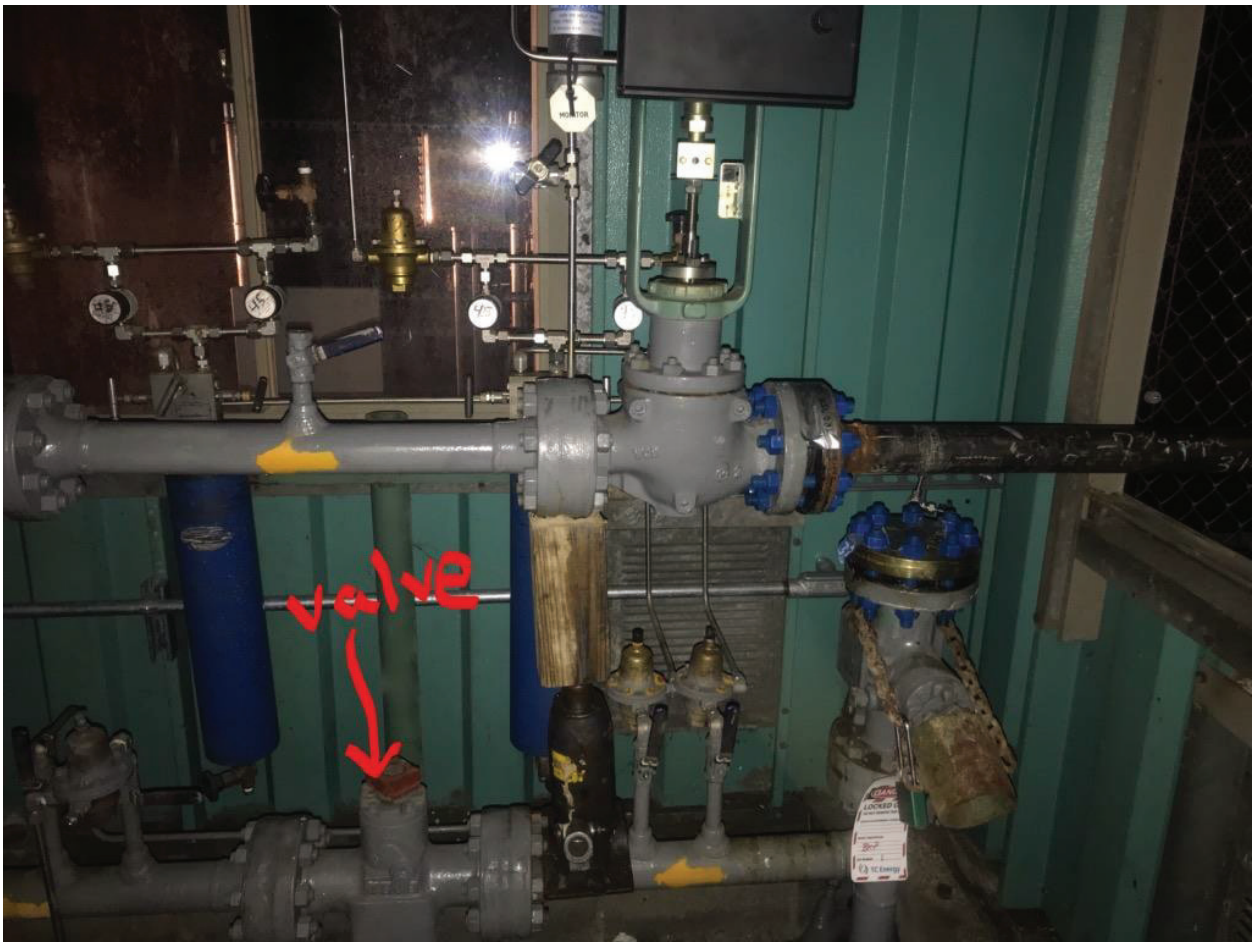
FOIA and CEII CONFIDENTIAL TREATMENT REQUESTED



FOIA and CEII CONFIDENTIAL TREATMENT REQUESTED



FOIA and CEII CONFIDENTIAL TREATMENT REQUESTED



Issues

- On October 1st, 2020 at approximately 02:40 Eastern Daylight Time, TCO personnel received a call from COH M&R technician Wayne Rommel to report that the COH regulators had failed open and COH's high pressure 175 psig system on the outlet of the RS had seen 420 psig. Requested permission to remove TCO's operational lock from valve R-673-102 to enable COH personnel to close the inlet valve and blow down COH's high- pressure system by 07:07 EDT, where TCO technician granted permission and immediately notified his Operations team leader. COH currently has 106 customers out-of-service.
- TCO project team and Operations personnel were mobilized to the site to assist and meet with the Public Utility Commission of Ohio inspector (Michael Purcell).

Conclusion

- It appears that the regulators failed open, because when COH placed the regulator station back in-service, they failed to open the bypass valve (noted in picture) to allow gas to flow through the entire bypass pipe to their instrument supply line that provides gas to control the regulators is tapped on the inlet side of the valve. When

FOIA and CEII CONFIDENTIAL TREATMENT REQUESTED

gas supply was depleted the regulators had no means of control and both failed open.

- Mr. Purcell appears to agree with this conclusion and indicated this was solely a COH issue and TCO as an Operator was free to leave as he had no further questions for this event. He did request a written statement from TCO M&R technicians who participated in this set-up which will be provided through the US Regulatory Compliance team

Next Steps

- Since the COH high pressure system was exposed to 420 psig and is coupled, they do not plan to re-introduce gas at this time.
- COH tentatively plans to disconnect this high-pressure feed as they have a nearby medium pressure regulator. COH is currently planning to cut the medium pressure regulator out of their system and feed the medium pressure to their markets.
- COH is coordinating with TCO if and when they would like the temporary feed removed and make a future decision about expanding their medium pressure system and possible abandonment of the high-pressure system.

FOIA and CEII CONFIDENTIAL TREATMENT REQUESTED

From:	cmcgrath@nisource.com
To:	Edward Nicholson; Jennifer Nelson; Jeremy Thompson; John Corlis; Lori Shaffer; Matthew Gennette; Rodney Kimble; Shawn Tolle; Tracy Sparks; Tyler Anderson; Jonathan Allen; Shawn Jackson; Walter Engels
Subject:	[EXTERNAL] Monthly TC Energy - COH Projects Update - Prep for 7/10
Date:	Monday, June 29, 2020 6:47:03 AM
Attachments:	06-05-2020 COH TCO Outage Planned for 2020 COH-TCO combined.xlsx

---

Good morning,
Our next monthly meeting was pushed to next Friday 7/10 due to the holiday this week. Attached is the list as updated last time out. If you haven't already, please make it a point to connect over the next 2 weeks about projects on the list and be prepared to discuss at our next meeting. Reach out to me with questions.

Thanks,
Connor McGrath
Manager, Field Engineering
Columbia Gas of Ohio
(540) 419-3672

FOIA and CEII CONFIDENTIAL TREATMENT REQUESTED

From:	cmcgrath@nisource.com
To:	BShipman@nisource.com; christopherdennis@nisource.com; crobison@nisource.com; clintwells@nisource.com; dgrieshop@nisource.com; dmusser@nisource.com; dnelson@nisource.com; dayers@nisource.com; Edward Nicholson; ecarlson@nisource.com; jrito@nisource.com; Jennifer Nelson; Jeremy Thompson; jsoncrant@nisource.com; John Corlis; Jonathan Allen; JCarmichael@nisource.com; JMDiBenedetto@nisource.com; ksaum@nisource.com; lcarmean@nisource.com; LDennis@nisource.com; Lori Shaffer; Matthew Gennette; mclement@nisource.com; mlthompson@nisource.com; mdibenedetto@nisource.com; mpaulus@nisource.com; MSweeting@nisource.com; rowen@nisource.com; ReaganRichardson@nisource.com; rricks@nisource.com; Rodney Kimble; RHouseholder@nisource.com; Shawn Jackson; Shawn Tolle; trwoodyard@nisource.com; Seech \ Timothy \ George; TAkinmoladun@nisource.com; Tracy Sparks; Tyler Anderson; WRiley@nisource.com; ZZebula@nisource.com
Cc:	brandiwilliams@nisource.com; Phillip Bohannon; Lance King; Zachary Kujala; Blair Wilson; jonathan_allen@tcenery.com; Sawyer Smith
Subject:	[EXTERNAL] 7/10 Meeting Outcomes_Monthly TC Energy Project Review with COH
Date:	Monday, July 13, 2020 10:00:55 AM
Attachments:	07-10-2020 COH TCO Outage Planned for 2020 COH-TCO combined.xlsx

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Good morning,
Attached is the updated with information from the 7/10 meeting. Please review the list and Column D in particular for any action items.

I asked on the call for any additional stakeholders who need added to the meeting. Copied here are all the TCE Leads identified in the attachment but not previously on the meeting. If there are additional individuals who should attend monthly please let me know.

Thanks,
Connor McGrath
Manager, Field Engineering
Columbia Gas of Ohio
(540) 419-3672

FOIA and CEII CONFIDENTIAL TREATMENT REQUESTED

From:	cmcgrath@nisource.com
To:	Blair Wilson; BShipman@nisource.com; christopherdennis@nisource.com; crobison@nisource.com; clintwells@nisource.com; dgrieshop@nisource.com; dmusser@nisource.com; dnelson@nisource.com; Denise Richter; DStreet@nisource.com; dayers@nisource.com; Edward Nicholson; ecarlson@nisource.com; jrito@nisource.com; Jennifer Nelson; Jeremy Thompson; jsoncrant@nisource.com; John Corlis; jonathan_allen@tcenery.com; Jonathan Allen; JCarmichael@nisource.com; JMDiBenedetto@nisource.com; ksaum@nisource.com; Lance King; lcarmean@nisource.com; LDennis@nisource.com; Lori Shaffer; Matthew Gennette; mclement@nisource.com; mlthompson@nisource.com; mdibenedetto@nisource.com; mpaulus@nisource.com; MSweeting@nisource.com; Phillip Bohannon; rowen@nisource.com; ReaganRichardson@nisource.com; rricks@nisource.com; Rodney Kimble; RHouseholder@nisource.com; Sawyer Smith; Shawn Jackson; Shawn Tolle; tombrooks@nisource.com; trwoodyard@nisource.com; Seech \ Timothy \ George; TAkinmoladun@nisource.com; Tracy Sparks; Tyler Anderson; WRiley@nisource.com; ZZebula@nisource.com; Zachary Kujala
Cc:	Becca Warnick; brandiwilliams@nisource.com; Karen Balis
Subject:	[EXTERNAL] Actions from 8/7_Monthly TC Energy Project Review with COH
Date:	Monday, August 10, 2020 6:33:10 AM
Attachments:	08-07-2020 COH TCO Outage Planned for 2020 COH-TCO combined.xlsx

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Good morning,
Attached is the file from our meeting 8/7 with updated notes in column D. Please review the file and act on anything associated with your projects. I'll send an update in advance of our discussion in September to prompt discussion as well.

Reach out to me with questions. Thanks!

Connor McGrath
Manager, Field Engineering
Columbia Gas of Ohio
(540) 419-3672

FOIA and CEII CONFIDENTIAL TREATMENT REQUESTED

From: cmcgrath@nisource.com
To: Blair Wilson; BShipman@nisource.com; christopherdennis@nisource.com; crobison@nisource.com; clintwells@nisource.com; dgrieshop@nisource.com; dmusser@nisource.com; dnelson@nisource.com; Denise Richter; DStreet@nisource.com; dayers@nisource.com; Edward Nicholson; ecarlson@nisource.com; jrito@nisource.com; Jennifer Nelson; Jeremy Thompson; jsoncrant@nisource.com; John Corlis; jonathan_allen@tcenery.com; Jonathan Allen; JCarmichael@nisource.com; JMDiBenedetto@nisource.com; ksaum@nisource.com; kwaninger@nisource.com; Lance King; lcarmean@nisource.com; LDennis@nisource.com; Lori Shaffer; Matthew Gennette; mclement@nisource.com; mlthompson@nisource.com; mdibenedetto@nisource.com; mpaulus@nisource.com; MSweeting@nisource.com; Phillip Bohannon; rowen@nisource.com; ReaganRichardson@nisource.com; rricks@nisource.com; Rodney Kimble; RHouseholder@nisource.com; Sawyer Smith; Shawn Jackson; Shawn Tolle; tombrooks@nisource.com; trwoodyard@nisource.com; Seech \ Timothy \ George; TAkinmoladun@nisource.com; Tracy Sparks; Tyler Anderson; WRiley@nisource.com; ZZebula@nisource.com; Zachary Kujala
Cc: Becca Warnick; brandiwilliams@nisource.com; Karen Balis
Subject: [EXTERNAL] Monthly TC Energy Project Review with COH
Date: Tuesday, September 22, 2020 7:35:24 PM
Attachments: 09-22-2020 COH TCO Outage Planned for 2020 COH-TCO combined.xlsx

---

Good evening,
The list of project updates is attached with notes from today in column D. There were several projects on the list without representation from COH and/or TC Energy so please review and link up with your counterparts for any status updates. As the weather starts to turn it's important we are clear on project expectations and timelines to maintain our systems.

Our next meeting is on 10/20 and, from there we'll assess the plan for the remainder of the year. Reach out to me with any questions.

Connor McGrath
Manager, Field Engineering
Columbia Gas of Ohio
(540) 419-3672

FOIA and CEII CONFIDENTIAL TREATMENT REQUESTED

10-1-2020

Kitts Hill Temp. Feed

Rich Johnson

On Sept. 30 Arrived on site to assist with temp. jumper pipe install. Went over JSA and Lock out tag out papers. Reviewed both. Assisted COH with blowdown & isolation of regulator run. COH was on bypass. We assisted COH with jumper to regulator run. Flanges were torqued, Unlock Loto, purge regulator run & jumper, and put into Service. For Security reasons all valves that could be tampered with, were locked. Waited 15 min or so to verify regulators were in control, before proceeding. They were in control. COH confirmed that their regulators were in control. Next, another LOTO was applied to R672 & R673 to remove connection from R-501. This LOTO is in place until the R601 connection is completed and installed.

Rich Johnson
10-1-2020

FOIA and CEII CONFIDENTIAL TREATMENT REQUESTED

10-1-2020

Kitts Hill Reg

Leighton Murphy

On Sept 30 2020 arrived on site @ Kitts Hill Regulator station to install Temporary feed for full disconnection of R501 for abandonment per BXP. Once on site the job description was discussed with COH techs that were on site per request by TC energy & Loto was established to isolate and blowdown the COH Regulator Run. COH established bypass before Regulator was Isolate and LOTO. After Regulator Run was blown down and LOTO, the Inlet ninety was Removed to Connect the temporary feed to R601. Once temporary was Connected and torqed LOTO was removed to purge and load temporary feed and regulator Run. Once full purge was acheived COH returned Regulator Run to normal service. After returned to service a Slotted amount of time of 15 to 20 mins was allowed to confirm COH Regulators were in Control. COH Confirmed that their Regulators were in Control. Once Confirmed a second LOTO was established on R672 + R673 to Isolate and remove the Connection of R501. The Loto was deemed to stay active until the permanant connection of R601 was Completed and installed. This LOTO also involved COH Regulator Inlet valve to assure COH would be notified and on site to establish permanant feed. COH signed and Locked on LOTO.

10-1-2020

FOIA and CEII CONFIDENTIAL TREATMENT REQUESTED

10-1-2020

Kitts Hill 9-30-2020 Time line

Leighton Murphy
Rich Johnson

915a.m. - Arrive on site.

930a.m. - Job walk Thru completed

945a.m. - COH establish bypass

1000a.m. - 1st LOTO established

1005a.m. - Temporary Feed installation begin

1030a.m. - Temporary Feed installed, LOTO removed to purge.

1040a.m. - Purge + Load complete.

1045a.m. - COH Return Regulator Run to Normal

11:00a.m. - 2nd LOTO established to Remove R501 connection.

12:15p.m. - R501 connection Removed.

12:30p.m. - Confirmation LOTO to stay active until permanant feed installed agreed between COH + TC energy.

1:45p.m. - Off Site.

FOIA and CEII CONFIDENTIAL TREATMENT REQUESTED

KITTS HILL TB STATION 10-1-2020

MARK HAASER CoH. SR. M+R Tech. I.

I ARRIVED AT KITTS HILL TB STATION ON SEPTEMBER 30 AT 8:30 AM TO ASSIST TRANSCANADA WITH REMOVING R-501 INLET LINE AND TURNING ON R-601 FEED TO THE STATION. THIS INVOLVED ADDING A 2" ABOVE GROUND PIPE FROM THE R-601 OUTSIDE BLOW-OFF TAP TO THE INLET FLANGE OF THE MONITOR REGULATOR. AT APPROXIMATELY 9:30 I OPERATED THE BYPASS VALVE AND RAISED THE DOWNSTREAM PRESSURE FROM 120# TO 130# AND MAINTAINED THAT PRESSURE FOR ABOUT 30 MINUTES BEFORE SHUTTING OFF INLET AND OUTLET SETTING VALVES. TRANSCANADA DISSASEMBLED 90° INLET FLANGES FROM MONITO AND INSTALLED TEMPERARY 2" LINE FROM R-601 TO MONITOR REGULATOR. AT APPROXIMATELY 10:15 AM WE PURGED THE SETTING AND PERFORMED A LOCK UP TEST, WE THEN OPENED OUTLET VALVE AND LOWERED BYPASS PRESSURE TO 120# AND LET THE CONTROL REGULATOR COME INTO PLAY. I THEN CLOSED THE BYPASS VALVE AND MONITORED THE PRESSURE FOR ABOUT 1½ HR WHILE TRANSCANADA SHUT THE VALVES OFF FROM R-501 TO THE DEMARCATION VALVE AND REMOVED IT TO MAKE A NEW PERMINENT PIECE TO ATTACH R-601 TO THE INLET OF THE DEMARCATION VALVE. AT THAT TIME I WAS INFORMED THAT THE NEW WELDED PIPE WAS NOT GOING TO BE RETURNED AND INSTALLED FOR AT LEAST 24 HOURS. TRANSCANADA ORIGINALLY TOLD US THE NEW PIECE OF PIPE WAS GOING TO BE FIELD WELDED, X RAYE AN PUT BACK IN SERVICE THE SAME DAY.

TRANSCANADA WAS PLANNING ON COMMING BACK ON FRIDAY OCTOBER 2nd TO INSTALL THE NEW WELDED PIECE BUT THEY WOULD CONFIRM WITH DUSTIN HARPE WITH A CONCRETE DATE. AT THAT POINT WE WERE NO LONGER NEEDED AT THE SITE AND THEY WOULD CONTACT DUSTIN WHEN THE NEW PIPE WAS TO BE INSTALLED. WE LEFT THE SITE AT 12:30 PM. SEPTEMBER 30.

10-1-2020 PAGE 1

AT 2:11 AM. WAYNE RUMMEL CALLED ME AND INFORMED ME THAT THE KITTS HILL STATION WAS IN ALARM (CALL FROM GAS CONTRO) AND THE PRESSURE WAS RISING ABOVE THE MAAP AND WANTED TO KNOW FROM ME WHAT WOULD

Be CAUSING The Regulator To RAISE UP THAT HIGH, I Told WAYNE I DIDN'T Know AT THAT Time And THAT I would CALL Him BACK SHORTLY. AFTER CONTEMPLATING WHAT would CAUSE The Regulators To OPEN UP AFTER A long PERIOD OF Time I Then REALIZED The SUPPLY GAS To The CONTROLLER WAS LOSING PRESSURE SO I CALLED WAYNE BACK AT 2:20AM And Told Him To Tell DUSTIN THAT The BYPASS VALVE NEEDED To Be OPENED UP To RETURN LOADING PRESSURE To The Regulators SO They WILL CLOSE. WAYNE CALLED BACK AT 4:22 A.M. And Told me The DOWNSTREAM PRESSURE HAD REACHED 420# And They SHUT OFF THE STATION And They were TAKING The SYSTEM DOWN To ZERO PRESSURE. I Then GOT IN my TRUCK And Headed To KITTS HILL, I ARRIVED ON SITE AT 7:18 A.M. And SYSTEM WAS AT ZERO. PRESSURE

Mark Haase 10-6-2020

10/5/2020
Kitts Hill POD

The first time I heard anything about the Kitts Hill job was on Tuesday October 29th. Wayne informed me that Mark and I were needed at the Kitts Hill POD to monitor some work being performed by TC Energy. He mentioned it had something to do with switching the feed from one line to another but had very little information. Mark and I met with TC Energy and an Apex contract crew around 9 am Wednesday morning. We had surveyed the site shortly before they arrived and thought that they was simply going to use a valve cluster beside the reg building to switch the station inlet feed to the other line. However, after discussing the project with a TC pipeliner we learned that they were actually removing a section of piping in the valve cluster and were going to use a pre-fabricated piece of piping to temporarily feed our station. We were initially told this was going to be completed that same day and our station would be put back on the original feed. At 9:08 Am I contacted gas control to let them know that we would be on bypass until TC had the temporary inlet feed hooked up. About the time the temporary inlet bypass wass an apex employee, whom I believed to be an inspector, informed everybody on site that the weld on the new piece of piping being installed was going to have a 24-hour wait period before the x-ray testing could be performed. At this point the temporary inlet bypass was completley hooked up and purged. We put the regulators back into operation and continued to monitor the pressure and operation of the regulators for several hours while TC completed what work they could still do outside at the valve cluster. The TC pipeliner said it would probably be Friday before they would

take out the temporary inlet bypass and put our station back on the original feed. Mark and I monitored the station until we were no longer needed and called gas control at 11:36 Am to let them know we were finished with the work at Kitts Hill. We were told by the TC Employees that they would contact us and let us know exactly when they were going to complete the job. At this point Mark and I left the site. Early Thursday morning I was contacted by Wayne Rummel stating that the pressure was climbing at Kitts Hill. I talked to Wayne around 2:30 Am and I arrived at the Kitts Hill POD around 2:50 Am. He had called Mark and they had realized that the supply lines to the regulators did not have gas. Wayne told me to open the regulator bypass and after doing so the regulators locked up. Several minutes later I received another call from Wayne saying to shut down the inlet to the station because the pressure was so high. Around 3 Am the inlet to the station was shutdown and we began blowing down the system. Wayne and I remained onsite until the system was blown down completely.

Dustin Harper
10/5/2020

Kitts Hill HP Pipeline Map

W.O. # 107-5977-64-4165

THIS PIPELINE TESTED TIGHT

DATE 2-11-70

PRESSURE 365 #

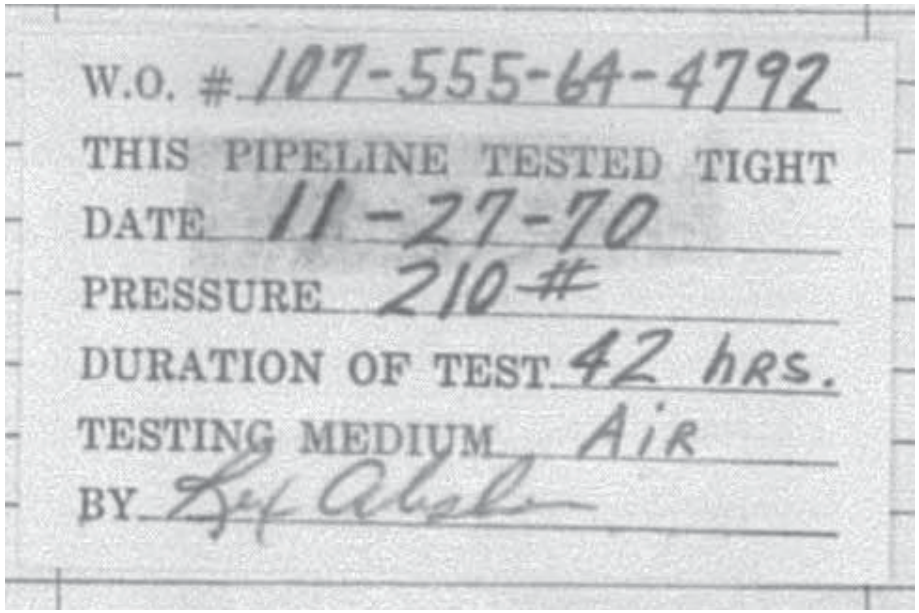
DURATION OF TEST 33 hrs.

TESTING MEDIUM Air

BY [illegible]

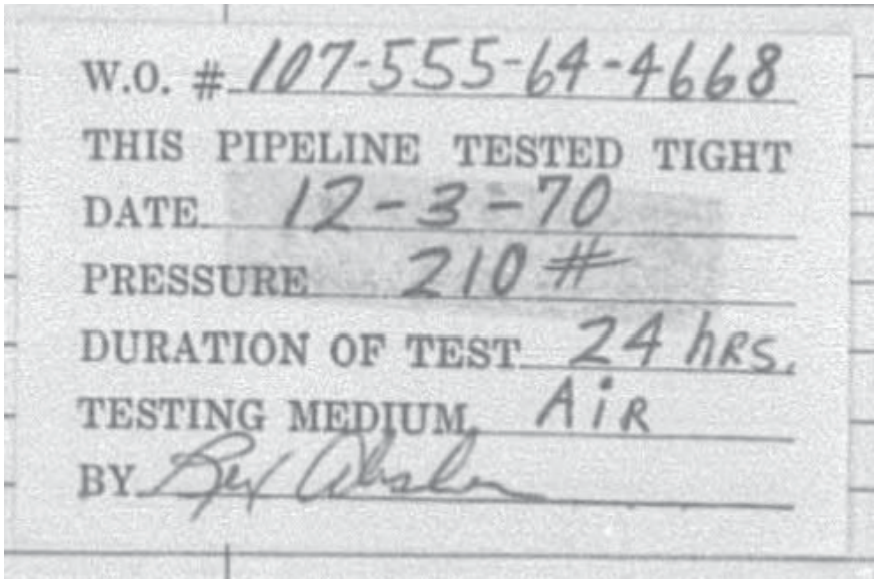
Test Record for 1970 3" Steel

- Scope: 19,273' – 3"
- Wall Thickness: 0.188"
- Grade: not stated in WO; using 24,000 Design Factor as lowest assumption
- Test Date: 2/11/70
- Test Medium: Air
- Test Pressure: 365 psig
- Test Duration: 33 hours
- % SMYS @ Test Pressure: 14.16%
- % SMYS @ Peak Excursion: 16.29%


W.O. # 107-555-64-4792
THIS PIPELINE TESTED TIGHT
DATE 11-27-70
PRESSURE 210#
DURATION OF TEST 42 hrs.
TESTING MEDIUM Air
BY [illegible]

Test Record for 1970 2" Steel

- Scope: 267' – 2"
- Wall Thickness: 0.154"
- Grade: not stated in WO; using 24,000 Design Factor as lowest assumption
- Test Date: 11/27/70
- Test Medium: Air
- Test Pressure: 210 psig
- Test Duration: 42 hours
- % SMYS @ Test Pressure: 6.75% max
- % SMYS @ Peak Excursion: 13.49%


W.O. # 107-555-64-4668
THIS PIPELINE TESTED TIGHT
DATE 12-3-70
PRESSURE 210 #
DURATION OF TEST 24 hrs.
TESTING MEDIUM Air
BY

Test Record for 1970 1 ¼" Steel

- Scope: 735' – 1 ¼"
- Wall Thickness: 0.191"
- Grade: not stated in WO; using 24,000 Design Factor as lowest assumption
- Test Date: 12/3/70
- Test Medium: Air
- Test Pressure: 210 psig
- Test Duration: 24 hours
- % SMYS @ Test Pressure: 3.80% max
- % SMYS @ Peak Excursion: 7.60%

```
------------------------------ PRESSURE TEST DATA ------------------------------
RECORDING PRESS CHART ATTACHED(Y/N): Y        DURATION OF TEST:  24 : 00
TEST ACCEPTABLE(YES): Y                          *TEST MEDIUM: AIR
   DATE TEST REMOVED: 10/06/92                        TEST BY: JBOND
   TIME TEST REMOVED: 1000   LINES PURGED,SEALED,REMOVED(Y/N):
   TEST REMARKS: AIR & NITROGEN                     TEST PRESS:  290.0 PSIG
    X-RAY (Y/N): N
```

Test Record for 1992 3” Steel (Relocation)

- Scope: 95’ – 3”
- Wall Thickness: 0.188”
- Grade: X42 (42,000 Design Factor)
- Test Date: 10/6/92
- Test Medium: Air & Nitrogen
- Test Pressure: 290 psig
- Test Duration: 24 hours
- % SMYS @ Test Pressure: 6.43% max
- % SMYS @ Peak Excursion: 9.31%

```
------------------------------ PRESSURE TEST DATA ------------------------------
RECORDING PRESS CHART ATTACHED(Y/N): Y        DURATION OF TEST:   1 : 00
TEST ACCEPTABLE(YES): Y                          *TEST MEDIUM: AIR
   DATE TEST REMOVED: 01/06/99                        TEST BY: JACK JOHNSON
   TIME TEST REMOVED: 0100   LINES PURGED,SEALED,REMOVED(Y/N):
   TEST REMARKS:                                     TEST PRESS:  280.0 PSIG
    X-RAY (Y/N): N
```

Test Record for 1999 3” Steel (Replacement)

- Scope: 58’ – 3”
- Wall Thickness: 0.188”
- Grade: X42 (42,000 Design Factor)
- Test Date: 1/6/99
- Test Medium: Air
- Test Pressure: 280 psig
- Test Duration: 1 hour
- % SMYS @ Test Pressure: 9.31% max

```
------------------------------ PRESSURE TEST DATA ------------------------------
RECORDING PRESS CHART ATTACHED(Y/N): Y        DURATION OF TEST:   1 : 00
TEST ACCEPTABLE(YES): Y                          *TEST MEDIUM: AIR
   DATE TEST REMOVED: 10/26/00                        TEST BY: JJOHNSON
   TIME TEST REMOVED: 0900   LINES PURGED,SEALED,REMOVED(Y/N):
   TEST REMARKS: STANLEY PIPELINE                    TEST PRESS:  300.0 PSIG
    X-RAY (Y/N): N
```

Test Record for 2000 3” Steel (Relocation)

- Scope: 70’ – 3”
- Wall Thickness: 0.188”
- Grade: X42 (42,000 Design Factor)
- Test Date: 10/26/00
- Test Medium: Air
- Test Pressure: 300 psig
- Test Duration: 1 hour
- % SMYS @ Test Pressure: 9.31% max

Issue Date: 12/06/2019	Additional Requirements for Pressure Modifications or Shutdown/Startup Operations at Regulator Stations	Notice Number ON 19-05
Supersedes: 05/23/2019		
GS Team Reassess By: 12/31/2020		Page 1 of 4

Companies Affected:

☒ NIPSCO	☒ CVA	☒ CMD
	☒ CKY	☒ COH
	☒ CMA	☒ CPA

Summary

This Operational Notice (ON) supplements the existing requirements of the applicable versions of the following gas standards. This ON applies to all regulator stations regardless of MAOP that are under the purview of the M&R or GM&T departments.

GS 1750.010 “Pressure Regulating Station Operation and Maintenance”

GS 1750.020 “Inspection and Maintenance of Delivery Station Regulators”

GS 1750.210 “Inspection and Maintenance of Heaters”

GS 6400.030 “Installation and Operations Requirements for Large Volume CAB and GMB Meter Set Assemblies”

GS 6400.180(CG) “Bypassing of Measuring Stations”

For the purpose of this ON, a “**regulator station**” includes pressure regulation plus any combination of meter, control instruments, control lines, recording pressure devices, heater, valves, strainers/filters, enclosures and ventilating equipment, and any piping. Unless otherwise stated, a “**regulator station**” includes a “**customer M&R station**.”

A “**customer M&R station**” impacted by the requirements of this ON is one under the purview of the M&R or GM&T departments and that has monitor and control regulators with control lines to one or both regulators.

Types of Work Impacted

For the purpose of this ON, “**qualified**” means that the personnel are Operator Qualified to perform the tasks at hand (e.g., inspecting or operating pressure regulating stations, operating a bypass).

This ON applies to the following types of work at a regulator station.

a. Pressure modification (e.g., adjusting a regulator to increase or decrease pressure).
b. Shutdown or startup of a regulator station.

NOTE 1: “**Shutdown of a regulator station**” means closing valves to stop gas flow through the regulator station, either permanently or temporarily.

NOTE 2: “**Startup of a regulator station**” means placing a station into operation or back into operation, activating a parallel regulator setting in a dual-run regulator station, or activating a bypass regulator to control downstream pressure.

c. Placing a regulator station on bypass.
d. Opening or closing valves (e.g., shutting off a catalytic heater) at a regulator station.

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Additional Personnel Required

In order to enact the additional required actions listed in the section below, at least two (2) qualified personnel are required when the work involves the following.

a. Shutdown of a regulator station, which does not include a parallel regulator run that can remain in operation or be placed into operation.
b. Operating the bypass valve of a regulator station to control pressure (i.e., bypass does not include a regulator) in order to install or replace components or perform operations and maintenance (O&M) activities.

The 2nd qualified person shall be responsible for monitoring downstream pressure throughout the duration of the work.

Additional Actions Required

The following additional actions shall be incorporated into the job planning and job tasks for the types of work impacted by this ON.

<u>LP Regulator Stations Only (not including customer M&R stations)</u>:

When planning modifications to LP regulator stations, the planned work shall include the installation of a 1-inch non-primary relief valve (i.e., NPRV) if secondary relief (i.e., NPRV or internal relief valve) doesn't already exist. The purpose of this requirement is to be alerted to or to avoid a potential overpressurization of a low pressure piping system due to leak through of a bypass valve.

NOTE 1: Emergency modifications to an LP regulator station will require follow-up installation of a 1-inch NPRV (if secondary relief doesn't already exist) promptly after the emergency is made safe. "**Promptly**" means taking action (e.g., order material, schedule resources) as soon as possible after the emergency is made safe and until the work is completed.

NOTE 2: For LP regulators located in vaults or for locations that are not feasible for the installation of a NPRV (e.g., under electric transformer), contact the Design Engineering Team for assistance identifying other options. The installation of a 1-inch NPRV may be deferred with the approval of the Manager Field Engineering.

<u>All Regulator Stations (including customer M&R stations)</u>:

The following additional steps are required when working on any regulator station, regardless of outlet pressure.

a. All regulator station modification steps shall be planned for completion in one continuous visit to the site. If circumstances dictate that a regulator station must be left unattended with no qualified M&R (or GM&T) personnel monitoring the downstream pressure of regulator station prior to the completion of the work, the following steps are required.
    i. The local M&R/GM&T leader shall be contacted to discuss the proposed plan and his/her approval shall be obtained prior to leaving the regulator station unattended.

ii. If the project is being completed by the Project Management Team, the Coordinator/Inspector shall notify the Project Manager that the regulator station will be left shutdown and unattended.

iii. The downstream pressure shall be monitored for a minimum of 30 minutes prior to the M&R technician and Coordinator/Inspector, if applicable, leaving the job site.

b. Prior to performing work that may alter the flow of gas (e.g., operation of a station bypass, station shutdown or startup, pressure adjustment, operating a valve to turn on/off a catalytic heater), install a gauge (i.e., approved gauge installed in accordance with the applicable GS 1750.010 “Pressure Regulating Station Operation and Maintenance”) downstream of the station bypass and/or the setting’s outlet block valve.

c. Prior to performing maintenance or inspection work, if a paper pressure recording gauge exists, execute one of the following options so that pressure recording continues through the maintenance or inspection work.

i. Replace the chart in a pressure recording gauge with a test/calibration chart.

ii. Continue recording on the existing chart, but document on the paper chart the work done (e.g., adjusted pressure, completed annual inspection) and draw attention to (e.g., arrow, circle) pressure fluctuations resulting from the work done.

d. Prior to placing a regulator station into operation (i.e., startup), both the monitor and control sensing lines must be inspected for the presence of fluid. If fluid is found, refer to HSE 4400.050 “Pipeline Liquids Management.”

e. If downstream pressure cannot be continually monitored by a 2nd qualified person after activating a bypass regulator or a parallel regulator setting in a dual-run regulator station, the pressure shall be monitored for 30 minutes before beginning work. If a 2nd qualified person is present to monitor downstream pressure work may commence immediately after determining downstream pressure has stabilized..

f. The downstream pressure of a regulator station shall be monitored for a minimum of 30 minutes* by the qualified M&R (or GM&T) personnel and the 2nd qualified person (if required per “Additional Personnel Required” above) for the following types of work at a regulator station.

i. After the shutdown or startup of a regulator station.

ii. After opening or closing valve(s), other than turning on or shutting off a catalytic heater (see item “h” below) at a regulator station.

*NOTE: The 30 minute monitoring timeframe is a minimum requirement. Local Operations Leadership may determine additional monitoring is required due to flow conditions or may determine that flow creation is necessary to ensure that the regulator station is controlling the downstream pressure as intended.

g. After pressure modification (e.g., adjusting a regulator to increase or decrease pressure), the downstream pressure of a regulator station shall be monitored until the outlet pressure has stabilized, plus an additional five (5) minutes after the pressure has stabilized.

h. Prior to turning off or turning on a catalytic heater, complete each of the following tasks, as applicable.

i. Verify the function of the gas supply valve to the catalytic heater by reviewing the valve tag (if one is present).
ii. Trace the supply line from the heater to the gas supply valve and then to the tap location on the pipeline header to ensure that the valve operates only the heater.
iii. Verify supply pressure to the appliance regulator associated with the catalytic heater, in accordance with GS 1750.210 “Inspection and Maintenance of Heaters” and/or associated training, prior to operating the gas supply valve.

While operating the gas supply valve to the catalytic heater, monitor the downstream pressure of the regulator station to ensure that it is unaffected by the operation of the valve.

After operating the gas supply valve to the catalytic heater, verify supply pressure to the appliance regulator. When turning off a catalytic heater, bleed down the supply line to verify that the correct gas supply valve has been operated.

i. After the qualified M&R personnel has placed a regulator station into operation (i.e., startup), both the qualified M&R personnel and the 2nd qualified person (if required per “Additional Personnel Required” above) shall verify and document the following in the Company’s work management system (i.e., WMS or Maximo, as applicable).
   i. The inlet and outlet block valves are open.
   ii. The bypass valve is closed and secured. The bypass valve shall be locked if it is not secured within a locked building or fence. If the bypass valve is located inside of a locked building or fence, locking the bypass valve is preferred.
   iii. The sensing line valve(s) are fully open.

If there are any questions, please contact Christine Maynard, Senior Standards Engineer (phone 614-460-6990 or email cmaynard@nisource.com) or Lee Reynolds, Manager Gas Standards (phone 614-460-5546 or email lreynolds@nisource.com).

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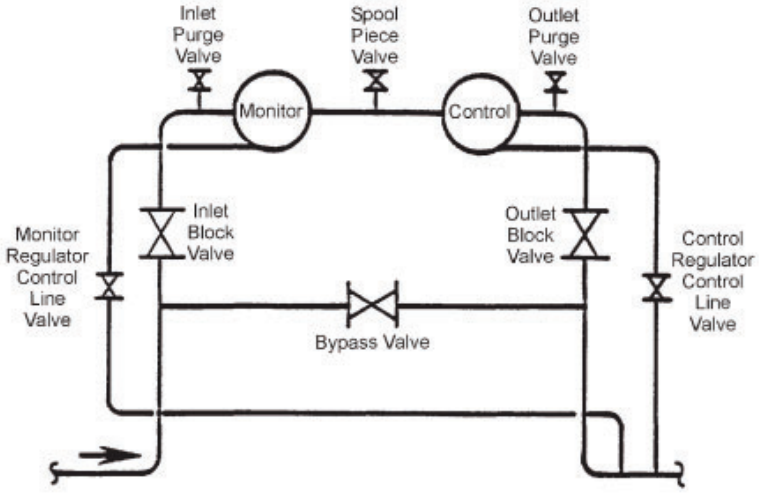
- *Purging a Regulator Setting...*

Purging is the act of removing a known medium from a piping system. The steps in purging a regulator setting are as follows:



Purging Procedure for Settings Containing Self-Operated Regulators

Step 1: Ensure the outlet purge valve is open.

Step 2: Ensure that the following setting valves are closed: inlet block, inlet purge, spool piece, outlet block, and pilot supply line (if equipped).

Step 3: Close the control line valves and disconnect the control lines from the regulators.

Step 4: Back-off all springs fully

Step 5: SLOWLY open pilot supply line (if so equipped).

Step 6: SLOWLY crack open the inlet block valve until a strong odor of gas is present at the outlet purge valve or monitor with a gas detector.

Step 7: On the monitor regulator, reconnect the control line and open the control line valve.

Step 8: Fully open inlet block valve.

Step 9: Perform lock-up test at the outlet purge valve.

Step 10: Screw the monitor regulator adjustment down until a strong odor of gas is present at the outlet purge valve or monitor with a gas detector.

Step 11: On the control regulator, reconnect the control line and turn the control line valve on.

Step 12: Perform lock-up test at the outlet purge valve.

Step 13: Back off monitor screw adjustment fully.

Not performing this step may cause you to lose control of the system.

CAUTION!

Step 14: Slowly open outlet block valve to purge remaining section.

Step 15: Close the outlet purge valve and leave the outlet block valve fully open.

The purging process is complete. As

The purging process is complete. As

needed, proceed to the steps for set-point adjustment, Adjusting Regulator Pressure, located in the PST.

- *Placing a Regulator Setting Back into Service...*

The steps for placing a regulator setting back into service are as follows:

On some regulators, take care not to screw the adjustment into the diaphragm housing.

Step 1: Screw the control regulator all the way down (wide open).

Step 2: Determine the monitor regulator set-point as indicated in the Regulator Station Inspection Record.

Step 3: Adjust the bypass valve to achieve an outlet pressure setting lower than the desired monitor regulator and set-point.

Step 4: Slowly increase the monitor regulator set-point and have the bypass valve operator start to close the bypass valve as the monitor regulator picks up the load on the system.

Step 5: Verify that the bypass valve is ***fully*** closed.

Step 6: Back-off the control regulator to its desired set-point.

18-6244837-00 Complete on 10/22/18 by WRummel

```
T497          JOB ORDER EXECUTE - REGULATOR STATION INSPECTIONS        10/06/20

 JO NUM: 18-6244837-00        *JOB TYPE: 2613       *LOCATION NUMBER: 1943
SUMMARY: REG INSP-KITTS HILL R3189T

FUNCTION ID: 000019638
                                MAJOR INSPECTION SCHEDULED (Y/N): N
DETAIL ENTERED (Y/N): Y         MAJOR INSPECTION PERFORMED (Y/N): N

REGULATION NORMAL (Y/N): Y
INLET PRESSURE:  757.0 PSIG    OUTLET PRESSURE AS FOUND:  120.0  *UNIT: PSIG
                                OUTLET PRESSURE AS LEFT:  120.0  *UNIT: PSIG

INLET MIN. PRESSURE:  150.0 PSIG  OUTLET MIN. PRESSURE:  100.0  *UNIT: PSIG
                                          OUTLET MAOP:  175.0   PSIG
*GRNHS GAS:
              LEAKAGE BEFORE VENTING:      % LEL
                                OXYGEN:     %
     EXTERNAL VALVE ACCESSIBLE (Y/N): Y

NEXT:       DATA:
PF20-PROCESS AND RETURN TO LIST
```

```
                                                                    1 OF  2
 JO NUM: 18-6244837-00        *JOB TYPE: 2613       *LOCATION NUMBER: 1943
SUMMARY: REG INSP-KITTS HILL R3189T

FUNCTION ID: 000019638       FUNCTION OF REGULATOR: CONTROL

FACILITY ID: 0000340978  *MFG CODE: FH    MFG MODEL NUM: 657-E

DETAIL ENTERED (Y/N): Y

SAFETY DEVICES:       SET PRESS:          *UNIT:
                    RELIEVED AT:          *UNIT:

                              AS FOUND (UNIT)    AS LEFT (UNIT)
                     SET POINT:  120.0  PSIG       120.0  PSIG
    INSTRUMENT SUPPLY PRESSURE:   35.0  PSIG        35.0  PSIG
    INSTRUMENT OUTPUT PRESSURE:   22.0  PSIG        22.0  PSIG
          INNER VALVE POSITION:   0 %                0 %
```

```
                                                                    2 OF  2
 JO NUM: 18-6244837-00        *JOB TYPE: 2613       *LOCATION NUMBER: 1943
SUMMARY: REG INSP-KITTS HILL R3189T

FUNCTION ID: 000019638       FUNCTION OF REGULATOR: MONITOR

FACILITY ID: 0000340977  *MFG CODE: FH    MFG MODEL NUM: 657E

DETAIL ENTERED (Y/N): Y

SAFETY DEVICES:       SET PRESS:          *UNIT:
                    RELIEVED AT:          *UNIT:

                              AS FOUND (UNIT)    AS LEFT (UNIT)
                     SET POINT:  140.0  PSIG       140.0  PSIG
    INSTRUMENT SUPPLY PRESSURE:   35.0  PSIG        35.0  PSIG
    INSTRUMENT OUTPUT PRESSURE:    0.0  PSIG         0.0  PSIG
          INNER VALVE POSITION:   0 %                0 %
```

19-7207140-00 Completed on 9/20/2019 by WRummel

```
 JO NUM: 19-7207140-00        *JOB TYPE: 2613       *LOCATION NUMBER: 1943
SUMMARY: REG INSP-KITTS HILL R3189T

FUNCTION ID: 000019638
                              MAJOR INSPECTION SCHEDULED (Y/N): N
DETAIL ENTERED (Y/N): Y       MAJOR INSPECTION PERFORMED (Y/N): N

REGULATION NORMAL (Y/N): N
INLET PRESSURE:  576.0 PSIG   OUTLET PRESSURE AS FOUND:  120.0  *UNIT: PSIG
                               OUTLET PRESSURE AS LEFT:  120.0  *UNIT: PSIG

INLET MIN. PRESSURE:  150.0 PSIG  OUTLET MIN. PRESSURE:  100.0  *UNIT: PSIG
                                        OUTLET MAOP:  175.0   PSIG
*GRNHS GAS:
              LEAKAGE BEFORE VENTING:     % LEL
                              OXYGEN:    %
     EXTERNAL VALVE ACCESSIBLE (Y/N): N
```

```
 JO NUM: 19-7207140-00        *JOB TYPE: 2613       *LOCATION NUMBER: 1943
SUMMARY: REG INSP-KITTS HILL R3189T

FUNCTION ID: 000019638      FUNCTION OF REGULATOR: CONTROL

FACILITY ID: 0000340978  *MFG CODE: FH    MFG MODEL NUM: 657-E

DETAIL ENTERED (Y/N): Y

SAFETY DEVICES:      SET PRESS:          *UNIT:
                   RELIEVED AT:          *UNIT:

                              AS FOUND (UNIT)    AS LEFT (UNIT)
                     SET POINT:  120.0  PSIG       120.0  PSIG
    INSTRUMENT SUPPLY PRESSURE:   35.0  PSIG        35.0  PSIG
    INSTRUMENT OUTPUT PRESSURE:   20.0  PSIG        20.0  PSIG
          INNER VALVE POSITION:     %                 %
```

```
 JO NUM: 19-7207140-00        *JOB TYPE: 2613       *LOCATION NUMBER: 1943
SUMMARY: REG INSP-KITTS HILL R3189T

FUNCTION ID: 000019638      FUNCTION OF REGULATOR: MONITOR

FACILITY ID: 0000340977  *MFG CODE: FH    MFG MODEL NUM: 657E

DETAIL ENTERED (Y/N): Y

SAFETY DEVICES:      SET PRESS:          *UNIT:
                   RELIEVED AT:          *UNIT:

                              AS FOUND (UNIT)    AS LEFT (UNIT)
                     SET POINT:  140.0  PSIG       140.0  PSIG
    INSTRUMENT SUPPLY PRESSURE:   35.0  PSIG        35.0  PSIG
    INSTRUMENT OUTPUT PRESSURE:    0.0  PSIG         0.0  PSIG
          INNER VALVE POSITION:     %                 %
```

20-8239607-00 Completed 9/03/2020 MHaaser

```
 JO NUM: 20-8239607-00        *JOB TYPE: 2613       *LOCATION NUMBER: 1943
SUMMARY: REG INSP-KITTS HILL R3189T

FUNCTION ID: 000019638
                                MAJOR INSPECTION SCHEDULED (Y/N): N
DETAIL ENTERED (Y/N): Y         MAJOR INSPECTION PERFORMED (Y/N): N

REGULATION NORMAL (Y/N): Y
INLET PRESSURE:  601.0 PSIG   OUTLET PRESSURE AS FOUND:  120.0  *UNIT: PSIG
                               OUTLET PRESSURE AS LEFT:  120.0  *UNIT: PSIG

INLET MIN. PRESSURE:  150.0 PSIG  OUTLET MIN. PRESSURE:  100.0  *UNIT: PSIG
                                        OUTLET MAOP:  175.0   PSIG
*GRNHS GAS:
              LEAKAGE BEFORE VENTING:     % LEL
                               OXYGEN:    %
     EXTERNAL VALVE ACCESSIBLE (Y/N): Y
```

```
 JO NUM: 20-8239607-00        *JOB TYPE: 2613       *LOCATION NUMBER: 1943
SUMMARY: REG INSP-KITTS HILL R3189T

FUNCTION ID: 000019638      FUNCTION OF REGULATOR: CONTROL

FACILITY ID: 0000340978  *MFG CODE: FH    MFG MODEL NUM: 657-E

DETAIL ENTERED (Y/N): Y

SAFETY DEVICES:      SET PRESS:          *UNIT:
                   RELIEVED AT:          *UNIT:

                              AS FOUND (UNIT)    AS LEFT (UNIT)
                     SET POINT:  120.0  PSIG       120.0  PSIG
    INSTRUMENT SUPPLY PRESSURE:   35.0  PSIG        35.0  PSIG
    INSTRUMENT OUTPUT PRESSURE:   20.0  PSIG        20.0  PSIG
          INNER VALVE POSITION:  25 %               25 %
```

```
 JO NUM: 20-8239607-00        *JOB TYPE: 2613       *LOCATION NUMBER: 1943
SUMMARY: REG INSP-KITTS HILL R3189T

FUNCTION ID: 000019638      FUNCTION OF REGULATOR: MONITOR

FACILITY ID: 0000340977  *MFG CODE: FH    MFG MODEL NUM: 657E

DETAIL ENTERED (Y/N): Y

SAFETY DEVICES:      SET PRESS:          *UNIT:
                   RELIEVED AT:          *UNIT:

                              AS FOUND (UNIT)    AS LEFT (UNIT)
                     SET POINT:  140.0  PSIG       140.0  PSIG
    INSTRUMENT SUPPLY PRESSURE:   35.0  PSIG        35.0  PSIG
    INSTRUMENT OUTPUT PRESSURE:    0.0  PSIG         0.0  PSIG
          INNER VALVE POSITION: 100 %              100 %
```

Facilities that were over pressurized due to the Kitts Hill event

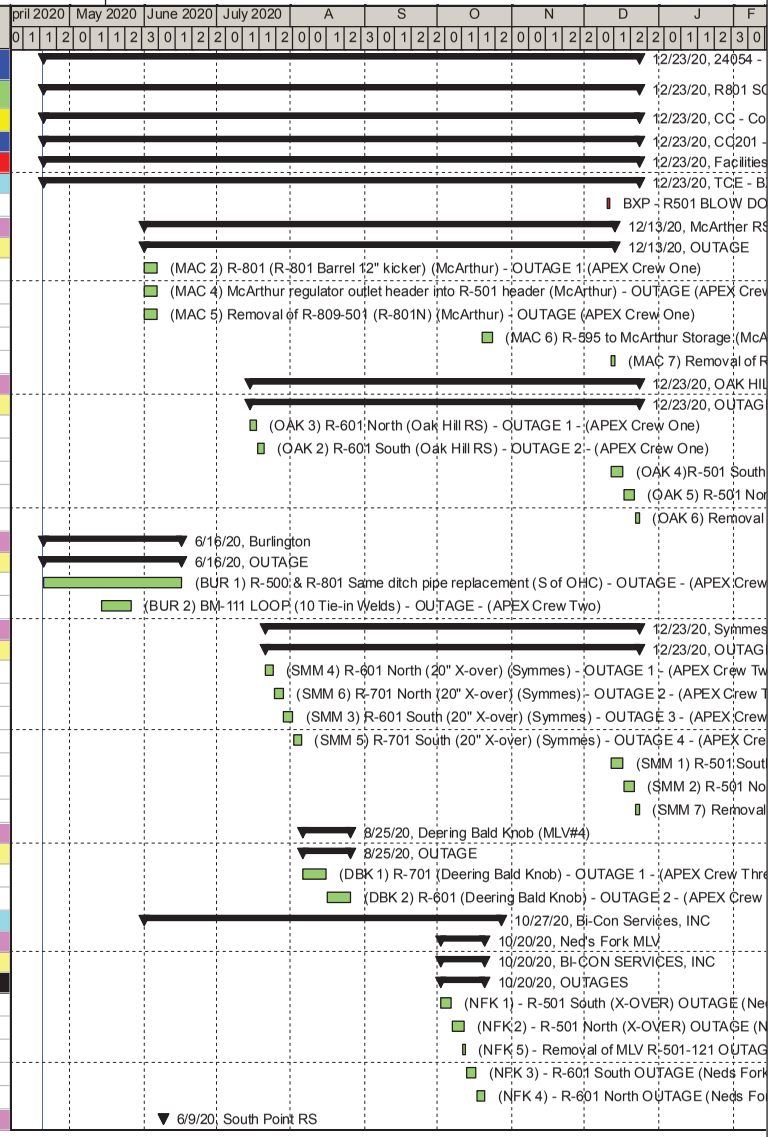
Premise 406042 Kitts Hill TB

- 2 Ametek controllers (downstream sensing element)
- All other components ANSI 300 (740 PSIG rated)

Premise 401193 SR 141 Rockhill DR-4314

- 6-2” ANSI 150 flanges (285 PSIG)
- 2-2” Rockwell 441-57S regulators (175 PSIG)
- 2-2” Walworth Plug Valves (200 PSIG)

Activity ID	Activity Name	Start	Finish
24054 - BUCKEYE EXPRESS		4/20/20	12/23/20
R801 SOUTH CONSTRUCTION		4/20/20	12/23/20
CC - Construction		4/20/20	12/23/20
CC201 - Facility Construction		4/20/20	12/23/20
Facilities & Abandonment Construction		4/20/20	12/23/20
TCE - BXP Facilities APEX		4/20/20	12/23/20
BXP1240	BXP - R501 BLOW DOWN OUTAGE	12/10/20*	12/11/20
McArther RS		6/1/20	12/13/20
OUTAGE		6/1/20	12/13/20
MAC-1050	(MAC 2) R-801 (R-801 Barrel 12" kicker) (McArthur) - OUTAGE 1 (APEX Crew One)	6/1/20	6/6/20
MAC-1060	(MAC 4) McArthur regulator outlet header into R-501 header (McArthur) - OUTAGE (APEX Crew One)	6/1/20	6/6/20
MAC-1070	(MAC 5) Removal of R-809-501 (R-801N) (McArthur) - OUTAGE (APEX Crew One)	6/1/20	6/6/20
MAC-1160	(MAC 6) R-595 to McArthur Storage (McArthur) - OUTAGE 3 (APEX Crew One)	10/19/20*	10/23/20
MAC-1130	(MAC 7) Removal of R-501-500 (809 tie-in) (McArthur) - OUTAGE 2 (APEX Crew One)	12/12/20*	12/13/20
OAK HILL RS		7/15/20	12/23/20
OUTAGE		7/15/20	12/23/20
OHV-1040	(OAK 3) R-601 North (Oak Hill RS) - OUTAGE 1 - (APEX Crew One)	7/15/20*	7/17/20
OHV-1070	(OAK 2) R-601 South (Oak Hill RS) - OUTAGE 2 - (APEX Crew One)	7/18/20*	7/20/20
OHV-1120	(OAK 4)R-501 South (Oak Hill RS) - OUTAGE 3 - (APEX Crew One)	12/12/20*	12/16/20
OHV-1150	(OAK 5) R-501 North (Oak Hill RS) - OUTAGE 4 - (APEX Crew One)	12/17/20*	12/21/20
OHV-1170	(OAK 6) Removal of MLV R-501-300 (Oak Hill RS) - OUTAGE 5 - (APEX Crew One)	12/22/20*	12/23/20
Burlington		4/20/20	6/16/20
OUTAGE		4/20/20	6/16/20
BURL-1050	(BUR 1) R-500 & R-801 Same ditch pipe replacement (S of OHC) - OUTAGE - (APEX Crew Two)	4/20/20*	6/16/20
BURL-1130	(BUR 2) BM-111 LOOP (10 Tie-in Welds) - OUTAGE - (APEX Crew Two)	5/14/20*	5/26/20
Symmes		7/21/20	12/23/20
OUTAGE		7/21/20	12/23/20
SMM-1070	(SMM 4) R-601 North (20" X-over) (Symmes) - OUTAGE 1 - (APEX Crew Two)	7/21/20*	7/24/20
SMM-1100	(SMM 6) R-701 North (20" X-over) (Symmes) - OUTAGE 2 - (APEX Crew Two)	7/25/20*	7/28/20
SMM-1120	(SMM 3) R-601 South (20" X-over) (Symmes) - OUTAGE 3 - (APEX Crew Two)	7/29/20*	8/1/20
SMM-1140	(SMM 5) R-701 South (20" X-over) (Symmes) - OUTAGE 4 - (APEX Crew Two)	8/2/20*	8/5/20
SMM-1170	(SMM 1) R-501 South (20" X-over) (Symmes) - OUTAGE 5 - (APEX Crew Two)	12/12/20*	12/16/20
SMM-1200	(SMM 2) R-501 North (20" X-over) (Symmes) - OUTAGE 6 - (APEX Crew Two)	12/17/20*	12/21/20
SMM-1230	(SMM 7) Removal of MLV R-501-200 (Symmes) - OUTAGE 7 - (APEX Crew Two)	12/22/20*	12/23/20
Deering Bald Knob (MLV#4)		8/6/20	8/25/20
OUTAGE		8/6/20	8/25/20
DEER-1050	(DBK 1) R-701 (Deering Bald Knob) - OUTAGE 1 - (APEX Crew Three)	8/6/20*	8/15/20
DEER-1070	(DBK 2) R-601 (Deering Bald Knob) - OUTAGE 2 - (APEX Crew Three)	8/16/20*	8/25/20
Bi-Con Services, INC		6/1/20	10/27/20
Ned's Fork MLV		10/2/20	10/20/20
BI-CON SERVICES, INC		10/2/20	10/20/20
OUTAGES		10/2/20	10/20/20
A18500	(NFK 1) - R-501 South (X-OVER) OUTAGE (Neds Fork MLV)	10/2/20*	10/6/20
A18510	(NFK 2) - R-501 North (X-OVER) OUTAGE (Neds Fork MLV)	10/7/20*	10/11/20
A18540	(NFK 5) - Removal of MLV R-501-121 OUTAGE (Neds Fork MLV)	10/11/20*	10/12/20
A18520	(NFK 3) - R-601 South OUTAGE (Neds Fork MLV)	10/13/20*	10/16/20
A18530	(NFK 4) - R-601 North OUTAGE (Neds Fork MLV)	10/17/20*	10/20/20
South Point RS		6/9/20	6/9/20



Actual Work | Critical Remaining Work | Summary
Remaining Work | Milestone

TASK filter: OUTAGES.

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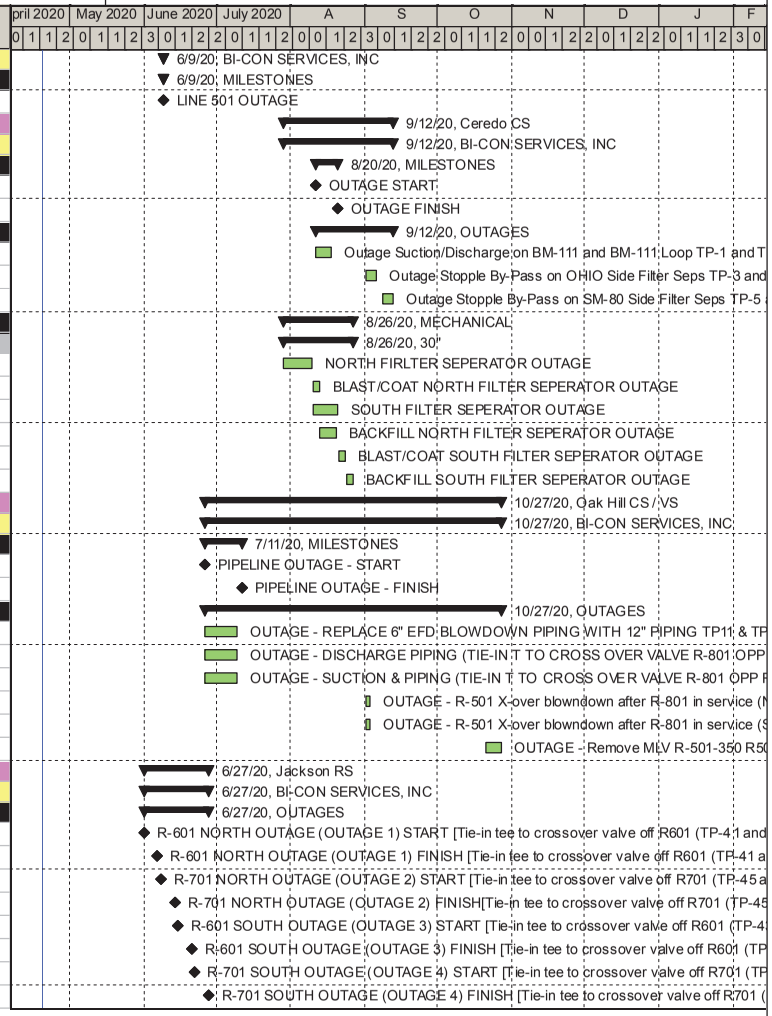
Activity ID	Activity Name	Start	Finish
BI-CON SERVICES, INC		6/9/20	6/9/20
MILESTONES		6/9/20	6/9/20
ML2890	LINE 501 OUTAGE	6/9/20*	
Ceredo CS		7/29/20	9/12/20
BI-CON SERVICES, INC		7/29/20	9/12/20
MILESTONES		8/11/20	8/20/20
ML2510	OUTAGE START	8/11/20*	
ML2500	OUTAGE FINISH		8/20/20*
OUTAGES		8/11/20	9/12/20
A18930	Outage Suction/Discharge on BM-111 and BM-111 Loop TP-1 and TP-2 (From OPDWG Mark up)	8/11/20*	8/17/20
A18940	Outage Stopple By-Pass on OHIO Side Filter Seps TP-3 and TP-4 (From OPDWG Mark up)	9/1/20*	9/5/20
A18950	Outage Stopple By-Pass on SM-80 Side Filter Seps TP-5 and TP-6 (From OPDWG Mark up)	9/8/20*	9/12/20
MECHANICAL		7/29/20	8/26/20
30"		7/29/20	8/26/20
A1530	NORTH FIRLTER SEPERATOR OUTAGE	7/29/20	8/9/20
A1540	BLAST/COAT NORTH FILTER SEPERATOR OUTAGE	8/10/20	8/12/20
A1590	SOUTH FILTER SEPERATOR OUTAGE	8/10/20	8/20/20
A1620	BACKFILL NORTH FILTER SEPERATOR OUTAGE	8/13/20	8/19/20
A1600	BLAST/COAT SOUTH FILTER SEPERATOR OUTAGE	8/21/20	8/23/20
A1610	BACKFILL SOUTH FILTER SEPERATOR OUTAGE	8/24/20	8/26/20
Oak Hill CS / VS		6/26/20	10/27/20
BI-CON SERVICES, INC		6/26/20	10/27/20
MILESTONES		6/26/20	7/11/20
ML2640	PIPELINE OUTAGE - START	6/26/20*	
ML2630	PIPELINE OUTAGE - FINISH		7/11/20*
OUTAGES		6/26/20	10/27/20
ME3260	OUTAGE - REPLACE 6" EFD BLOWDOWN PIPING WITH 12" PIPING TP11 & TP12	6/26/20*	7/9/20
ME3250	OUTAGE - DISCHARGE PIPING (TIE-IN T TO CROSS OVER VALVE R-801 OPP REGULATION) TP82 & TP84	6/26/20*	7/9/20
ME3240	OUTAGE - SUCTION & PIPING (TIE-IN T TO CROSS OVER VALVE R-801 OPP REGULATION) TP81 & TP82	6/26/20*	7/9/20
ME4100	OUTAGE - R-501 X-over blowndown after R-801 in service (North) Cut out Tee and Tie-in Pup (TP-61 and TP-62)	9/1/20*	9/2/20
ME4110	OUTAGE - R-501 X-over blowndown after R-801 in service (South) Cut out Tee and Tie-in Pup (TP-63 and TP-64)	9/1/20*	9/2/20
ME4120	OUTAGE - Remove MLV R-501-350 R501 Demo	10/21/20*	10/27/20
Jackson RS		6/1/20	6/27/20
BI-CON SERVICES, INC		6/1/20	6/27/20
OUTAGES		6/1/20	6/27/20
ML2770	R-601 NORTH OUTAGE (OUTAGE 1) START [Tie-in tee to crossover valve off R601 (TP-41 and TP-42)]	6/1/20*	
ML2830	R-601 NORTH OUTAGE (OUTAGE 1) FINISH [Tie-in tee to crossover valve off R601 (TP-41 and TP-42)]		6/6/20*
ML2760	R-701 NORTH OUTAGE (OUTAGE 2) START [Tie-in tee to crossover valve off R701 (TP-45 and TP-46 / TP-34 and TP-	6/8/20*	
ML2860	R-701 NORTH OUTAGE (OUTAGE 2) FINISH[Tie-in tee to crossover valve off R701 (TP-45 and TP-46 / TP-34 and TP-		6/13/20*
ML2750	R-601 SOUTH OUTAGE (OUTAGE 3) START [Tie-in tee to crossover valve off R601 (TP-43 and TP-44)]	6/15/20*	
ML2850	R-601 SOUTH OUTAGE (OUTAGE 3) FINISH [Tie-in tee to crossover valve off R601 (TP-43 and TP-44)]		6/20/20*
ML2740	R-701 SOUTH OUTAGE (OUTAGE 4) START [Tie-in tee to crossover valve off R701 (TP-47 and TP-48 / TP-37 and TP-	6/22/20*	
ML2840	R-701 SOUTH OUTAGE (OUTAGE 4) FINISH [Tie-in tee to crossover valve off R701 (TP-47 and TP-48 / TP-37 and TP-		6/27/20*



Actual Work | Critical Remaining Work | Summary
Remaining Work | Milestone

TASK filter: OUTAGES.

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Buckeye Express (BXP)

TC Energy

****All R-501 outages south of Oak Hill CS will be after R-801 is in service*
****Outage dates are likely subject to multiple changes*
****Location below relative to Oak Hill CS*

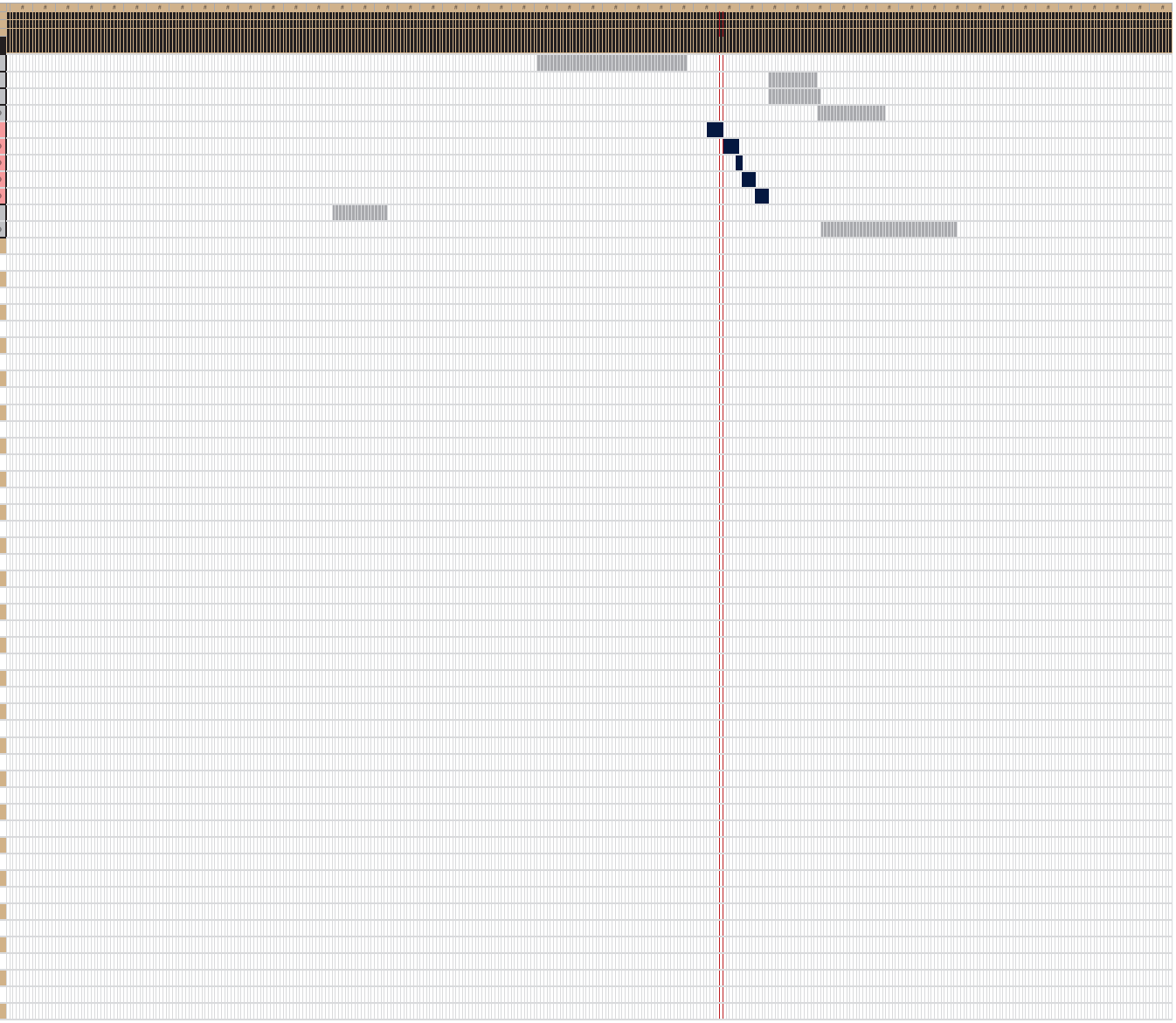
Project Start: Thu, 10/24/2019
Display Week: 1
Day
Capacity

Outage	Location	Description	Scope and Tie Points	Duration	START	END
JACKSON RS		New OPP Construction (CAT 1)		70	4/6/20	6/14/20
JACKSON RS		Abandonment (CAT 1)		32	10/21/20	11/21/20
JAK.3	North	R-601 North	Tie-in tee to crossover valve off R601 (TP-41 and TP-42)	6	6/1/20	6/6/20
JAK.5	North	R-701 North	Tie-in tee to crossover valve off R701 (TP-45 and TP-46 / TP-34 and TP-35 / TP-32)	6	6/8/20	6/13/20
JAK.2	North	R-601 South	Tie-in tee to crossover valve off R601 (TP-43 and TP-44)	6	6/15/20	6/20/20
JAK.4	North	R-701 South	Tie-in tee to crossover valve off R701 (TP-47 and TP-48 / TP-37 and TP-38)	6	6/22/20	6/27/20
OAK HILL CS/VS		New OPP Construction (CAT 1)		123	4/6/20	8/6/20
OAK HILL CS/VS		Abandonment (CAT 1)		31	10/21/20	11/20/20
OHC.1	At	Suction piping (For OPP regulation)	Tie-in tee to crossover valve off R801 OPP (TP-80 and TP-81)	14	6/26/20	7/9/20
OHC.2	At	Discharge piping (For OPP regulation)	Tie-in tee to crossover valve off R801 OPP (TP-82 and TP-83)	14	6/26/20	7/9/20
OHC.3	At	Replace 6" ESD blowdown piping with 12" piping (pot. 3d)	Tie-in tee and lift and lay of ESD blowdown (TP-11 and TP-12)	14	6/26/20	7/9/20
OHV.4	South	R-501 X-over blowndown after R-801 in service (North)	Cut out Tee and Tie-in Pup (TP-61 and TP-62)	2	9/1/20	9/2/20
OHV.5	South	R-501 X-over blowndown after R-801 in service (South)	Cut out Tee and Tie-in Pup (TP-63 and TP-64)	2	9/1/20	9/2/20
OHV.6	South	Remove MLV R-501-350	R501 Demo	7	10/21/20	10/27/20
CEREDO CS		New OPP Construction (CAT 1)		124	6/15/20	10/16/20
	OHIO	Suction/Discharge on BM-111 and BM-111 Loop	TP-1 and TP-2 (From OPDWG Mark up)	7	8/11/20	8/17/20
	OHIO	Stopple By-Pass on OHIO Side Filter Seps	TP-3 and TP-4 (From OPDWG Mark up)	5	9/1/20	9/5/20
	SM-80	Stopple By-Pass on SM-80 Side Filter Seps	TP-5 and TP-6 (From OPDWG Mark up)	5	9/8/20	9/12/20
McArthur VS		New Construction (CAT 2)		46	3/30/20	5/14/20
McArthur VS		Abandonment (CAT 2)		32	10/19/20	11/19/20
MAC.2	North	R-801 (R-801 Bore112" kicker)	TP 15 & 16 Install pup piece to replace R801 12" Kicker Tee.	6	6/1/20	6/6/20
MAC.4	North	McArthur regulator outlet header into R-501 header	TP 02 & 03 Replace Tee on existing 36" GMC10-7112 with 36" pipe	6	6/1/20	6/6/20
MAC.5	North	Removal of R-809-501 (R-801N)	TP 13 & 14 - On the existing pipeline 36" - GMC10-7112, at valve R809-R501 remove excess fittings & pipe and install temp cap	6	6/1/20	6/6/20
MAC.6	North	R-595 to McArthur Storage (should happen after R801 in-service)	Modified Crossover Piping (TP-04 to TP-12)	5	10/19/20	10/23/20
MAC.7	North	Removal of R-501-500 (809 tie-in)	R501 Demo - Associated with the Crossover Mod and R-595 Outage	2	10/19/20	10/20/20
OAK HILL RS		New Construction (CAT 2)		32	7/1/20	8/1/20
OAK HILL RS		Abandonment (CAT 2)		31	10/21/20	11/20/20
OAK.3	South	R-601 North	TP 72 - Install 12" crossover & valve from R601.	3	7/15/20	7/17/20
OAK.2	South	R-601 South	TP 76 - Install 12" crossover & valves from R601.	3	7/18/20	7/20/20
OAK.4	South	R-501 South	Removal of South Side Cross over and installation of new	5	9/8/20	9/12/20
OAK.5	South	R-501 North	Removal of North Side Cross over and installation of new	5	9/13/20	9/17/20
OAK.6	South	Removal of MLV R-501-300	R501 Demo	2	10/19/20	10/20/20
SYMMES MLV #3		New Construction (CAT 2)		64	6/12/20	8/14/20
SYMMES MLV #3		Abandonment (CAT 2)		31	10/21/20	11/20/20
SMM.4	South	R-601 North (20" X-over)	TP 110 & TP 111 - Tie R801 crossover into R601 North	4	7/21/20	7/24/20
SMM.6	South	R-701 North (20" X-over)	TP 106 & TP 107 - Tie R801 crossover into R701S North	4	7/25/20	7/28/20
SMM.3	South	R-601 South (20" X-over)	TP 112 & TP 113 - Tie R801 crossover into R601 South	4	7/29/20	8/1/20
SMM.5	South	R-701 South (20" X-over)	TP 108 & TP 109 - Tie R801 crossover into R701S South	4	8/2/20	8/5/20
SMM.1	South	R-501 South (20" X-over)	Disconnect R-501 Crossover and Tie-in Pup (TP-102 and TP-103)	5	9/20/20	9/24/20
SMM.2	South	R-501 North (20" X-over)	Disconnect R-501 Crossover and Tie-in Pup (TP-100 and TP-101)	5	9/25/20	9/29/20
SMM.7	South	Removal of MLV R-501-200	R501 Demo	2	10/19/20	10/20/20
DEERING BALD KNOB MLV #4		New Construction (CAT 2)	Dependent on Bridge (6 Weeks from NTP)	96	5/22/20	8/25/20
DEERING BALD KNOB MLV #4		Abandonment (CAT 2)		15	10/21/20	11/4/20
DBK.1	South	R-701	Install New Valve Setting (TP-149 and TP-150)	10	8/6/20	8/15/20
DBK.2	South	R-601	Install New Valve Setting (TP-147 and TP-148)	10	8/16/20	8/25/20
BURLINGTON		New Construction (CAT 2)		90	3/30/20	6/27/20
BUR.1	South	R-500 & R-801 Same ditch pipe replacement (S of OHC)	Complete R500 demo and Install new facilities at Burlington including BUR.2 and BUR.3	58	4/13/20	6/9/20
BUR.2		BM-111 LOOP (10 Tie-in Welds)	Install Pipe & Tie Into BM-111 Loop Header (TP 165, TP 166, TP 167, TP-172 and TP-173)	10	5/14/20	5/23/20
HAMDEN		New Construction (CAT 3 - Hot Tap)		15	4/13/20	4/27/20
HAMDEN		Abandonment (CAT 3)		32	10/21/20	11/21/20
WELLSTON		New Construction (CAT 3 - Hot Tap)		48	5/5/20	6/21/20
WELLSTON		Abandonment (CAT 3)		22	10/21/20	11/11/20
KOKEEN		New Construction (CAT 3 - Hot Tap)		32	9/3/20	10/4/20
KITTS HILL		Abandonment (CAT 3 - Hot Tap)		15	8/24/20	9/7/20
SUNRISE		New Construction (CAT 3 - Hot Tap)		31	7/31/20	8/30/20
SUNRISE		Abandonment (CAT 3)		16	10/21/20	11/5/20

***All R-501 outages south of Oak Hill CS will be after R-501 is in service
***Outage dates are likely subject to multiple changes
***Location below relative to Oak Hill CS

Project Start: Thu, 10/24/2019
Display Week: 1
Day
Capacity

Outage	Location	Description	Scope and Tie Points	Duration	START	END
PYRO ROAD		Abandonment (CAT 4)		46	8/11/20	9/25/20
JOHNS CREEK		Abandonment (CAT 4)		15	10/21/20	11/4/20
MARKIN FORK		Abandonment (CAT 4)		16	10/21/20	11/5/20
NEDS FORK		Abandonment (CAT 4)		21	11/5/20	11/25/20
NFK.1	South	R-501 South (X-OVER)	Demo of R501 South Crossover	5	10/2/20	10/6/20
NFK.2	South	R-501 North (X-OVER)	Demo of R501 North Crossover	5	10/7/20	10/11/20
NFK.5	South	Removal of MLV R-501-121	R501 Demo	2	10/11/20	10/12/20
NFK.3	South	R-601 South	Remove R501 Crossover and Tie-in pup (TP-139 and TP-140)	4	10/13/20	10/16/20
NFK.4	South	R-601 North	Remove R501 Crossover and Tie-in pup (TP-137 and TP-138)	4	10/17/20	10/20/20
SOUTH POINT		New Construction (CAT 4)		17	6/9/20	6/25/20
SOUTH POINT		Abandonment (CAT 4)		42	11/6/20	12/17/20

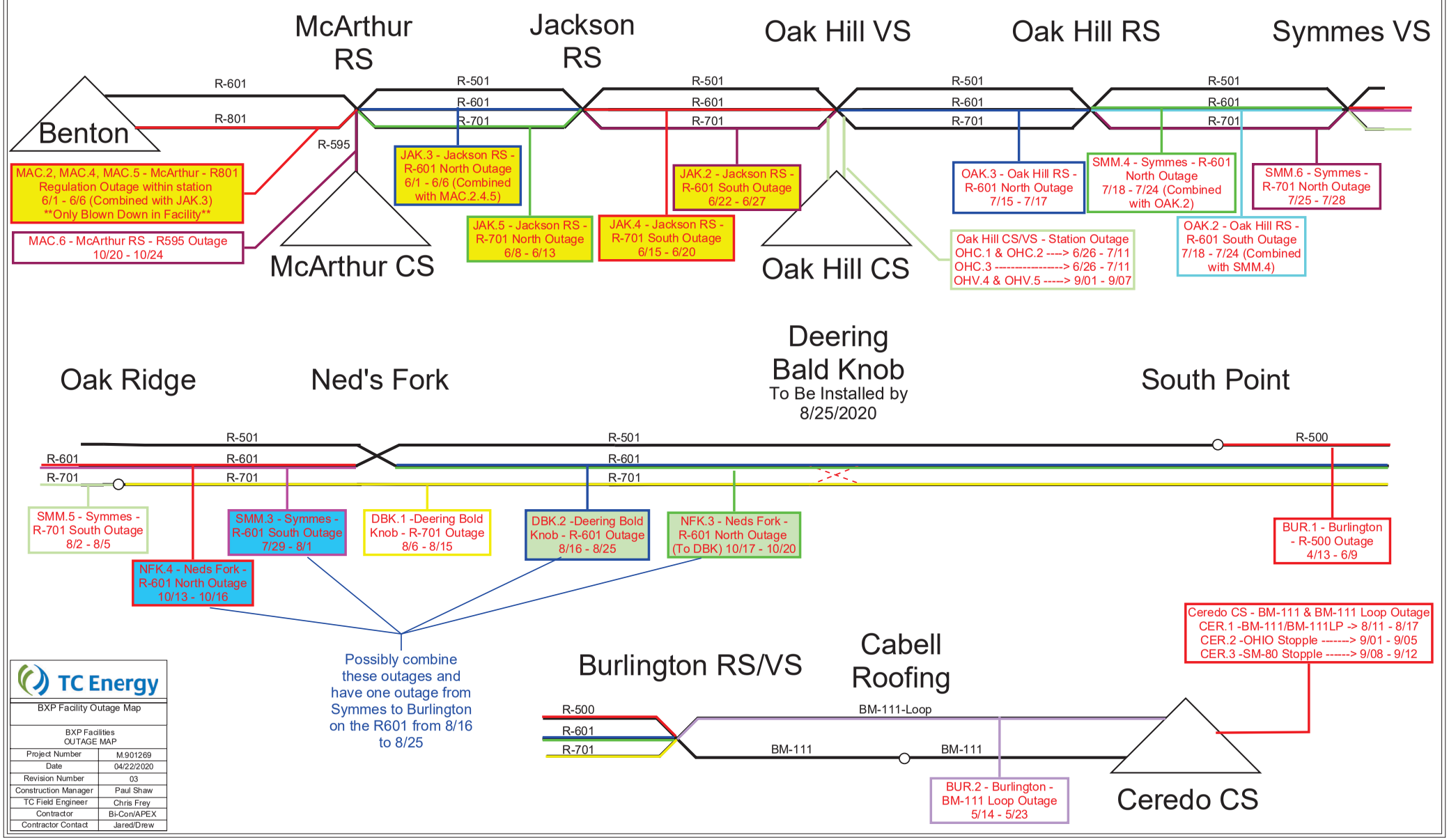


***All R-501 outages south of Oak Hill CS will be after R-801 is in service
***Outage dates are likely subject to multiple changes
***Location below relative to Oak Hill CS

Project Start:	Thu, 10/24/2019
Display Week:	1
	Day
	Capacity

Outage	Location	Description	Scope and Tie Points	Duration	START	END

BXP Facility Outages



TC Energy

BXP Facility Outage Map

BXP Facilities OUTAGE MAP	
Project Number	M.901269
Date	04/22/2020
Revision Number	03
Construction Manager	Paul Shaw
TC Field Engineer	Chris Frey
Contractor	Bi-Con/APEX
Contractor Contact	Jared/Drew

From:	Rodney Kimble
To:	Joseph DiBenedetto/COH/Enterprise; Connor McGrath/CGV/Enterprise; Joshua Hasselbach/COH/Enterprise; Lisa Dennis/NCS/Enterprise; Paul Shaw; Tracy Sparks; Bob Achauer
Cc:	Benjamin Jordan/COH/Enterprise; Cory Newsom/COH/Enterprise; Thomas Brooks/COH/Enterprise; Tiffany Woodyard/COH/Enterprise
Subject:	RE: [EXTERNAL] Rescheduled: Discussion of upcoming BXP and R-600/700 line outages (Apr 22 03:00 PM EDT in WebEx Meeting)
Date:	04/22/2020 02:37 PM
Attachments:	BXP Facilities Outages.pdf M.901269 - BXP Facilities - Outage Flow Map 04-22-2020.pdf BXP Facility and Outage Schedule R7.xlsx

USE CAUTION: This email was sent from an external source. Think before you click links or open attachments. If suspicious, please forward to security@nisource.com for review.

Here are some documents related to the outages for BXP Sorry I am just now sending out, but wanted you to have them for the meeting.

Thank You,

Rodney Kimble
Project Manager

rodney_kimble@tcenergy.com

1700 MacCorkle Ave SE
Charleston, WV
USA 25314

Tel: 304.357.2716
Cell: 304.389.1495

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-----Original Appointment-----
From: Joseph DiBenedetto/COH/Enterprise <JMDiBenedetto@nisource.com>
Sent: Tuesday, April 14, 2020 10:53 AM
To: Joseph DiBenedetto/COH/Enterprise; Connor McGrath/CGV/Enterprise; Joshua Hasselbach/COH/Enterprise; Lisa Dennis/NCS/Enterprise; Rodney Kimble
Cc: Benjamin Jordan/COH/Enterprise; Cory Newsom/COH/Enterprise; Thomas Brooks/COH/Enterprise; Tiffany Woodyard/COH/Enterprise
Subject: [EXTERNAL] Rescheduled: Discussion of upcoming BXP and R-600/700 line outages (Apr 22 03:00 PM EDT in WebEx Meeting)
When: Wednesday, April 22, 2020 3:00 PM-4:00 PM Eastern.
Where: WebEx Meeting

Description

All,

I am setting this meeting up to get the the needed parties from COH and TC Energy together to discuss the upcoming BXP and R-600/700 line outages. We will be discussing if the farm taps can be taken out of service and how. Please forward this invite to anyone I have missed if there are additional people you feel are needed on this call.

Many Thanks,

Joseph DiBenedetto
-- Do not delete or change any of the following text. --
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JOIN WEBEX MEETING
https://Nisource.webex.com/nisource/j.php?MTID=ma58769c101c1c8e83f7f8ff55ce5e6fc
Meeting number (access code): 717 947 883

Meeting password: RHg3GhmTc52

JOIN BY PHONE
1-203-607-0564 US Toll
Tap here to call (mobile phones only, hosts not supported): tel:%2B1-203-607-0564,,*01*717947883%23%23*01*

1-866-692-3580 US Toll Free
Tap here to call (mobile phones only, hosts not supported): tel:1-866-692-3580,,*01*717947883%23%23*01*

Global call-in numbers:
https://Nisource.webex.com/nisource/globalcallin.php?MTID=m2319d6580fac696eeb6286a56be54889

Toll-free dialing restrictions:
https://e-meetings.verizonbusiness.com/global/pdf/Verizon_Audio_Conferencing_Global_Access_Information_August2017.pdf

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If you are a host, go here to view host information:
https://Nisource.webex.com/nisource/j.php?MTID=m8a0ba45a23646a6462a0e3b73d0b3f27

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All,

Time has been changed due to conflict at the originally selected tme. .

Thanks,

Joseph DiBenedetto

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From:	Paul Shaw
To:	Rodney Kimble; JMDiBenedetto@nisource.com
Subject:	RE: [EXTERNAL] Updated BXP Facilities - Outage Flow Map from 4/22/20 meeting
Date:	05/01/2020 10:01 AM
Attachments:	BXP Facility and Outage Schedule R7.xlsx M.901269 - BXP Facilities - Outage Flow Map 04-22-2020.pdf

---

Please see attached.

Thank you,

Paul Shaw
Construction Manager
paul_shaw@tcenergy.com
Cell: 304-916-5285

TC Energy

485 Industrial Rd.
St. Albans, WV 25177
TCEnergy.com

From: Rodney Kimble
Sent: Friday, May 1, 2020 9:51 AM
To: JMDiBenedetto@nisource.com; Paul Shaw <paul_shaw@tcenergy.com>
Subject: RE: [EXTERNAL] Updated BXP Facilities - Outage Flow Map from 4/22/20 meeting

Paul

Would you send the updated outage flow map to Joseph with the changes on the JAK2 and JAK4 that showed the wrong line on the drawing?

Thank You,

Rodney Kimble
Project Manager

rodney_kimble@tcenergy.com

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Charleston, WV
USA 25314

Tel: 304.357.2716
Cell: 304.389.1495

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From: JMDiBenedetto@nisource.com <JMDiBenedetto@nisource.com>
Sent: Friday, May 1, 2020 9:45 AM
To: Rodney Kimble <rodney_kimble@tcenergy.com>
Subject: RE: [EXTERNAL] Updated BXP Facilities - Outage Flow Map from 4/22/20 meeting

I thought there were a couple of the call outs for which lines were effected by which outage were no correct on the original document shared that was going to be corrected and the file re-shared to make sure there was no confusion going forward.

I think it was the JAK 2 and JAK 4 Outages there were not shown correctly on which line they would be effecting.

Thanks,

Joseph DiBenedetto
Associate Field Engineer- Three Rivers & Ironton
Columbia Gas Of Ohio
843 Piatt Avenue
Chillicothe, Ohio 45601
Desk: 740-774-8202
Mobile: 740-656-7401

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From: Rodney Kimble <rodney_kimble@tcenergy.com>
To: "JMDiBenedetto@nisource.com" <JMDiBenedetto@nisource.com>,
Date: 05/01/2020 09:39 AM
Subject: RE: [EXTERNAL] Updated BXP Facilities - Outage Flow Map from 4/22/20 meeting

---

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No changes to date. We are pushing hard to maintain these dates.

Thank You,

Rodney Kimble
Project Manager

rodney_kimble@tcenergy.com

1700 MacCorkle Ave SE
Charleston, WV

USA 25314

Tel: 304.357.2716
Cell: 304.389.1495

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From: JMDiBenedetto@nisource.com <JMDiBenedetto@nisource.com>
Sent: Friday, May 1, 2020 9:22 AM
To: Rodney Kimble <rodney_kimble@tcenergy.com>
Subject: [EXTERNAL] Updated BXP Facilities - Outage Flow Map from 4/22/20 meeting

Rodney,

I wanted to follow up from our discussion last week to see if you have had a chance to update the Outage flow Map since the meeting?

Thanks,

Joseph DiBenedetto
Associate Field Engineer- Three Rivers & Ironton
Columbia Gas Of Ohio
843 Piatt Avenue
Chillicothe, Ohio 45601
Desk: 740-774-8202
Mobile: 740-656-7401

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From: Rodney Kimble
To: cmcgrath@nisource.com
Cc: JMDiBenedetto@nisource.com
Subject: RE: [EXTERNAL] Updated Tracker_TC Energy Projects Update with COH 5/1
Date: 05/03/2020 11:52 AM

Thank you I am only managing BXP at this point.

Thank You,

Rodney Kimble
Project Manager

rodney_kimble@tcenergy.com

1700 MacCorkle Ave SE
Charleston, WV
USA 25314

Tel: 304.357.2716
Cell: 304.389.1495

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From: cmcgrath@nisource.com <cmcgrath@nisource.com>
Sent: Saturday, May 2, 2020 12:48 PM
To: Rodney Kimble <rodney_kimble@tcenergy.com>
Cc: JMDiBenedetto@nisource.com
Subject: Re: [EXTERNAL] Updated Tracker_TC Energy Projects Update with COH 5/1

Rodney,
I'd say you should join the calls if a) you have an update to share about BXP or b) you take on additional projects we're monitoring that require your presence. Otherwise, as long as you're in contact with Joseph and coordinating the outages through Lisa Dennis, no need to join just for BXP.

Thanks,
Connor McGrath
Manager, Field Engineering
Columbia Gas of Ohio
(540) 419-3672

On May 2, 2020, at 9:14 AM, Rodney Kimble <rodney_kimble@tcenergy.com> wrote:

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Connor

I have lost the meeting invite off my calendar. Do you want me to attend or do you want to handle BXP outages separate?

Thank You,

Rodney Kimble
Project Manager

rodney_kimble@tcenergy.com

1700 MacCorkle Ave SE
Charleston, WV
USA 25314

Tel: 304.357.2716
Cell: 304.389.1495

<image001.png>

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From: cmcgrath@nisource.com <cmcgrath@nisource.com>
Sent: Saturday, May 2, 2020 7:42 AM
To: Edward Nicholson <edward_nicholson@tcenergy.com>; Jennifer Nelson <jennifer_nelson@tcenergy.com>; Jeremy Thompson <jeremy_thompson@tcenergy.com>; John Corlis <john_corlis@tcenergy.com>; Matthew Gennette <matthew_gennette@tcenergy.com>; Rodney Kimble <rodney_kimble@tcenergy.com>; Tracy Sparks <tracy_sparks@tcenergy.com>; BShipman@nisource.com; christopherdennis@nisource.com; crobison@nisource.com; clintwells@nisource.com; dmusser@nisource.com; dnelson@nisource.com; dayers@nisource.com; jrito@nisource.com; JCarmichael@nisource.com; JMDiBenedetto@nisource.com; ksaum@nisource.com; Lori Shaffer <lori_shaffer@tcenergy.com>; mclement@nisource.com; mdibenedetto@nisource.com; mpaulus@nisource.com; MSweeting@nisource.com; RHouseholder@nisource.com; Shawn Tolle <shawn_tolle@tcenergy.com>; trwoodyard@nisource.com; tgseech@nisource.com; TAkinmoladun@nisource.com; Tyler Anderson <tyler_anderson@tcenergy.com>; WRiley@nisource.com; ZZebula@nisource.com; cmcgrath@nisource.com; dgrieshop@nisource.com; ecarlson@nisource.com; lcarmean@nisource.com; mlthompson@nisource.com; rowen@nisource.com; rricks@nisource.com
Subject: [EXTERNAL] Updated Tracker_TC Energy Projects Update with COH 5/1

Good morning,

Thank you for your continued participation on our monthly project update calls. I'm hopeful these are providing us clarity and alignment on upcoming projects and a forum to discuss any outstanding items.

Attached is the tracker with updated notes from yesterday. I've added column D to state the actions or takeaways from the discussion. Please follow up on anything needed for your projects. As with last month, please send needed spreadsheet updates to me to maintain consistency in the format.

Thanks,
Connor McGrath
Manager, Field Engineering
Columbia Gas of Ohio
(540) 419-3672

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From: Connor McGrath
To: Rodney Kimble
Cc: JMDiBenedetto@nisource.com
Subject: RE: Fw: [EXTERNAL] Request for schedule of work at or near COH POD sites on TC Energy BXP Project
Date: 10/05/2020 08:35 AM

Thank you. We'll be sure to communicate any changes or updates from our end.

Connor McGrath
Manager, Field Engineering
Columbia Gas of Ohio
(540) 419-3672

▼ Rodney Kimble ---10/05/2020 08:34:28 AM---Yes, we are aware. This schedule of work was developed to show what was planned. We are continui

From: Rodney Kimble <rodney_kimble@tcenergy.com>
To: "cmcgrath@nisource.com" <cmcgrath@nisource.com>, "JMDiBenedetto@nisource.com" <JMDiBenedetto@nisource.com>
Date: 10/05/2020 08:34 AM
Subject: RE: Fw: [EXTERNAL] Request for schedule of work at or near COH POD sites on TC Energy BXP Project

---

Yes, we are aware. This schedule of work was developed to show what was planned. We are continuing with construction, with no tie-in or activity that would effect COH

Thank You,

Rodney Kimble
Project Manager

rodney_kimble@tcenergy.com

1700 MacCorkle Ave SE
Charleston, WV
USA 25314

Tel: 304.357.2716
Cell: 304.389.1495

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From: cmcgrath@nisource.com <cmcgrath@nisource.com>
Sent: Monday, October 5, 2020 8:31 AM
To: JMDiBenedetto@nisource.com; Rodney Kimble <rodney_kimble@tcenergy.com>
Subject: Re: Fw: [EXTERNAL] Request for schedule of work at or near COH POD sites on TC Energy BXP Project

Rodney,
As I believe has been communicated, please be aware we're operating under a **STOP WORK** for all upstream work at or near our points of interconnect. This stop work directive is in effect until further notice. My understanding is our leadership is in communication with TC Leadership to make clear the directive. Please convey any concerns to your leadership team and we can get the right people discussing next steps.

Thank you,
Connor McGrath
Manager, Field Engineering
Columbia Gas of Ohio
(540) 419-3672

From: Joseph DiBenedetto/COH/Enterprise
To: Connor McGrath/CGV/Enterprise@NISOURCE
Date: 10/05/2020 08:01 AM
Subject: Fw: [EXTERNAL] Request for schedule of work at or near COH POD sites on TC Energy BXP Project

---

Wanted to share the info on Schedule from TC Energy.

Joseph DiBenedetto
Associate Field Engineer- Three Rivers & Ironton
Columbia Gas Of Ohio

843 Piatt Avenue
Chillicothe, Ohio 45601
Desk: 740-774-8202
Mobile: 740-656-7401

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----- Forwarded by Joseph DiBenedetto/COH/Enterprise on 10/05/2020 07:59 AM -----

From: Rodney Kimble <rodney_kimble@tcenergy.com>
To: "JMDiBenedetto@nisource.com" <JMDiBenedetto@nisource.com>
Cc: "trwoodyard@nisource.com" <trwoodyard@nisource.com>, "mpaulus@nisource.com" <mpaulus@nisource.com>, Jon Draeger <jon_draeger@tcenergy.com>
Date: 10/01/2020 05:15 PM
Subject: RE: [EXTERNAL] Request for schedule of work at or near COH POD sites on TC Energy BXP Project

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Facility	Dates if Applicable					
	Start	Hot Tap	Temporary Feed	Tie-In	Outage	Complete
Hamden RS	8/24/2020	9/25/2020	N/A	10/9/2020 - 10/15/2020	CNG Truck to feed	10/20/2020
Wellston RS	7/20/2020	10/6/2020	N/A	10/12/2020 - 10/18/2020	N/A	10/10/2020
Pyro POD	9/14/2020	Work Stopped Until Further Notice				
Oak Hill RS	6/29/2020	N/A	7/24/2020	11/19/2020 - 12/2/2020	N/A	12/4/2020

Kokeen RS	8/17/2020	10/9/2020	N/A	9/21/2020 - 10/21/2020	CNG Truck to feed	10/23/2020
Kitts Hill RS	9/30/2020	N/A	9/30/2020	10/5/2020	N/A	10/10/2020
Sunrise RS	9/21/2020	10/16/2020	N/A	10/20/2020 - 10/23/2020	10/20/2020 - 10/23/2020	11/1/2020
Jackson RS	COMPLETED					
South Point RS	COMPLETED					

Thank You,

Rodney Kimble
Project Manager

rodney_kimble@tcenergy.com

1700 MacCorkle Ave SE
Charleston, WV
USA 25314

Tel: 304.357.2716
Cell: 304.389.1495

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From: JMDiBenedetto@nisource.com <JMDiBenedetto@nisource.com>
Sent: Thursday, October 1, 2020 11:45 AM
To: Rodney Kimble <rodney_kimble@tcenergy.com>
Cc: trwoodyard@nisource.com; mpaulus@nisource.com

Subject: [EXTERNAL] Request for schedule of work at or near COH POD sites on TC Energy BXP Project

Rodney,

Per our phone conversation I am requesting a schedule for when work will be performed at or near any of the COH POD sites on the BXP project. For any stations that have already had the tie-in over work and all work in the area performed; confirmation of the work completion would be appreciated.

If you can provide this information a quickly as possible it would be much appreciated.

Many Thanks,

Joseph DiBenedetto
Associate Field Engineer- Three Rivers & Ironton
Columbia Gas Of Ohio
843 Piatt Avenue
Chillicothe, Ohio 45601
Desk: 740-774-8202
Mobile: 740-656-7401

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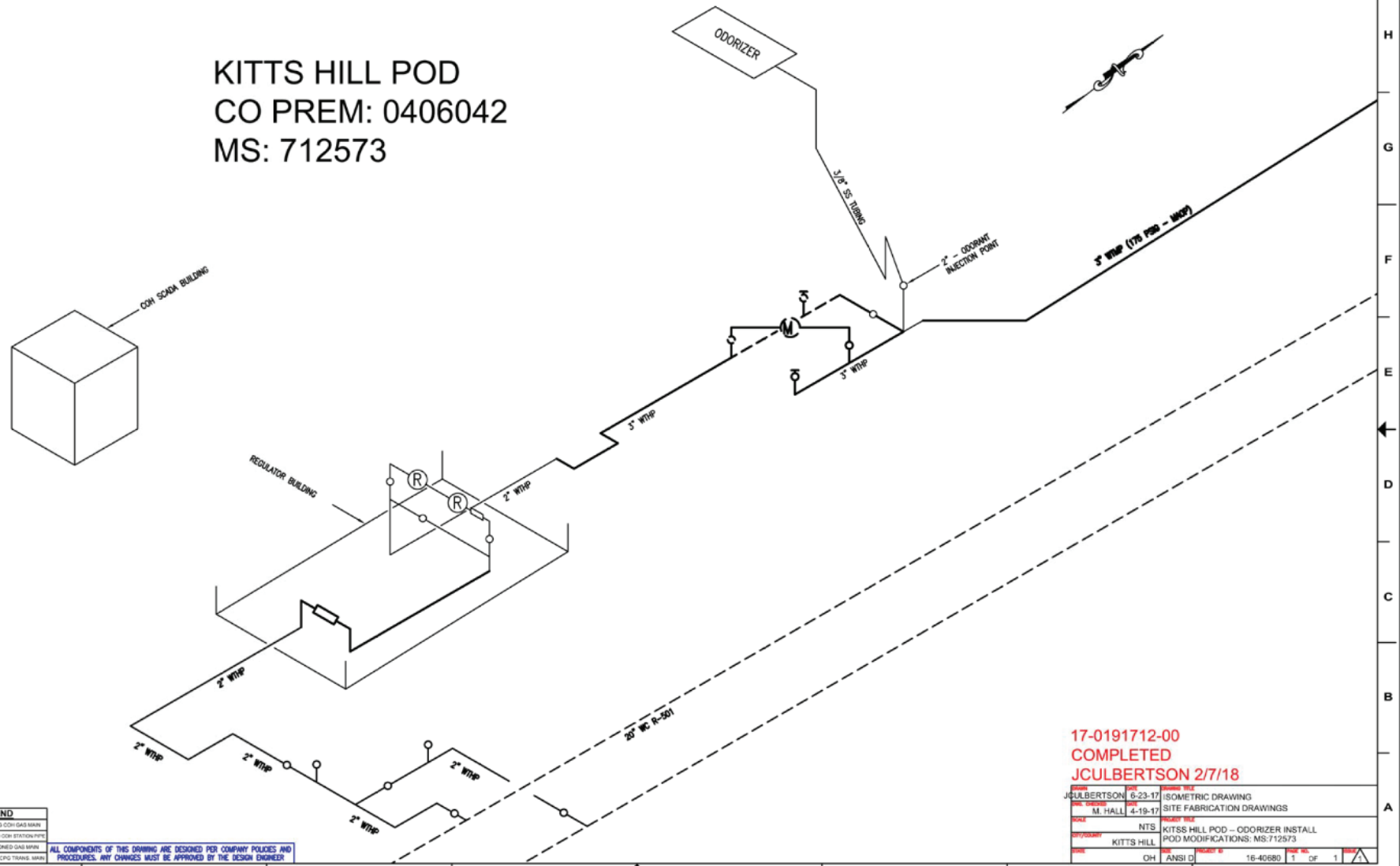
Thank you

KITTS HILL POD
CO PREM: 0406042
MS: 712573



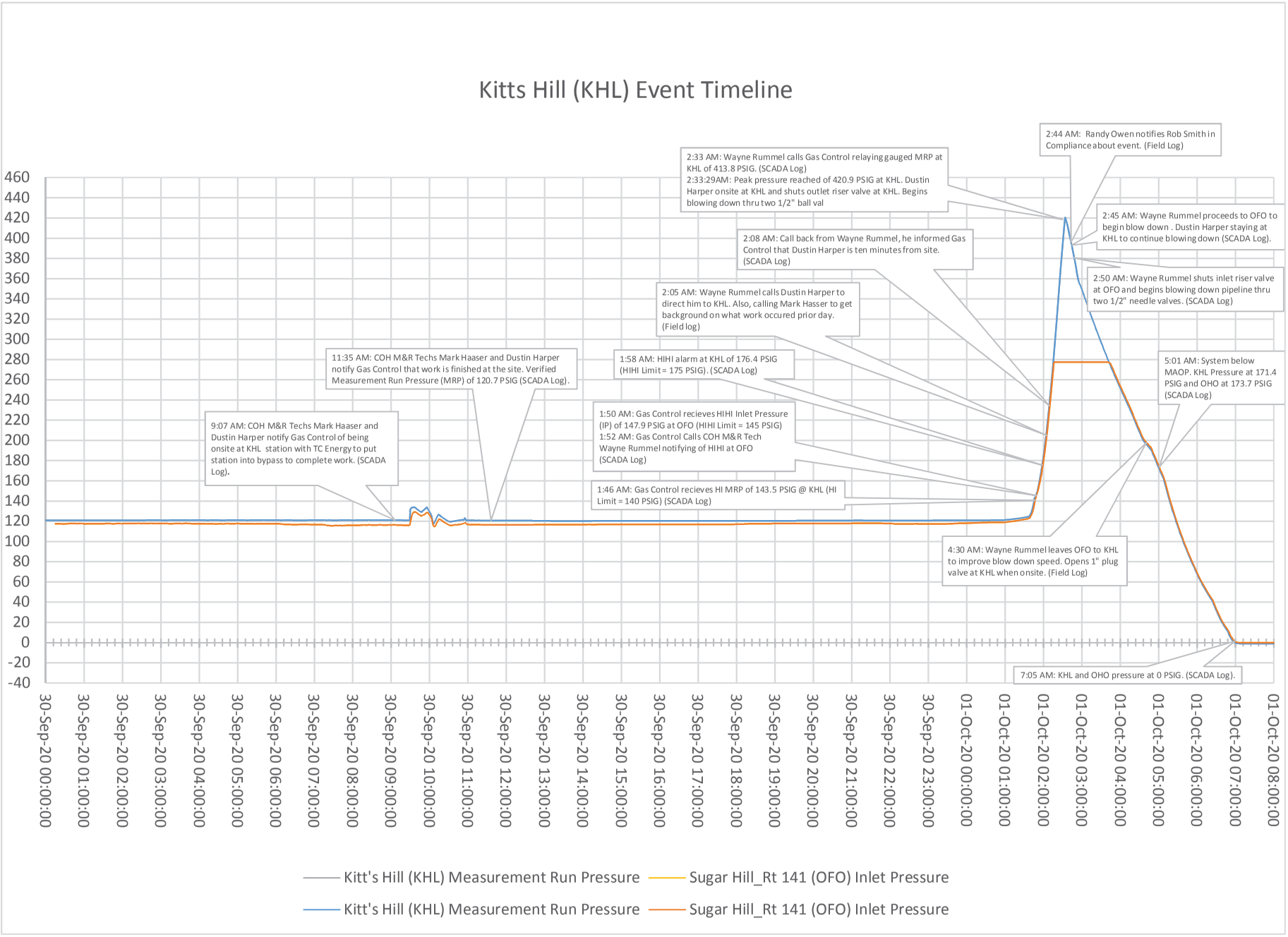
17-0191712-00
COMPLETED
JCULBERTSON 2/7/18

DRAWN JCULBERTSON	DATE 6-23-17	DRAWING TITLE ISOMETRIC DRAWING	
REVIEWED BY M. HALL	DATE 4-19-17	SITE FABRICATION DRAWINGS	
SCALE NTS		PROJECT TITLE KITSS HILL POD -- ODORIZER INSTALL POD MODIFICATIONS: MS:712573	
CITY/COUNTY KITTS HILL			
STATE OH	SIZE ANSI D	PROJECT ID 16-40680	SHEET NO. 1 OF 1

UTILITIES LEGEND

- EXISTING COH GAS MAIN
- PROPOSED COH STATION PIPE
- ABANDONED GAS MAIN
- EXISTING CPG TRANS. MAIN

ALL COMPONENTS OF THIS DRAWING ARE DESIGNED PER COMPANY POLICIES AND PROCEDURES. ANY CHANGES MUST BE APPROVED BY THE DESIGN ENGINEER


Kitts Hill (KHL) Event Timeline
460
440
420
400
380
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
-20
-40
30-Sep-20 00:00:00
30-Sep-20 01:00:00
30-Sep-20 02:00:00
30-Sep-20 03:00:00
30-Sep-20 04:00:00
30-Sep-20 05:00:00
30-Sep-20 06:00:00
30-Sep-20 07:00:00
30-Sep-20 08:00:00
30-Sep-20 09:00:00
30-Sep-20 10:00:00
30-Sep-20 11:00:00
30-Sep-20 12:00:00
30-Sep-20 13:00:00
30-Sep-20 14:00:00
30-Sep-20 15:00:00
30-Sep-20 16:00:00
30-Sep-20 17:00:00
30-Sep-20 18:00:00
30-Sep-20 19:00:00
30-Sep-20 20:00:00
30-Sep-20 21:00:00
30-Sep-20 22:00:00
30-Sep-20 23:00:00
01-Oct-20 00:00:00
01-Oct-20 01:00:00
01-Oct-20 02:00:00
01-Oct-20 03:00:00
01-Oct-20 04:00:00
01-Oct-20 05:00:00
01-Oct-20 06:00:00
01-Oct-20 07:00:00
01-Oct-20 08:00:00
9:07 AM: COH M&R Techs Mark Haaser and Dustin Harper notify Gas Control of being onsite at KHL station with TC Energy to put station into bypass to complete work. (SCADA Log).
11:35 AM: COH M&R Techs Mark Haaser and Dustin Harper notify Gas Control that work is finished at the site. Verified Measurement Run Pressure (MRP) of 120.7 PSIG (SCADA Log).
1:46 AM: Gas Control recieves HI MRP of 143.5 PSIG @ KHL (HI Limit = 140 PSIG) (SCADA Log)
1:50 AM: Gas Control recieves HIHI Inlet Pressure (IP) of 147.9 PSIG at OFO (HIHI Limit = 145 PSIG)
1:52 AM: Gas Control Calls COH M&R Tech Wayne Rummel notifying of HIHI at OFO (SCADA Log)
1:58 AM: HIHI alarm at KHL of 176.4 PSIG (HIHI Limit = 175 PSIG). (SCADA Log)
2:05 AM: Wayne Rummel calls Dustin Harper to direct him to KHL. Also, calling Mark Hasser to get background on what work occured prior day. (Field log)
2:08 AM: Call back from Wayne Rummel, he informed Gas Control that Dustin Harper is ten minutes from site. (SCADA Log)
2:33 AM: Wayne Rummel calls Gas Control relaying gauged MRP at KHL of 413.8 PSIG. (SCADA Log)
2:33:29AM: Peak pressure reached of 420.9 PSIG at KHL. Dustin Harper onsite at KHL and shuts outlet riser valve at KHL. Begins blowing down thru two 1/2" ball val
2:44 AM: Randy Owen notifies Rob Smith in Compliance about event. (Field Log)
2:45 AM: Wayne Rummel proceeds to OFO to begin blow down . Dustin Harper staying at KHL to continue blowing down (SCADA Log).
2:50 AM: Wayne Rummel shuts inlet riser valve at OFO and begins blowing down pipeline thru two 1/2" needle valves. (SCADA Log)
4:30 AM: Wayne Rummel leaves OFO to KHL to improve blow down speed. Opens 1" plug valve at KHL when onsite. (Field Log)
5:01 AM: System below MAOP. KHL Pressure at 171.4 PSIG and OHO at 173.7 PSIG (SCADA Log)
7:05 AM: KHL and OHO pressure at 0 PSIG. (SCADA Log).
Kitt's Hill (KHL) Measurement Run Pressure
Sugar Hill_Rt 141 (OFO) Inlet Pressure
Kitt's Hill (KHL) Measurement Run Pressure
Sugar Hill_Rt 141 (OFO) Inlet Pressure

Customer Outage List

cognos.nisource.net:// NGD>>Reports>>Customer

State: OH
Ops Center: IRONTON
Work Loc: 1943 - IRONTON
Unit/Book:
Map Number:
System Main Line Number: 34087006
Zip Code:
Premise Status: not in F - Sandwich Premise or G - Cluster Premise
Street 1: 0 - 9999999
Street 2: -
Street 3: -
Street 4: -
Street 5: -
Street 6: -
Street 7: -
Street 8: -

PSID	Cust Name	Cust Ph #	Add #	Add 1/2	Add Pre
500679741	SHANNON BELVILLE	7405341160	4906		
200059712	HAROLD GULLETT	7405324773	4994		
200059713	JOHN ELLIS	7405333965	5024		
200532945	CLIFFORD STEVENS	7405321271	5050		
200059770	JAMES STAMPER	7406462196	5063		
200059769	ZACHARY CUTLIP	7406468812	5101		
200059768	JIMMY HUGHES	7406465413	5153		
500432247	RANDALL LAMBERT	7405324333	5197		
200059767	JOHN SCOTT	7404795040	5279		
200541875	LUTHER JENKINS	6145322353	5322		
500105647	CHERI SMITH	6065715574	5338		
200059766	EVELYN EASTERLING	7403072156	5365		
501154214	SANDRA ROWE	7405327963	5374		
500220227	CARL PAYTON	7405324991	5470		
200059765	JACK PEMBERTON	7405327370	5511		
200059764	LESLIE CAMPBELL	7404424864	5533		
300692996	COUNTRYSIDE GREENHOUSE	7405326266	5560		
200059715	JOHN BRYANT	7405331782	5644		
200059763	CECIL ACKISON	7405320518	5645		
200541877	LAWRENCE BAILEY	7405321316	5691		
500809290	CRYSTAL DILLON	7404427114	5710		
200535645	CHRISTINA ZIMMERMAN	7406462182	5747		
200059714	DAVID JENKINS	6145330120			
200059737	RHODA DICKESS	7405327668	111		
200059738	JIM HOWARD	6145331396	111		
500391316	DAVID WAUGH	7405329676	33		
200544447	JOHN ROBINSON	7405328444	60		
300662311	ROGER ADAMS	7405322806	200		
501152353	AMY PAYNE	7405328499	210		
300699517	MAMRE BAPTIST CHURCH	7405330767	2367		

500779967	MAMRE BAPTIST CHURCH	7405330767	2367		
200059744	AMANDA MCFANN	7406461408	17		
200542636	AMBER BOLYARD	7404428757	38		
200533066	RODNEY ESTEP	7405328420	62		
300623516	MADELINE ROSS	7405325273	65		
300703712	MARY FREELS	7405323050	87		
500136095	DARRELL MASSIE	6064650214	87		
500839424	MADISON KIRKPATRICK	7406466292	90		
500187932	TONYA WILSON	7405321875	139		
200059762	FRED HOWELL	7405328244	13		
200532525	FRED HOWELL	7405328244	29		
200059761	ALISSA FYFFE	3042081694	50		
300680991	AMANADA LONG	7405324929	202		
501177379	CAROL MILLER	7402374551	37		
500910885	CRIS CHANEY	7405327257	190		
501225186	JORDAN MCCARTY	7407446368	104		
200059760	LLOYD MAYS	7405324861	5801		
300618111	HANNAH MAYS	7405479016	5820		
200059759	DAWN TAYLOR	7405320839	5825		
200554325	MARY SMITH	8145120105	5846		
501279697	BRETT HOWELL	7405501561	5862		
200059758	FLOYE COOKE	7405326982	5891		
200059718	SHARON HUDDLE	7405339327	5958		
300610102	ELDON WAUGH	7405323548	6006		
500655879	KENNETH SITES	7402372253	6006		
200059757	SARAH DILLON	7406469664	6039		
500216226	RACHEL FUHR	7404427547	6097		
200544448	CHARLA CLYSE	7405254011	6201		
500171162	CHARLA CLYSE	7405254011	6202		
200059756	STACI MOORE	7406468118	6255		
501162076	LINDA FOX	7405339514	6371		
200059755	KAREN DIAMOND	7405323427	6391		
200531205	GABRIELLE LININGER	6236927814	6436		
500218830	AMANDA SAMMONS	3046330387	6453		
500115041	ROGER RAMEY	7404423089	6462		
200059720	TODD SALYERS	6062547459	6496		
200059721	BETTY MILLER	7405329641	6538		
200059753	CARRIE STEVENS	7402374700	6539		
200059722	CHRISTOPHER PATRICK	7405476413	6566		
200059752	SHARON MASSIE	7405332383	6567		
200059723	AMANDA HOLT	9044032649	6580		
200059751	GEORGE SANDERS	7405343121	6593		
500955575	GEORGE SANDERS SR	7405322679	6616		
300638938	GEORGE SANDERS SR	7405322679	6630		
200059724	MICHAEL JENKINS	7403071859	6640		
200059750	LESLIE BARBER	7405330025	6659		
200059725	DANELLE MULLINS	7404427042	6668		
200541876	ASHLEY WILSON	7403025182	6686		
300610632	TALITHA PATTERSON	7405340880	6715		
200059726	MEGAN MCKNIGHT	7405506591	6736		
500156120	CONNIE FRANZ	7405326006	6761		
200059749	RALPH MALONE	7405325746	6771		

200059748	KATHY MALONE	7405325746	6789		
200059727	MARK MURNAHAN	7405321336	6798		
200059747	LINDA HARRISON	7405330056	6809		
200059746	LINDA HARRISON	7405330056	6827		
500062342	BRYCE CHRISTIAN	7405476188	6841		
200059745	TRACY MINEER	7406466473	6847		
200059728	DARRELL SCHWAB	7404791326	6858		
300677161	WARREN LAMBERT JR	7405320640	6914		
200546239	MYRA STEVENS	7404425432	6962		
300640783	ANDREA WILSON	7405328000	6971		
200059729	WANDA WILSON	7405328000	7010		
200531383	VICKI SMITH	7405340539	7051		
200535644	MICHAEL MURNAHAN	6141111111	7147		
500545980	NISSA JENKINS	7405324397	7187		
200059730	COLUMBIA GAS CONSUMER LOCN	8003444077	7234		
300623818	KAREN MAY-DINNEN	7403078776	7272		
200546240	DANA HENSLEY	7405330165	7288		
200059743	BILL WILLIAMS	7405325838	7313		
500421399	ALAN MURDOCK	7405479912	7355		
501162822	MATISON KLAIBER	7404421968	7355		
500613472	NANCY COLLIER	7405325318	7377		
501099830	J CHRIS COLLIER	7406463742	7377		
501151042	CONNIE GREGORY	7405337935	7403		
500117482	JOYCE KINGERY	7405320498	7455		
200059741	DONALD GUY	0000000000	7521		
501115033	KATIE SUTTON	7406468659	7614		
300678009	KENNETH L EVERHART	7405321665	7624		
300678008	KENNETH EVERHART	7406461358	7624		
500835347	TIM ADKINS	7405326947	7624		
200059731	CONNIE BROWN	7405325664	7636		
300652462	COLUMBIA GAS CONSUMER LOCN	8003444077	7660		
300610348	MICHAEL MASSIE	6065854839	7685		
200553634	CHARLES MASSIE	6145339450	7735		
500351741	CHARLES MASSIE	7405339450	7735	<	
200059739	AMY DICKESS	7405320278	7787		
501169716	JOHN DICKESS	7405320278	7787		
200059732	KENNETH L EVERHART	7405321665	7810		
200059736	BILLY MAYS	7404427613	7859		
200059735	KAREN MAYS	7405327568	7865		
200059733	DEBORAH STEVENS	7405327816	8134		
200059734	MARY STEVENS	7405501577	8139		
500331843	COLUMBIA GAS CONSUMER LOCN	8003444077	8141		
500632655	RONOLD NELSON	6153888755	8277		
501203848	GEORGE RANDY GILMORE	7405343394	8358		
300636697	TONY VIRGIN DDS	7406468644			
200059742	LAWRENCE TOWNSHIP FIRE DEPARTMENT	7405322677			
300616398	EVA MAE MILLIRON	6140000000			
200532524	NOAH HARMON				
300646402	PAUL DAVIDSON	7405333776	5090		

Add St	Add ID	Add Suf	Apt #	City	Zip	Work Loc	Map #	Mtr Loc
SR141				IRO	45638	1943	3418-G	90 - OUTSIDE - REAR
SR141				IRO	45638	1943	3418-G	32 - GARAGE OUTSIDE
SR141				IRO	45638	1943	3418-G	88 - OUTSIDE - FRONT
SR141				IRO	45638	1943	3418-G	88 - OUTSIDE - FRONT
SR141				IRO	45638	1943	3418-G	94 - OUTSIDE - LEFT
SR141				IRO	45638	1943	3418-G	94 - OUTSIDE - LEFT
SR141				IRO	45638	1943	3418-G	94 - OUTSIDE - LEFT
SR141				IRO	45638	1943	3418-G	88 - OUTSIDE - FRONT
SR141				IRO	45638	1943	3418-G	94 - OUTSIDE - LEFT
SR141				IRO	45638	1943	3418-G	92 - OUTSIDE - RIGHT
SR141				IRO	45638	1943	3418-G	90 - OUTSIDE - REAR
SR141				IRO	45638	1943	3418-G	92 - OUTSIDE - RIGHT
SR141				IRO	45638	1943	3418-G	94 - OUTSIDE - LEFT
SR141				IRO	45638	1943	3418-G	92 - OUTSIDE - RIGHT
SR141				IRO	45638	1943	3418-G	94 - OUTSIDE - LEFT
SR141				IRO	45638	1943	3418-G	92 - OUTSIDE - RIGHT
SR141				IRO	45638	1943	3418-G	92 - OUTSIDE - RIGHT
SR141				IRO	45638	1943	3487-A	94 - OUTSIDE - LEFT
SR141				IRO	45638	1943	3487-B	92 - OUTSIDE - RIGHT
SR141				IRO	45638	1943	3418-H	88 - OUTSIDE - FRONT
SR141				IRO	45638	1943	3418-H	88 - OUTSIDE - FRONT
SR141				IRO	45638	1943	3487-B	92 - OUTSIDE - RIGHT
SR141			STANLEY	IRO	45638	1943	3418-G	92 - OUTSIDE - RIGHT
CO105				KIT	45645	1943	3487-B	90 - OUTSIDE - REAR
CO105				KIT	45645	1943	3487-B	94 - OUTSIDE - LEFT
CO182				KIT	45645	1943	3418-D	90 - OUTSIDE - REAR
CO182				KIT	45645	1943	3418-H	92 - OUTSIDE - RIGHT
CO182				KIT	45645	1943	3418-H	90 - OUTSIDE - REAR
CO182				KIT	45645	1943	3418-H	90 - OUTSIDE - REAR
CO182				KIT	45645	1943	3487-A	94 - OUTSIDE - LEFT

CO182			REAR	KIT	45645	1943	3487-B	92 - OUTSIDE - RIGHT
CO19				KIT	45645	1943	3487-B	94 - OUTSIDE - LEFT
CO19				KIT	45645	1943	3487-B	92 - OUTSIDE - RIGHT
CO19				KIT	45645	1943	3487-A	88 - OUTSIDE - FRONT
CO19				KIT	45645	1943	3487-A	88 - OUTSIDE - FRONT
CO19				KIT	45645	1943	3487-A	92 - OUTSIDE - RIGHT
CO19				KIT	45645	1943	3418-D	92 - OUTSIDE - RIGHT
CO19				KIT	45645	1943	3418-D	92 - OUTSIDE - RIGHT
CO19				KIT	45645	1943	3487-A	94 - OUTSIDE - LEFT
CO5				KIT	45645	1943	3418-D	26 - FIELD
CO5				KIT	45645	1943	3418-D	
CO5				KIT	45645	1943	3418-D	88 - OUTSIDE - FRONT
CO5				KIT	45645	1943	3418-D	26 - FIELD
PRIVATE	RD		6031	KIT	45645	1943	3487-B	88 - OUTSIDE - FRONT
PRIVATE 7849	RD			KIT	45645	1943	3487-B	94 - OUTSIDE - LEFT
PRIVATE ROAD			6031	KIT	45645	1943	3487-B	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3487-B	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3418-H	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-B	88 - OUTSIDE - FRONT
SR141				KIT	45645	1943	3418-H	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3418-H	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3418-H	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3418-H	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3418-H	92 - OUTSIDE - RIGHT
SR141			RR	KIT	45645	1943	3418-H	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3487-B	88 - OUTSIDE - FRONT
SR141				KIT	45645	1943	3418-D	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3487-B	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3418-D	88 - OUTSIDE - FRONT
SR141				KIT	45645	1943	3487-B	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3487-B	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-B	88 - OUTSIDE - FRONT
SR141				KIT	45645	1943	3487-A	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3418-D	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-A	88 - OUTSIDE - FRONT
SR141				KIT	45645	1943	3418-D	88 - OUTSIDE - FRONT
SR141				KIT	45645	1943	3487-B	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3487-B	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3418-D	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-A	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-A	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3487-A	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-A	92 - OUTSIDE - RIGHT
SR141			STORE	KIT	45645	1943	3418-D	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3418-D	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3487-A	88 - OUTSIDE - FRONT
SR141				KIT	45645	1943	3487-A	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-A	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3418-H	88 - OUTSIDE - FRONT
SR141				KIT	45645	1943	3487-A	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-A	88 - OUTSIDE - FRONT
SR141				KIT	45645	1943	3487-A	94 - OUTSIDE - LEFT

SR141				KIT	45645	1943	3487-B	90 - OUTSIDE - REAR
SR141				KIT	45645	1943	3487-A	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-B	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-A	88 - OUTSIDE - FRONT
SR141				KIT	45645	1943	3487-A	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-B	62 - PORCH
SR141				KIT	45645	1943	3487-A	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3487-B	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-B	88 - OUTSIDE - FRONT
SR141			TLR	KIT	45645	1943	3487-A	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-B	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3487-B	88 - OUTSIDE - FRONT
SR141				KIT	45645	1943	3487-B	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-A	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3487-A	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-B	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-B	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3418-D	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-B	92 - OUTSIDE - RIGHT
SR141			B	KIT	45645	1943	3487-B	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-B	90 - OUTSIDE - REAR
SR141			REAR	KIT	45645	1943	3487-B	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3487-B	88 - OUTSIDE - FRONT
SR141				KIT	45645	1943	3487-B	88 - OUTSIDE - FRONT
SR141				KIT	45645	1943	3487-B	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3487-B	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3487-B	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3487-B	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3487-B	90 - OUTSIDE - REAR
SR141				KIT	45645	1943	3418-D	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3418-D	88 - OUTSIDE - FRONT
SR141				KIT	45645	1943	3487-B	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-A	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3487-A	88 - OUTSIDE - FRONT
SR141				KIT	45645	1943	3487-B	88 - OUTSIDE - FRONT
SR141			REAR	KIT	45645	1943	3487-B	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-B	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-B	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3487-B	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3487-B	90 - OUTSIDE - REAR
SR141				KIT	45645	1943	3487-C	88 - OUTSIDE - FRONT
SR141				KIT	45645	1943	3487-C	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3487-C	88 - OUTSIDE - FRONT
SR141			HP	KIT	45645	1943	3487-C	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3418-D	94 - OUTSIDE - LEFT
SR141				KIT	45645	1943	3418-I	92 - OUTSIDE - RIGHT
SR141				KIT	45645	1943	3418H	88 - OUTSIDE - FRONT
SR141				KIT	45645	1943	3418-D	92 - OUTSIDE - RIGHT
ST RT 141				KIT	45645	1943	3418-G	90 - OUTSIDE - REAR

Mtr #	K & S	CB Loc	Prem Stat	MT Cd	MT Loc	MT PSID	Mn Sz
M0536487	608	2 F 1ST CUT REG	Active				030
M2013318	608	120FFB 2RRB	Active				030
8723946	870	64 FFB 21 RLB	Active				
	608	34FFB 5LRB	Abandoned				030
L540843	608	3F 1ST C REG	Active				
A3660277	814	34 FFB 3 LLB	Active				030
B103151	602	35 FFB 12 LLB	Active				030
	738	55 FFB 6 LLB	Abandoned				030
M6042167	608	77S 14W FRM HOUS	Active				
		14 FFB 5 RRB	Abandoned				030
D3174938	814	28 RRB 21 FFB	Active				030
	814	1F 1ST CUT REG	Abandoned				030
13032572	608	N.C.V.	Active		14LLB 23FLFB		030
11507303	760	1'1ST CUT REG.	Active				030
A478633	602	63 FFB 3 LLB	Active				030
7002043	755	48 FFB 2 RRB	Active				
3412448	823	41 FFB 27 LLB	Active				030
8249065	602	3F 1ST C REG	Active				
	608	3F 1ST CUT REG	Abandoned				030
13032530	608	40FFB 1LRB	Active				030
11034853	608	3 F 1ST CUT REG	Active				030
M9509656	760	3' 1ST CUT REG.	Active				
		3F 1ST CUT REG	Abandoned				030
8723883	870	3F 1ST C REG	Active	*			030
13027496	608		Active	+		200059737	030
12023937	608	3 F 1ST CUT REG	Active		25 BLBB 35 LLBB		030
12506347	760	3F 1ST C REG	Active				030
3912099	755	1FROM 1STCUT REG	Active	*			030
14008396	608		Active	+		300662311	030
	608	3F 1ST CUT REG	Abandoned				030

M1500487	744	3 F 1ST CUT REG	Active				030
B077702	602	3F 1ST CUT REG	Active				
16010088	608	3F 1ST C REG	Active				
3806153	823	NCV	Active		10FR 1ST CUT REG		012
		3F 1ST CUT REG	Abandoned				012
3098962	755	2 RRB 32 FFB	Active				
A879078	602	4 RRB 32 FFB	Active				020
M3003442	608	37 FFB 6 RRB	Active		44FFB 6RRB		012
B103691	602	3LLB 122FFB	Active				012
	814	125LLB 125FFB	Abandoned				020
D418918	818	125LLB 125FFB	Active				
L552051	608	3F 1ST C REG	Active				
0181344	870	9LWM 17FWM *	Active				030
15013846	608	BV 195FFB 1LRB	Active	*	250 FFB 5 LRB		030
M4044889	614	3F 1ST CUT REG	Active				030
17008445	608		Active	+		501177379	030
		100 FLFB	Abandoned				030
11030175	608	3F 1ST CUT REG	Active				
3922587	755	42FFB 3RRB	Active				030
M4021295	614	3F 1ST CUT REG	Active				
19510081	770	3 1ST CUT REG	Active		91FFB 26RLB		030
3086600	755	3F 1ST C REG	Active				030
M5031512	614	3F 1ST CUT REG	Active				
	614	27FFB 7RRB	Abandoned				030
99437556	608	3 F 1ST CUT REG	Active				030
3412217	823	3F 1ST CUT REG	Active				
96462366	608	145 FFB 42 RRB	Active				030
10029414	608	49 FFB 48 RRB	Active				030
16500263	770	2'F 1ST CUT	Active				030
3100979	755	260 FFB	Active		3REG.SETTING		030
13032280	608	39 FFB 24 LLB	Active				030
B651621	602	3F 1ST C REG	Active				
8928643	870	3F 1ST CUT REG	Active				
19002087	608	2'F 1ST CUT REG	Active				030
16500253	770	16 FFB 25 LRB	Active				030
19002052	608	3F 1ST C REG	Active				
D3233612	814	3F 1ST CUT REG	Active				
11030151	608	10 LLB 30 FFB	Active				
96458701	608	3 F 1ST CUT REG	Idle/Inactive				
K804019	602	16 LLB 52 FFB	Active				030
A3653127	814	30 FFB 3 LLB	Active				
16006912	608	3 1ST CUT REG	Active				030
M5031554	614	98 FRFB 12 LRFB*	Active		7 F 1ST CUT REG		030
3607589	755		Active	+		200059724	
740617	817	3F 1ST C REG	Active	*			
8723914	870	3F 1ST C REG	Active				030
99400875	823	1 LLB 50 FFB	Active				
8928663	870	3F 1ST C REG	Active				
1912215	604	5 BKFB 15 RRB	Active				
DD916942	818	3F 1ST CUT REG	Active				
5049028	814	32FFB 6LLB	Active				030
3806160	823	3F 1ST C REG	Active				

M5324722	608	3F 1ST CUT REG	Idle/Inactive				
17025719	608	3F 1ST C REG	Active				030
D2197032	818	33 FFB 8 LLB	Idle/Inactive				030
3289109	823	3F 1ST C REG	Idle/Inactive				
A3617311	818	3F 1ST CUT REG	Active				030
10507918	760	3F 1ST CUT REG	Idle/Inactive				
M8007069	608	3 F 1ST CUT REG	Active				
A4589554	814	57FFB 3LLB	Active				
M7009787	608	3F 1ST CUT REG	Idle/Inactive				
H794942	602	10LLB 7FFB	Active				030
A3678810	814	2 RRB 17 FFB	Active				
M7021747	608	3F 1ST C REG	Active				
B081418	602	3F 1ST C REG	Active				
3599604	755	23 FFP 17 RRP	Active				030
	602	5LLB 8FFB	Abandoned				040
16010091	608	3F 1ST C REG	Active				030
	602	3F 1ST C REG	Abandoned				030
8253499	602	2 F 1ST CUT REG*	Active				030
95531056	608	27 FFB 7 RRB	Active	*			030
13020963	608		Active	+		500421399	030
98413204	823	40FFB 99RRB	Active				030
11021391	608	40FFB 90RRB	Active				030
13020994	608	NO CURB VALVE	Active		14BBPOLE13RRPOLE		040
3805876	823	142 FFB 32 RRB	Active				030
3298947	823	3F 1ST C REG	Active				030
12023906	608	3 F 1ST CUT REG	Active		38F23R POLE#1103		030
M0145017	608	3F 1ST C REG	Active				030
7505868	608	3F 1ST CUT REG	Active				030
99429994	608	3F 1ST CUT REG	Active		7F		030
M5013969	614	99 FFB 26 LRB	Idle/Inactive				030
	761	99 FFB 26 LRB	Abandoned				020
9207434	870	3F 1ST C REG	Active				
		3F 1ST C REG	Abandoned	*			030
2898905	608	3F 1ST CUT REG.	Active	*			030
B084498	602	3F 1ST CUT REG	Active	*			030
14008352	608		Idle/Inactive	+		200059739	030
3599118	755	4 RRB 57 FFB	Active				040
13020982	608	NO CURB BOX	Active				030
D1141669	818	37FFB 1RRB	Active				030
M9509653	760	3 LLB 26 BKBKB	Active				030
	814		Idle/Inactive	S		500331843	030
1255454	818	3F 1ST CUT REG	Active	P			030
99417258	608	4 F INLET RISOR	Active				030
16010092	608	3F 1ST CUT REG	Active		26F 1ST CUT REG		030
D1208285	818	3F 1ST CUT REG	Active				
3806159	823	8 FFB 24 RRB	Active				030
		3F 1ST C REG	Abandoned				
		39FFB 3RRB	Abandoned				030
M9509639	760	64 FFB 39 RRB	Active				010

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Mn Matl	Mn Ref	SL 1 Sz	SL 1 Matl	SL 1 Lngth	SL 2 Sz	SL 2 Matl	SL 2 Lngth
ST	5 F 1ST CUT REG	010	ST	00003	010	P	
S		010	S	00003	010	P	
				00006	010	P	
ST		010	ST	00050		P	
				0000		P	
S		010	S	00002	010	P	
S		010	S	00005	010	P	
S	57FFB	010	S	00002	010	P	09999
				0000	010	P	
ST	73 FRFB	010	ST	00059	010	P	
ST		010	ST	00060	010	P	
ST		010	ST	00008	010	S	
ST	14LLB 23FLFB	010	ST	00003	010	P	00039
ST		010	ST	00002	0	P	
S		010	S	00072	010	P	
				00054	010	S	
S	26ECLP	010	S	00001	010	P	00039
				0000		P	
ST		010	ST	00063	010	P	
S		010	S	00056			
ST	8 F INLET RISER	010	ST	00005	010	P	
				0000	010	P	
ST		010	ST				
ST		010	ST		0	P	
ST		010	ST	00015	010	ST	00003
ST	25 BLBB	010	ST	00025	010	P	00027
ST		010	ST	09999	010	P	
ST	2F 1ST CUT REG	010	ST	00001	010	P	
ST	2F 1ST CUT REG	010	ST	00001	010	P	
ST		010	ST	00004	010	P	09999

ST	6 F 1ST CUT REG	010	ST	00003	020	P	
				0000	010	P	
				0000	010	P	
ST	10FR 1ST CUT REG	010	ST	00001	010	P	00023
ST	23 F 1ST CUT REG	010	ST	00020			
				0000	010	P	
ST	66FFB	010	ST	00034	010	P	
ST	44FRFB	010	ST	00007	010	P	00038
ST	166FFB	010	ST	00044	010	P	
ST		010	ST	00097	010	S	00040
				00097		P	
				0000	010	P	
ST		010	ST	00105	010	S	
ST	250 FFB	010	ST	00065	010	P	00195
ST	72F 1ST CUT REG	010	ST	00069	010	P	
ST	250 FFB	010	ST	00065	010	P	00360
ST	147 FLFB	010	ST	00047			
				0000	010	P	
ST		480	ST	00042			
				0000	010	P	
ST	91 FFB 26 RLB	010	ST	00046	010	P	00053
ST		010	ST	00075	010	P	09999
				0000	010	P	
S		010	S	00006		P	
ST	6 F 1ST CUT REG	010	ST	00003	010	P	00300
				0000	010	P	
ST	288FFB	010	ST	00080	010	P	00150
ST		010	ST	00056	010	P	00078
S	4'F 1ST CUT	010	S	00002	010	P	09999
ST		010	ST	00084	010	P	
ST	93 FFB	010	ST	00054	010	P	00045
				0000	010	P	
				0000	010	P	
ST		010	ST	00073	010	P	00105
S	19FFB	010	S	00003	010	P	
				0000	010	00	
				0000	010	P	
				00064	010	P	
				0000	010	P	
ST		012	S	00049	010	P	
				0000	010	PI	
ST		010	ST	00066	010	P	00044
ST	104FRFB	010	ST	00006	010	P	
				0000	010	P	
				0000	010	P	
P		010	ST	09999	010	P	09999
				00009	010	P	
				0000	010	P	
				00077	010	S	
				0000	010	P	
ST		010	ST	00003	0	P	
				0000		P	

				0000	010	P	
ST		010	ST	09999		P	
ST		010	ST	00076	010	P	
				0000	010	P	
S		010	S		010	P	
				0000	010	P	
				0000	010	P	
				00011		P	
				0000	010	S	
S	17FFB	010	S	00030	010	P	00010
				00004	010	S	
				0000	010	P	
				0000	010	P	
ST		010	ST	00036	010	P	
ST	12FFB	010	ST	00004	010	ST	
ST		010	ST	99999	010	P	99999
ST		012	S	09999	010	P	09999
ST	50 F 1ST CUT REG	010	ST	00048	010	P	00028
S	88FFB	010	S	00061	010	P	
S	88FFB	010	ST	00061	010	P	00033
S		010	ST	00061	010	P	
ST	61 FRM MTR STD	010	ST	00061	010	P	00200
ST	61FF 1ST CUT REG	010	ST	00061	010	P	00064
ST	28SCLP	010	S	00058	010	P	
ST		010	ST	09999	010	ST	00003
ST	40F POLE#1103-68	010	ST	00005	010	P	00301
ST	7F 1ST CUT REG	010	ST	00004	010	P	09999
ST		010	ST		010	P	
ST	7F 1ST CUT REG.	010	ST	00004	012	P	
ST		010	ST	00007	010	P	00099
S		010	S	00006	010	P	
				0000	010	P	
ST		010	ST				
ST		010	P	00035		P	
ST	6F 1ST CUT REG	010	ST	00003	010	P	00024
ST	6F 1ST CUT REG	010	ST	00003	010	P	00024
ST	60FFB	010	ST	00003	010	P	
ST		010	ST	00050	010	P	00057
ST		010	ST	00099	010	P	
ST		010	ST	00007	010	P	00026
ST		010	ST	00003	010	P	
ST		010	ST	00003	010	P	
ST	61 F INLET RISOR	010	ST	00057	010	P	00075
ST	133 LLB	010	ST	00026	010	P	00108
				0000	010	P	
S		010	S	00052	010	P	
		012			0		
S		010	ST	00007			
S		010	P	00094	010	P	

OFF at CB	Off at Mtr	On at CB	On at Mtr	CG	Tagged	EFV Ind Cd	SL Reg Cd	System #
						3	F2M01	34087006
						0	F2M02	34087006
						0	F2M88	34087006
						5	F2M97	34087006
						0	F2M85	34087006
						0	F2M87	34087006
						0	F2M97	34087006
						5	F2M96	34087006
						0	F2M07	34087006
						5	F2M89	34087006
						0	F2M90	34087006
						5	F2M84	34087006
						3	F2M14	34087006
						0	F2M12	34087006
						0	F2M09	34087006
						0	F2M87	34087006
						0	F2M87	34087006
						0	0 00	34087006
						5	F2M03	34087006
						0	F1M14	34087006
						3	F2M12	34087006
						0	F2M10	34087006
						5	F2M88	34087006
						0	0 00	34087006
						0	F2M15	34087006
						3	F2M12	34087006
						0	F2M13	34087006
						0	F2M84	34087006
						0	F2M15	34087006
						5	F2M87	34087006

						0	F2M02	34087006
						0	F2M06	34087006
						0	F2M17	34087006
						3	F2M17	34087006
						5	0 00	34087006
						0	F2M87	34087006
						0	F2M91	34087006
						3	F2M03	34087006
						0	F2M04	34087006
						5	0 00	34087006
						0	0 00	34087006
						0	F2M92	34087006
						0	F2M05	34087006
						3	F2M15	34087006
						3	F1M04	34087006
						3	F1M17	34087006
						5	F2M94	34087006
						0	F2M11	34087006
						0	F2M87	34087006
						0	F2M05	34087006
						1	F1M20	34087006
						0	F2M11	34087006
						0	F2M05	34087006
						5	0 00	34087006
						3	F2M99	34087006
						0	F2M87	34087006
						0	F2M97	34087006
						0	F1M11	34087006
						0	F2M17	34087006
						0	F2M87	34087006
						3	F2M14	34087006
						0	F2M88	34087006
						0	F2M89	34087006
						0	F2M19	34087006
						0	F2M17	34087006
						0	F2M19	34087006
						0	F2M87	34087006
						0	F2M11	34087006
						0	F2M97	34087006
						0	F2M11	34087006
						0	F2M97	34087006
						0	F2M16	34087006
						3	F2M05	34087006
						0	F2M93	34087006
						0	F2M98	34087006
						0	F2M88	34087006
						0	F2M99	34087006
						0	F2M89	34087006
						0	F2M12	34087006
						0	F2M88	34087006
						0	F2M91	34087006
						0	0 00	34087006

						0	F2M06	34087006
						0	0 00	34087006
						0	F2M87	34087006
						0	F2M86	34087006
						0	F2M89	34087006
						0	F2M11	34087006
						0	F2M09	34087006
						0	0 00	34087006
						0	F2M07	34087006
						0	F2M81	34087006
						0	F2M87	34087006
						0	F2M07	34087006
						0	F2M01	34087006
						0	F2M97	34087006
						5	F2M01	34087006
						0	F2M17	34087006
						5	F2M84	34087006
						0	F2M89	34087006
						0	F2M95	34087006
						0	F2M14	34087006
						0	F2M98	34087006
						0	F2M11	34087006
						3	F2M14	34087006
						0	F2M90	34087006
						0	F2M87	34087006
						3	F2M12	34087006
						0	F2M02	34087006
						0	F2M85	34087006
						0	F2M03	34087006
						0	F2M05	34087006
						5	F2M83	34087006
						0	F2M92	34087006
						5	0 00	34087006
						0	F1M94	34087006
						0	F2M88	34087006
						0	F1M15	34087006
						0	F2M11	34087006
						3	F2M14	34087006
						0	F2M87	34087006
						0	F2M10	34087006
						0	F2M85	34087006
						0	F2M94	34087006
						3	F2M99	34087006
						3	F2M17	34087006
						0	F2M81	34087006
						0	F2M88	34087006
						5	0 00	34087006
						5	F2M88	34087006
						0	F2M10	34087006

Rev Cd - Desc	Serv Vlv	Mtr Style	Mast Mtr Cd	Unit	Book	SADC
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
04 - CHOICE COMM - HEAT		DOMESTIC	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	N/A		18	88	A1
03 - CHOICE RES - HEAT		Domestic		18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
04 - CHOICE COMM - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	N/A		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic	N	18	88	A1
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
04 - CHOICE COMM - HEAT	METER VALVE	Domestic		18	88	A1

04 - CHOICE COMM - HEAT		Large Volume	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	N/A		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic	N	18	88	A1
30 - RESIDENTIAL HEAT		Domestic	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic	N	18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic	N	18	88	A1
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	N/A		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT		Large Volume	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	Domestic		18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT		Large Volume	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Large Volume	N	18	88	A1
05 - CHOICE RES - NON-HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1

03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
41 - COMMERCIAL HEAT	METER VALVE	Domestic		18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	Domestic		18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic	N	18	88	A1
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
03 - CHOICE RES - HEAT		Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	N/A		18	88	A1
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	Domestic		18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	Domestic		18	88	A1
30 - RESIDENTIAL HEAT		Domestic	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic	N	18	88	A1
03 - CHOICE RES - HEAT		Domestic	N	18	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1
04 - CHOICE COMM - HEAT	METER VALVE	Domestic		18	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	N/A		11	88	A1
30 - RESIDENTIAL HEAT	METER VALVE	N/A		11	88	A1
03 - CHOICE RES - HEAT	METER VALVE	Domestic		18	88	A1

Customer Outage List - B35R Regs highlighted

System Main Line Number: 34087006

PSID	Cust Name	Cust Ph #	Add #	Add St	City	Map #	Mtr Loc	Mtr #	K & S	CB Loc	Prem Stat	OFF at CB	Off at Mtr	On at CB	On at Mtr	CG
500679741	SHANNON BELVILLE	7405341160	4906	SR141	IRO	3418-G	90 - OUTSIDE - REAR	M0536487	608	2 F 1ST CUT REG	Active					
200059712	HAROLD GULLETT	7405324773	4994	SR141	IRO	3418-G	32 - GARAGE OUTSIDE	M2013318	608	120FFB 2RRB	Active					
200059713	JOHN ELLIS	7405333965	5024	SR141	IRO	3418-G	88 - OUTSIDE - FRONT	8723946	870	64 FFB 21 RLB	Active					
200059770	JAMES STAMPER	7406462196	5063	SR141	IRO	3418-G	94 - OUTSIDE - LEFT	L540843	608	3F 1ST C REG	Active					
200059769	ZACHARY CUTLIP	7406468812	5101	SR141	IRO	3418-G	94 - OUTSIDE - LEFT	A3660277	814	34 FFB 3 LLB	Active					
200059768	JIMMY HUGHES	7406465413	5153	SR141	IRO	3418-G	94 - OUTSIDE - LEFT	B103151	602	35 FFB 12 LLB	Active					
200059767	JOHN SCOTT	7404795040	5279	SR141	IRO	3418-G	94 - OUTSIDE - LEFT	M6042167	608	77S 14W FRM HOUS	Active					
500105647	CHERI SMITH	6065715574	5338	SR141	IRO	3418-G	90 - OUTSIDE - REAR	D3174938	814	28 RRB 21 FFB	Active					
501154214	SANDRA ROWE	7405327963	5374	SR141	IRO	3418-G	94 - OUTSIDE - LEFT	13032572	608	N.C.V.	Active					
500220227	CARL PAYTON	7405324991	5470	SR141	IRO	3418-G	92 - OUTSIDE - RIGHT	11507303	760	1'1ST CUT REG.	Active					
200059765	JACK PEMBERTON	7405327370	5511	SR141	IRO	3418-G	94 - OUTSIDE - LEFT	A478633	602	63 FFB 3 LLB	Active					
200059764	LESLIE CAMPBELL	7404424864	5533	SR141	IRO	3418-G	92 - OUTSIDE - RIGHT	7002043	755	48 FFB 2 RRB	Active					
300692996	COUNTRYSIDE GREENHOUSE	7405326266	5560	SR141	IRO	3418-G	92 - OUTSIDE - RIGHT	3412448	823	41 FFB 27 LLB	Active					
200059715	JOHN BRYANT	7405331782	5644	SR141	IRO	3487-A	94 - OUTSIDE - LEFT	8249065	602	3F 1ST C REG	Active					
200541877	LAWRENCE BAILEY	7405321316	5691	SR141	IRO	3418-H	88 - OUTSIDE - FRONT	13032530	608	40FFB 1LRB	Active					
500809290	CRYSTAL DILLON	7404427114	5710	SR141	IRO	3418-H	88 - OUTSIDE - FRONT	11034853	608	3 F 1ST CUT REG	Active					
200535645	CHRISTINA ZIMMERMAN	7406462182	5747	SR141	IRO	3487-B	92 - OUTSIDE - RIGHT	M9509656	760	3' 1ST CUT REG.	Active					
200059737	RHODA DICKESS	7405327668	111	CO105	KIT	3487-B	90 - OUTSIDE - REAR	8723883	870	3F 1ST C REG	Active					
200059738	JIM HOWARD	6145331396	111	CO105	KIT	3487-B	94 - OUTSIDE - LEFT	13027496	608		Active					
500391316	DAVID WAUGH	7405329676	33	CO182	KIT	3418-D	90 - OUTSIDE - REAR	12023937	608	3 F 1ST CUT REG	Active					
200544447	JOHN ROBINSON	7405328444	60	CO182	KIT	3418-H	92 - OUTSIDE - RIGHT	12506347	760	3F 1ST C REG	Active					
300662311	ROGER ADAMS	7405322806	200	CO182	KIT	3418-H	90 - OUTSIDE - REAR	3912099	755	1FROM 1STCUT REG	Active					
501152353	AMY PAYNE	7405328499	210	CO182	KIT	3418-H	90 - OUTSIDE - REAR	14008396	608		Active					
500779967	MAMRE BAPTIST CHURCH	7405330767	2367	CO182	KIT	3487-B	92 - OUTSIDE - RIGHT	M1500487	744	3 F 1ST CUT REG	Active					
200059744	AMANDA MCFANN	7406461408	17	CO19	KIT	3487-B	94 - OUTSIDE - LEFT	B077702	602	3F 1ST CUT REG	Active					
200542636	AMBER BOLYARD	7404428757	38	CO19	KIT	3487-B	92 - OUTSIDE - RIGHT	16010088	608	3F 1ST C REG	Active					
200533066	RODNEY ESTEP	7405328420	62	CO19	KIT	3487-A	88 - OUTSIDE - FRONT	3806153	823	NCV	Active					
300703712	MARY FREELS	7405323050	87	CO19	KIT	3487-A	92 - OUTSIDE - RIGHT	3098962	755	2 RRB 32 FFB	Active					
500136095	DARRELL MASSIE	6064650214	87	CO19	KIT	3418-D	92 - OUTSIDE - RIGHT	A879078	602	4 RRB 32 FFB	Active					
500839424	MADISON KIRKPATRICK	7406466292	90	CO19	KIT	3418-D	92 - OUTSIDE - RIGHT	M3003442	608	37 FFB 6 RRB	Active					
500187932	TONYA WILSON	7405321875	139	CO19	KIT	3487-A	94 - OUTSIDE - LEFT	B103691	602	3LLB 122FFB	Active					
200532525	FRED HOWELL	7405328244	29	CO5	KIT	3418-D		D418918	818	125LLB 125FFB	Active					
200059761	ALISSA FYFFE	3042081694	50	CO5	KIT	3418-D	88 - OUTSIDE - FRONT	L552051	608	3F 1ST C REG	Active					
300680991	AMANADA LONG	7405324929	202	CO5	KIT	3418-D	26 - FIELD	0181344	870	9LWM 17FWM *	Active					
501177379	CAROL MILLER	7402374551	37	PRIVATE	KIT	3487-B	88 - OUTSIDE - FRONT	15013846	608	BV 195FFB 1LRB	Active					
500910885	CRIS CHANEY	7405327257	190	PRIVATE 7849	KIT	3487-B	94 - OUTSIDE - LEFT	M4044889	614	3F 1ST CUT REG	Active					
501225186	JORDAN MCCARTY	7407446368	104	PRIVATE ROAD	KIT	3487-B	92 - OUTSIDE - RIGHT	17008445	608		Active					
300618111	HANNAH MAYS	7405479016	5820	SR141	KIT	3418-H	94 - OUTSIDE - LEFT	11030175	608	3F 1ST CUT REG	Active					
200059759	DAWN TAYLOR	7405320839	5825	SR141	KIT	3487-B	88 - OUTSIDE - FRONT	3922587	755	42FFB 3RRB	Active					

PSID	Cust Name	Cust Ph #	Add #	Add St	City	Map #	Mtr Loc	Mtr #	K & S	CB Loc	Prem Stat	OFF at CB	Off at Mtr	On at CB	On at Mtr	CG
200554325	MARY SMITH	8145120105	5846	SR141	KIT	3418-H	92 - OUTSIDE - RIGHT	M4021295	614	3F 1ST CUT REG	Active					
501279697	BRETT HOWELL	7405501561	5862	SR141	KIT	3418-H	94 - OUTSIDE - LEFT	19510081	770	3 1ST CUT REG	Active					
200059758	FLOYE COOKE	7405326982	5891	SR141	KIT	3418-H	94 - OUTSIDE - LEFT	3086600	755	3F 1ST C REG	Active					
200059718	SHARON HUDDLE	7405339327	5958	SR141	KIT	3418-H	94 - OUTSIDE - LEFT	M5031512	614	3F 1ST CUT REG	Active					
500655879	KENNETH SITES	7402372253	6006	SR141	KIT	3418-H	92 - OUTSIDE - RIGHT	99437556	608	3 F 1ST CUT REG	Active					
200059757	SARAH DILLON	7406469664	6039	SR141	KIT	3487-B	88 - OUTSIDE - FRONT	3412217	823	3F 1ST CUT REG	Active					
500216226	RACHEL FUHR	7404427547	6097	SR141	KIT	3418-D	92 - OUTSIDE - RIGHT	96462366	608	145 FFB 42 RRB	Active					
200544448	CHARLA CLYSE	7405254011	6201	SR141	KIT	3487-B	92 - OUTSIDE - RIGHT	10029414	608	49 FFB 48 RRB	Active					
500171162	CHARLA CLYSE	7405254011	6202	SR141	KIT	3418-D	88 - OUTSIDE - FRONT	16500263	770	2'F 1ST CUT	Active					
200059756	STACI MOORE	7406468118	6255	SR141	KIT	3487-B	92 - OUTSIDE - RIGHT	3100979	755	260 FFB	Active					
501162076	LINDA FOX	7405339514	6371	SR141	KIT	3487-B	94 - OUTSIDE - LEFT	13032280	608	39 FFB 24 LLB	Active					
200059755	KAREN DIAMOND	7405323427	6391	SR141	KIT	3487-B	88 - OUTSIDE - FRONT	B651621	602	3F 1ST C REG	Active					
200531205	GABRIELLE LININGER	6236927814	6436	SR141	KIT	3487-A	92 - OUTSIDE - RIGHT	8928643	870	3F 1ST CUT REG	Active					
500218830	AMANDA SAMMONS	3046330387	6453	SR141	KIT	3418-D	94 - OUTSIDE - LEFT	19002087	608	2'F 1ST CUT REG	Active					
500115041	ROGER RAMEY	7404423089	6462	SR141	KIT	3487-A	88 - OUTSIDE - FRONT	16500253	770	16 FFB 25 LRB	Active					
200059720	TODD SALYERS	6062547459	6496	SR141	KIT	3418-D	88 - OUTSIDE - FRONT	19002052	608	3F 1ST C REG	Active					
200059721	BETTY MILLER	7405329641	6538	SR141	KIT	3487-B	92 - OUTSIDE - RIGHT	D3233612	814	3F 1ST CUT REG	Active					
200059753	CARRIE STEVENS	7402374700	6539	SR141	KIT	3487-B	94 - OUTSIDE - LEFT	11030151	608	10 LLB 30 FFB	Active					
200059752	SHARON MASSIE	7405332383	6567	SR141	KIT	3487-A	94 - OUTSIDE - LEFT	K804019	602	16 LLB 52 FFB	Active					
200059723	AMANDA HOLT	9044032649	6580	SR141	KIT	3487-A	92 - OUTSIDE - RIGHT	A3653127	814	30 FFB 3 LLB	Active					
200059751	GEORGE SANDERS	7405343121	6593	SR141	KIT	3487-A	94 - OUTSIDE - LEFT	16006912	608	3 1ST CUT REG	Active					
500955575	GEORGE SANDERS SR	7405322679	6616	SR141	KIT	3487-A	92 - OUTSIDE - RIGHT	M5031554	614	98 FRFB 12 LRFB*	Active					
300638938	GEORGE SANDERS SR	7405322679	6630	SR141	KIT	3418-D	94 - OUTSIDE - LEFT	3607589	755		Active					
200059724	MICHAEL JENKINS	7403071859	6640	SR141	KIT	3418-D	92 - OUTSIDE - RIGHT	740617	817	3F 1ST C REG	Active					
200059750	LESLIE BARBER	7405330025	6659	SR141	KIT	3487-A	88 - OUTSIDE - FRONT	8723914	870	3F 1ST C REG	Active					
200059725	DANELLE MULLINS	7404427042	6668	SR141	KIT	3487-A	94 - OUTSIDE - LEFT	99400875	823	1 LLB 50 FFB	Active					
200541876	ASHLEY WILSON	7403025182	6686	SR141	KIT	3487-A	92 - OUTSIDE - RIGHT	8928663	870	3F 1ST C REG	Active					
300610632	TALITHA PATTERSON	7405340880	6715	SR141	KIT	3418-H	88 - OUTSIDE - FRONT	1912215	604	5 BKFB 15 RRB	Active					
200059726	MEGAN MCKNIGHT	7405506591	6736	SR141	KIT	3487-A	94 - OUTSIDE - LEFT	DD916942	818	3F 1ST CUT REG	Active					
500156120	CONNIE FRANZ	7405326006	6761	SR141	KIT	3487-A	88 - OUTSIDE - FRONT	5049028	814	32FFB 6LLB	Active					
200059749	RALPH MALONE	7405325746	6771	SR141	KIT	3487-A	94 - OUTSIDE - LEFT	3806160	823	3F 1ST C REG	Active					
200059727	MARK MURNAHAN	7405321336	6798	SR141	KIT	3487-A	94 - OUTSIDE - LEFT	17025719	608	3F 1ST C REG	Active					
500062342	BRYCE CHRISTIAN	7405476188	6841	SR141	KIT	3487-A	94 - OUTSIDE - LEFT	A3617311	818	3F 1ST CUT REG	Active					
200059728	DARRELL SCHWAB	7404791326	6858	SR141	KIT	3487-A	92 - OUTSIDE - RIGHT	M8007069	608	3 F 1ST CUT REG	Active					
300677161	WARREN LAMBERT JR	7405320640	6914	SR141	KIT	3487-B	94 - OUTSIDE - LEFT	A4589554	814	57FFB 3LLB	Active					
300640783	ANDREA WILSON	7405328000	6971	SR141	KIT	3487-A	94 - OUTSIDE - LEFT	H794942	602	10LLB 7FFB	Active					
200059729	WANDA WILSON	7405328000	7010	SR141	KIT	3487-B	92 - OUTSIDE - RIGHT	A3678810	814	2 RRB 17 FFB	Active					
200531383	VICKI SMITH	7405340539	7051	SR141	KIT	3487-B	88 - OUTSIDE - FRONT	M7021747	608	3F 1ST C REG	Active					
200535644	MICHAEL MURNAHAN	6141111111	7147	SR141	KIT	3487-B	94 - OUTSIDE - LEFT	B081418	602	3F 1ST C REG	Active					
500545980	NISSA JENKINS	7405324397	7187	SR141	KIT	3487-A	92 - OUTSIDE - RIGHT	3599604	755	23 FFP 17 RRP	Active					
300623818	KAREN MAY-DINNEN	7403078776	7272	SR141	KIT	3487-B	94 - OUTSIDE - LEFT	16010091	608	3F 1ST C REG	Active					
200059743	BILL WILLIAMS	7405325838	7313	SR141	KIT	3418-D	94 - OUTSIDE - LEFT	8253499	602	2 F 1ST CUT REG*	Active					
500421399	ALAN MURDOCK	7405479912	7355	SR141	KIT	3487-B	92 - OUTSIDE - RIGHT	95531056	608	27 FFB 7 RRB	Active					
501162822	MATISON KLAIBER	7404421968	7355	SR141	KIT	3487-B	94 - OUTSIDE - LEFT	13020963	608		Active					

PSID	Cust Name	Cust Ph #	Add #	Add St	City	Map #	Mtr Loc	Mtr #	K & S	CB Loc	Prem Stat	OFF at CB	Off at Mtr	On at CB	On at Mtr	CG
500613472	NANCY COLLIER	7405325318	7377	SR141	KIT	3487-B	90 - OUTSIDE - REAR	98413204	823	40FFB 99RRB	Active					
501099830	J CHRIS COLLIER	7406463742	7377	SR141	KIT	3487-B	92 - OUTSIDE - RIGHT	11021391	608	40FFB 90RRB	Active					
501151042	CONNIE GREGORY	7405337935	7403	SR141	KIT	3487-B	88 - OUTSIDE - FRONT	13020994	608	NO CURB VALVE	Active					
500117482	JOYCE KINGERY	7405320498	7455	SR141	KIT	3487-B	88 - OUTSIDE - FRONT	3805876	823	142 FFB 32 RRB	Active					
200059741	DONALD GUY	0000000000	7521	SR141	KIT	3487-B	92 - OUTSIDE - RIGHT	3298947	823	3F 1ST C REG	Active					
501115033	KATIE SUTTON	7406468659	7614	SR141	KIT	3487-B	92 - OUTSIDE - RIGHT	12023906	608	3 F 1ST CUT REG	Active					
300678009	KENNETH L EVERHART	7405321665	7624	SR141	KIT	3487-B	92 - OUTSIDE - RIGHT	M0145017	608	3F 1ST C REG	Active					
300678008	KENNETH EVERHART	7406461358	7624	SR141	KIT	3487-B	92 - OUTSIDE - RIGHT	7505868	608	3F 1ST CUT REG	Active					
500835347	TIM ADKINS	7405326947	7624	SR141	KIT	3487-B	90 - OUTSIDE - REAR	99429994	608	3F 1ST CUT REG	Active					
300610348	MICHAEL MASSIE	6065854839	7685	SR141	KIT	3487-B	94 - OUTSIDE - LEFT	9207434	870	3F 1ST C REG	Active					
500351741	CHARLES MASSIE	7405339450	7735	SR141	KIT	3487-A	88 - OUTSIDE - FRONT	2898905	608	3F 1ST CUT REG.	Active					
200059739	AMY DICKESS	7405320278	7787	SR141	KIT	3487-B	88 - OUTSIDE - FRONT	B084498	602	3F 1ST CUT REG	Active					
200059732	KENNETH L EVERHART	7405321665	7810	SR141	KIT	3487-B	94 - OUTSIDE - LEFT	3599118	755	4 RRB 57 FFB	Active					
200059736	BILLY MAYS	7404427613	7859	SR141	KIT	3487-B	92 - OUTSIDE - RIGHT	13020982	608	NO CURB BOX	Active					
200059735	KAREN MAYS	7405327568	7865	SR141	KIT	3487-B	92 - OUTSIDE - RIGHT	D1141669	818	37FFB 1RRB	Active					
200059733	DEBORAH STEVENS	7405327816	8134	SR141	KIT	3487-B	90 - OUTSIDE - REAR	M9509653	760	3 LLB 26 BKBKB	Active					
500331843	COLUMBIA GAS CONSUMER LOCN	8003444077	8141	SR141	KIT	3487-C	94 - OUTSIDE - LEFT	1255454	818	3F 1ST CUT REG	Active					
500632655	RONOLD NELSON	6153888755	8277	SR141	KIT	3487-C	88 - OUTSIDE - FRONT	99417258	608	4 F INLET RISOR	Active					
501203848	GEORGE RANDY GILMORE	7405343394	8358	SR141	KIT	3487-C	94 - OUTSIDE - LEFT	16010092	608	3F 1ST CUT REG	Active					
300636697	TONY VIRGIN DDS	7406468644		SR141	KIT	3418-D	94 - OUTSIDE - LEFT	D1208285	818	3F 1ST CUT REG	Active					
200059742	LAWRENCE TOWNSHIP FIRE DEPARTMENT	7405322677		SR141	KIT	3418-I	92 - OUTSIDE - RIGHT	3806159	823	8 FFB 24 RRB	Active					
300646402	PAUL DAVIDSON	7405333776	5090	ST RT 141	KIT	3418-G	90 - OUTSIDE - REAR	M9509639	760	64 FFB 39 RRB	Active					

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Companies Affected:	☒ NIPSCO	☒ CVA	☒ CMD
		☒ CKY	☒ COH
		☒ CMA	☒ CPA

04/19/2019

See Sections 4, 5, and 6 for notes that clarify the intent of GS 1680.010 until a formal revision can be published.

REFERENCE 49 CFR Part 192.627, 192.631

1. GENERAL

Tapping and tie-in operations range from routine to complex and are sometimes referred to as "management of change operations." The term "Tie-in Plan" refers to a written document that includes requirements and steps for tie-ins and tapping of pressurized pipeline facilities and can incorporate other related elements such as bypassing, abandonments, purging, special odorization requirements and testing. Thorough knowledge and attention to detail during planning and construction activities is required.

Prior to tapping a pressurized pipeline, the person in charge of the tie-in (e.g., crew leader, Construction Coordinator/Inspector) shall positively verify the expected system status and configuration by reviewing maps and other records (e.g., work order, service line records) to ensure that the Tie-in Plan, material, and existing records are compatible with what is found in the tie-in excavation. Discrepancies shall be investigated and resolved, prior to tapping, and a contingency plan (e.g., identify, locate, access, and operate applicable shut-off valve(s)) shall be developed.

All tapping of pressurized pipelines shall be performed by personnel qualified in installation and use of the proper fittings, equipment, and procedures.

1.1 Material

Tapping fittings shall have a pressure rating equal to or greater than the Maximum Allowable Operating Pressure (MAOP) of the pipeline. Tapping equipment shall have a pressure rating equal to or greater than the operating pressure of the pipeline at the time of the tapping operation. Refer to manufacturers' documentation for the design pressure of specific fittings and tapping equipment. Use the tool recommended by the manufacturer to complete the tapping operation.

1.2 Pressure Testing

Pressure testing of tie-in fittings and/or joints shall be done in accordance with the applicable GS 1500.010 "Pressure Testing."

Fittings used for tapping and plugging, including but not limited to, fittings by T.D. Williamson and Mueller, as well as related bypass fittings and joints which are not

subjected to the main test pressure, shall be tested prior to tapping operations.

Performing a leak test on an untapped tapping or stopping fitting can dent or collapse the pipeline on which it is installed. The collapse can occur when there is a significant differential between the system pressure and the intended test pressure for the fitting. Refer to the applicable GS 1500.010 “Pressure Testing” for leak test procedures for steel tapping and stopping fittings.

1.3 Evaluation for Unknown Mechanical Couplings

Tie-ins involving pipeline separation on metallic pipelines operating over 10 psig that might contain unknown mechanical couplings shall be designed to resist thrust forces associated with stopping gas flow.

1.4 Safety and Related Standards

All applicable HSE and other safety standards shall be followed including the following.

a. HSE 4100.010 “Hazardous Atmosphere Considerations.”
b. GS 1690.010 “Purging.”
c. GS 1740.010 “Abandonment of Facilities.”
d. GS 1770.010 “Prevention of Accidental Ignition.”

2. DEFINITIONS

For the purpose of this gas standard, the following definitions are applicable.

“Person in Charge” is the person responsible for verifying each step is complete, documenting completion on the Tie-in Plan and authorizing movement to the next step.

“Reinforced,” as used in this standard, means using a band-type fitting with a full encirclement gasket (e.g., Servi Seal).

For other definitions, refer to GS 1012.010 “Definitions.”

3. TIE-IN CONSIDERATIONS BY MATERIAL TYPE

3.1 Plastic

Two basic types of tie-ins are performed on plastic pipe.

a. Installation of a side wall fitting (e.g., tapping tee, branching saddle, tap fitting) onto the plastic pipe. Refer to GS 1304.010 “Electrofusion Joining.”

NOTE: Only hand tighten a cap on a plastic tapping tee. The use of wrenches or other tools can permanently damage the fitting.

b. Installation of plastic pipe and/or an in-line plastic tee utilizing a squeeze-off tool to stop the flow of gas. Refer to GS 1680.040 "Squeeze-Off Procedures for Plastic Pipe," as well as Gas Standard Series 1300 "Pipe & Fitting Joining."

Joints should be fused except where the confines of the excavation, weather conditions, or safety considerations* dictate the use of mechanical fittings.

*NOTE: For plastic propane piping systems or former plastic propane piping systems that have been converted to natural gas, mechanical fittings shall be used for tie-in joints. See Exhibit C for related mapping symbols.

3.2 Steel or Wrought Iron

3.2.1 Tie-In Method

The preferred method of tie-in to steel pipe is to stop the flow of gas using inline valves or approved line stoppers and welding directly to the end(s) of an existing pipeline or to an approved tie-in fitting.

Couplings shall not be used to tie-in pipe joints on distribution pipelines with an MAOP equal to or greater than 200 psig or transmission class pipelines, unless approved by the Manager of Engineering in accordance with GS 2100.010 "Design – General."

NOTE: If wrought iron pipe is exposed at the location of the tie-in and it has not been previously identified in the work order or on maps, Engineering must be contacted for additional guidance.

3.2.2 Tapping and Stopping

The maximum pressure for which tapping or stopping equipment may be used is limited by the lowest pressure rating of any one of the following.

a. The fitting connected to the pipeline.

b. The equipment being used.

It is acceptable to temporarily lower the pipeline system operating pressure during tapping and stopping operations to a pressure lower than the maximum allowable operating pressure of the tapping and/or stopping device, providing the device does not become a permanent part of the tie-in fitting.

3.2.3 Bag and Diaphragm Type Pipeline Stoppers

The use of inflatable bags or diaphragm type stoppers is limited to low pressure

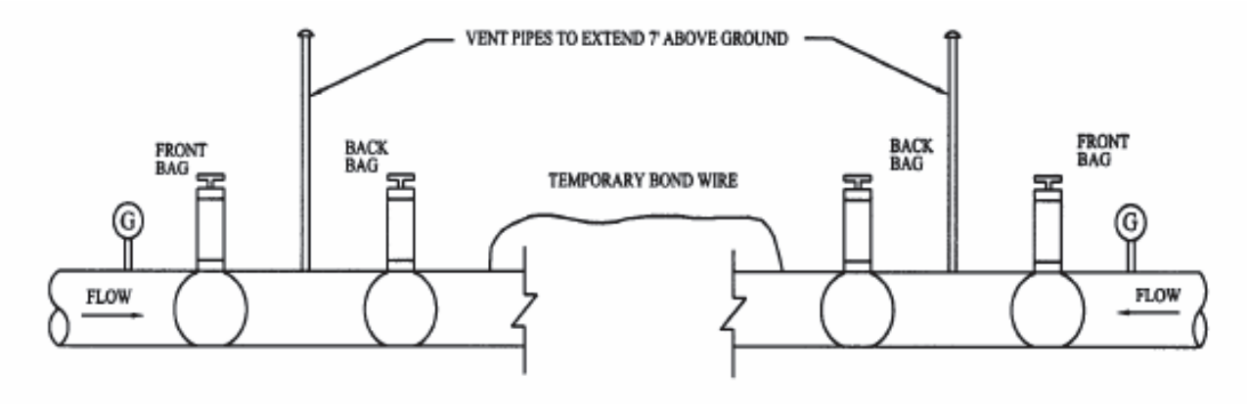
for tie-ins of steel and wrought iron pipelines with the following exception.

EXCEPTION: Inflatable bags or diaphragm type stoppers may be used on higher pressures with approval by at least one of the following: an Engineer, a Field Operations Leader/Supervisor, a Construction Front Line Leader/Supervisor, or a qualified designee, but the use shall not exceed the manufacturers' pressure limitations.

Because gas may be introduced into the immediate work area when they are used, inflatable bags or diaphragm type stoppers are the least preferred line stopping method and should only be used when the availability of manpower, equipment or piping materials involved dictate their use.

Stopping equipment shall be used in accordance with the manufacturer's instructions and pressure limitations. Refer to Figure 1 for guidance when installing low pressure stoppers.

Figure 1



3.3 Cast Iron

When the term "cast iron" is used in this gas standard, it also refers to ductile iron and gray iron.

Cast iron pipe shall not be joined by threading, brazing, or welding. When steel or plastic pipe is to be joined to cast iron pipe, the joint shall be made with an insulated coupling (with the insulating side on the same side as the cast iron).

The outside diameter of the cast iron pipe shall be determined to ensure that the proper size coupling is available. To establish the pipe's dimensions, the diameter or the circumference of the pipe must be measured.

3.3.1 Joint Restraint

When joining plastic pipe to cast-iron, if a restraining fitting is not used, the joint shall be designed in a manner that will provide adequate restraint against pull-out forces and avoid transmitting forces to adjacent unreinforced joints. This may be accomplished by the use of pipe restraints (e.g., anchor clamps, electrofusion restraints) when insertion of the plastic pipe through a casing is involved or by installing offsets in the plastic pipe adjacent to the tie-in point.

3.3.2 Stopping Gas Flow

The use of inflatable bags or diaphragm type stoppers is limited to low pressure for tie-ins of cast iron pipelines with the following exception.

EXCEPTION: Inflatable bags or diaphragm type stoppers may be used on higher pressures with approval by at least one of the following: an Engineer, a Field Operations Leader/Supervisor, a Construction Front Line Leader/Supervisor, or a qualified designee, but the use shall not exceed the manufacturers' pressure limitations.

Because gas may be introduced into the immediate work area when they are used, inflatable bags or diaphragm type stoppers are the least preferred line stopping method and should only be used when the availability of manpower, equipment or piping materials involved dictate their use. Refer to Figure 1 for guidance when installing low pressure stoppers.

NOTE: Consider using existing valves or installation of approved tie-in fittings onto cast iron pipe at alternate locations. Installation of a bypass or the shut-down of customers may have to be considered.

3.3.3 Tapping

Where a threaded tap is made in cast iron or ductile iron pipe, the diameter of the tapped hole may not be more than 25 percent of the nominal diameter of the pipe unless the pipe is reinforced, except for the following.

a. Existing taps may be used for replacement service, if they are free of cracks and have good threads.

b. A 1-1/4 inch tap may be made in a 4 inch cast iron or ductile iron pipe, without reinforcement.

However, in areas where climate, soil, and service conditions may create unusual external stresses on cast iron pipe, unreinforced taps may be used only on 6 inch or larger pipe.

Table 1 shows the acceptable methods for tapping a cast iron pipe.

Where a saddle is used, a tap hole is drilled (not threaded) into the cast iron or ductile iron pipe, and a tapping tee is threaded into the saddle.

To resist longitudinal cracks between taps, taps into cast iron or ductile iron pipe should be separated longitudinally by at least the circumference of the pipe being tapped.

Table 1 – Taps Made in Cast Iron or Ductile Iron Pipe

Main Size	Tap Size			
	1” or 1 1/4”	2”	3”	4”
2”	Reinforced	Reinforced	X	X
3”	Reinforced	Reinforced	Reinforced	X
4”	Reinforced (See Note below.)	Reinforced	Reinforced	Reinforced
6”	Direct Threading, Saddle, or Reinforced	Reinforced	Reinforced	Reinforced
8”	Direct Threading, Saddle, or Reinforced	Direct Threading, Saddle, or Reinforced	Reinforced	Reinforced
10”	Direct Threading, Saddle, or Reinforced	Direct Threading, Saddle, or Reinforced	Reinforced	Reinforced
12”	Direct Threading, Saddle, or Reinforced	Direct Threading, Saddle, or Reinforced	Direct Threading, Saddle, or Reinforced	Reinforced
14”	Direct Threading, Saddle, or Reinforced	Direct Threading, Saddle, or Reinforced	Direct Threading, Saddle, or Reinforced	Reinforced
16”	Direct Threading, Saddle, or Reinforced	Direct Threading, Saddle, or Reinforced	Direct Threading, Saddle, or Reinforced	Direct Threading, Saddle, or Reinforced
18”	Direct Threading, Saddle, or Reinforced	Direct Threading, Saddle, or Reinforced	Direct Threading, Saddle, or Reinforced	Direct Threading, Saddle, or Reinforced
20”	Direct Threading, Saddle, or Reinforced	Direct Threading, Saddle, or Reinforced	Direct Threading, Saddle, or Reinforced	Direct Threading, Saddle, or Reinforced
24”	Direct Threading, Saddle, or Reinforced	Direct Threading, Saddle, or Reinforced	Direct Threading, Saddle, or Reinforced	Direct Threading, Saddle, or Reinforced

NOTE: In locations where climate, soil, and service conditions would not create unusual external stresses on cast iron pipe, threaded 1 inch or 1-1/4 inch taps may be

installed on 4 inch cast iron or ductile iron without reinforcement.

4. WRITTEN TIE-IN PLAN

A Tie-in Plan shall be prepared for tie-in operations on the following types of work.

1. Designed capital mainline installations, replacement and/or abandonment work.
2. Designed capital installations, replacements and/or abandonments of measurement, regulation, or measurement and regulation (M&R) stations.
3. Emergency work, either capital or operations and maintenance (O&M), involving the replacement of mains, temporary bypass of a mainline or a mainline to be temporarily taken out of service. The Tie-in Plan for emergency work may be expedited and consolidate multiple elements such as the Advance and Execution Briefings (see Section 5.1 below). However, safety cannot be compromised.
4. Maintenance operations that require a temporary bypass of a mainline or require a mainline to be temporarily taken out of service.

Clarification for Section 4, bullet 3, an expedited Tie-in Plan may consist of issuing a shut-down plan first, then following up with a start-up plan.

NOTE: A Tie-in Plan is not required for operating a regulator station utilizing its permanent setting bypass.

4.1 Plan Requirements

The Tie-in Plan shall prescribe that an adequate labor force, appropriate material and required tools are available; proper steps are followed; and personal, public and customer safety is ensured. The Tie-in Plan includes two parts, the “Tie-in Plan: Design” and the “Tie-in Plan: Execution Steps,” as identified in the tie-in template. The Design is to be completed as part of the job order approval. The Execution Steps portion has to be prepared prior to the Advance Briefing (see Section 5.1.1 below).

The Tie-in Plan shall be reviewed with the personnel responsible for performing the tasks prior to the tie-in(s) as described in Section 5.

A Tie-in Plan template example is shown in Exhibits A and B. Standard templates and drawings are provided through the Engineering SharePoint site and WMSDocs.

The Tie-in Plan shall address the following items, as applicable. Additional items may be addressed as deemed appropriate.

1. Necessity of, size, length and temperature limitations for a bypass.
2. Safety precautions to prevent abnormal operating conditions, such as the following.
    a. Identification and protection of control lines and tap locations.

Clarification for Section 4.1, bullet 4.

The intent of the first sentence in bullet 4 and the following sub-bullets a., b., and c. is to determine which stations are impacted by the Tie-in Plan.

"Impacted" stations is to be determined by the Engineer preparing the Tie-in Plan using sound engineering judgement through the use of engineering tools (e.g., Synergi), when necessary.

The remaining paragraphs in bullet 4 are the actions to take for those impacted stations.

   b. Knowledge of maximum allowable operating pressure (MAOP) and expected range of system pressures during tie-in operations.

3. Scope or extent of system to be tied in and/or bypassed.
4. Identification of station(s) (district regulator, point-of-delivery (POD), town border - permanent or temporary), as follows.
   a. Delivering gas directly to the system in the area of the tie-in.
   b. Downstream of the work being performed that would be impacted and require monitoring during the tie-in process.
   c. Where a significant change in flow (increase or decrease) could result from the work.

   All stations identified shall be analyzed to determine the need for monitoring during excavation or the tie-in process.

   For low pressure regulator stations identified, refer to ON 19-02 "Low Pressure Regulator System Work Requirements" for the requirements to monitor low pressure regulator stations (based on completed LP Enhanced Safety Actions) during tie-in operations.

   All stations downstream of the work being performed shall be equipped with proper equipment (e.g., strainers) to protect the pressure regulation from pipeline debris such as construction shavings.

   All stations identified shall also have an accurate isometric sketch which is available in GIS, at the station and included in the project drawings.
5. Positive verification of the expected system status and configuration by comparing planned tie-in activities to what is uncovered in the tie-in excavation.
6. The need for reinforcement for branch connections (refer to GS 2420.010 "Reinforcement Requirements for Branch Connections").
7. Verification of pressure and content.
8. Method and location of pressure control and monitoring for tie-in location(s).

Clarification for Section 4.1, bullet 10.

As an alternative to identifying valve(s), isolation points, such as bag or squeeze-off locations, may be identified; however, these locations must be excavated and squeeze-off or bagging equipment, as applicable must be accessible nearby.

9. Determining the sequence of closing and opening valves or any other flow controlling device.
10. Identifying applicable valve(s), which should be located and checked for accessibility and operability before the tie-in operation begins. If during tie-in and tapping operations, an emergency occurs (e.g., stopple failure, coupling pull out), the valve(s) could be more quickly accessed for pipeline shutdown, if necessary.
11. Planning for additional pressure monitoring for industrial or commercial customers affected by the tie-in (e.g., flow restriction due to bypass or change in flow direction).
12. Planning for additional pressure monitoring at regulator stations where excavation is planned to occur within the footprint of a POD or district plant regulator station or within 25 feet of a station building or fence unless all regulator control, electrical/communication, remote monitoring (e.g., ERX), and/or odorant lines are verified to be located completely above ground (refer to applicable GS 1100.040 “Damage Prevention when Using Conventional Excavation Technologies”).
13. For tie-ins on a metallic pipeline operating above 10 psig, excluding the following exceptions, evaluate the pipeline to determine the existence of mechanical couplings from the edge of the excavation for a distance equal to or greater than the safe embedment distance (refer to GS 2220.020 “Pipeline Flexibility, Supports, Anchors and Safe Embedment Distance”) along the pipeline that will remain in-service.

    EXCEPTIONS: The following exceptions do not require an evaluation for unknown mechanical couplings. If an evaluation for unknown mechanical couplings is not included within the Tie-in Plan due to one or more of the following exceptions, the exception(s) shall be documented in the Tie-in Plan.

    a. Tie-ins that are made with spherical tees or shortstopp tees, where the pipeline is fully replaced and in-service prior to separation, and changes in direction are backfilled or blocked to prevent movement.
    b. Direct tie-ins with full-sized steel bypass (see example in Exhibit D).
    c. Following a thorough investigation of Company records, the Engineering Leader, in consultation with Construction and local Field Operations, provides confirmation that no mechanical couplings exist on the pipeline.

    Refer to Section 5.2.d. for methods of evaluation for unknown mechanical couplings.
14. Check for leak-through of line stopping devices.
15. Leak tests for tap fittings, tie-in piping, and temporary bypasses (refer to

applicable GS 1500.010 "Pressure Testing" for additional guidance).

16. Purge points and vent locations for both abandoned lines and lines being placed in service and temporary bypasses (refer to GS 1690.010 “Purging”).
17. Communication between critical points during the operation (e.g., monitoring pressures).
18. Notification of customers who will have service temporarily interrupted (if applicable).
19. Notification of local Field Operations Leaders/Supervisors, Measurement and Regulation Technicians, Construction Front Line Leaders/Supervisors, as appropriate, if sections of pipeline will be temporarily taken out of service.
20. Notification of Gas Control. Engineering shall review each planned tie-in to determine if it could impact Gas Control operations (e.g., SCADA monitored points, ERX) resulting in a high or low alarm as well as to determine if Gas Control could assist in management of the tie-in process. If it is determined that Gas Control can assist in management of a tie-in process, Gas Control is to be notified, and the Engineer shall indicate on the Tie-in Plan that notification of Gas Control is required and list the points monitored by Gas Control that could be impacted.
21. Odorant level testing if determined necessary by Engineering.

4.2 Plan Accountability

Engineering shall prepare or provide final review of the Tie-in Plan. Request input from Construction or Operations personnel for Tie-in Plans, as needed.

When Tie-in Plans involve the installation of concrete anchor(s) on a metallic pipeline (resulting from the evaluation for unknown mechanical couplings), the Tie-in Plan, prepared by Engineering, shall also be approved by <u>all</u> of the following, except as noted.

a. Engineering Leader.
b. Construction (or Project Management) Leader.
c. Corrosion Leader.

NOTE: If consensus cannot be reached between Engineering, Construction (or Project Management), and Corrosion leadership for Tie-in Plans involving the installation of concrete anchor(s) on a metallic pipeline, the Engineering Manager shall determine the appropriate method to use to prevent potential pullout of unknown mechanical couplings and approve the Tie-in Plan.

5. PRE-CONSTRUCTION

5.1 Tie-in Plan Briefings

5.1.1 Advance Briefing

The Tie-in Plan advance briefing is to provide project leadership with a clear understanding of the planned tie-in(s). The Tie-in Plan advance briefing will typically be completed during the Pre-Construction Review or Constructability Review (refer to GS 2810.050 "Stakeholder Review of Capital Projects") and shall include all of the following personnel, as applicable.

a. The Engineer responsible for the Tie-in Plan. The Engineer's responsibility includes coordination of the advance briefing. This can be accomplished through a group meeting, one on one sessions or otherwise communicated as appropriate as long as understanding of the Tie-in Plan is accomplished and confirmation is documented.

b. M&R Leader (or designee).

c. Local OCM or designee as operator of the overall system.

d. Construction or Field Operations Leader (or designee) responsible for the project.

e. Engineering Leader.

f. Person in Charge of tie-in execution (e.g., crew leader, Construction Coordinator/Inspector).

g. Manager Transmission Integrity (or designee), if the Tie-in Plan involves a Company-owned transmission line.

Clarification for 5.1.1 e.

An Engineering Leader may assign a designee.

5.1.2 Execution Briefing

The Tie-in Plan execution briefing shall be conducted for each individual tie-in within a job order on the same day of the tie-in and shall include the following personnel. If the tie-in takes multiple days to complete, the Execution Briefing is to be repeated each day. It is also to be repeated when there is a change in personnel involved with the tie-in.

1. Person in Charge. The Person in Charge of the tie-in execution (e.g., crew leader, Construction Coordinator / Inspector). Their responsibility includes conducting the Tie-in Plan execution briefing to assure understanding of the plan and to make assignments for the required tasks of the tie-in execution (e.g., monitoring pressure at various locations during tie-in operations, regulator station monitoring or adjustments, tapping, stopping, bypassing).

2. Personnel performing tasks. Personnel performing the tasks involved with the tie-in execution.

3. Engineer. Engineer responsible for the Tie-in Plan as needed and requested.

The Execution Briefing shall cover the following.

a. Review of the Tie-in Plan.

b. Designation of personnel responsible for various aspects of the operation (e.g., make assignments for monitoring pressure at various locations during tie-in operations).

c. Review of the expected system status and configuration based on Company records and the Tie-in Plan to make sure Company facility records and the Tie-in Plan are consistent with what is visually observed in the tie-in excavation. Any discrepancies in Company facility records and the Tie-in Plan shall be addressed by reconciling Company facility records to the actual conditions found (i.e., submit map revision in accordance with GS 2610.040 “Map Revisions”) and by the Engineer evaluating and adjusting the Tie-in Plan (also see “i” below).

d. Review system MAOPs and acceptable pressures expected to be encountered at system monitoring locations.

e. Verification that on-site communications equipment is functioning properly.

f. Verification that tapping equipment is rated equal to or greater than the operating pressure.

g. Requirements of work zone and personal protective equipment (PPE) safety.

h. Reminder of Stop Work Authority. Every employee has the responsibility and authority to Stop Work immediately if a situation arises due to an unsafe action, condition, behavior or non-action that may potentially lead to an incident. Work suspended due to a Stop Work action shall not resume until all safety concerns are addressed.

i. If modifications to the Tie-in Plan are required after review at the job site, the changes shall be approved by all of the following.

   1. Engineer.

   2. M&R Leader (or designee).

   3. Construction or Field Operations Leader (or designee) responsible for the project.

Any changes or adjustments to the Tie-in Plan shall be documented, including revision approvals, and another execution briefing shall be held if the changes were made after the original execution briefing.

5.2 Other Pre-Construction Activities

The following steps shall be completed in the field prior to tie-in/tapping operations.

a. Set up work area protection (e.g., traffic control, fire extinguisher).

b. If indicated by the Tie-in Plan, notify Gas Control of the work to be performed. This notification shall include the following.

   1. A point of contact for the crew performing the tie-in activity.
   2. A list of the points monitored by Gas Control that could be impacted by the work.
   3. Proposed start and end times of the tie-in activity.

c. For impacted LP stations (as identified on the Tie-in Plan), the location of the control lines and control line taps shall be verified and added to or updated on the LP station isometric drawing as necessary.

d. If the tie-in excavation is planned to occur within the footprint of a POD or district plant regulator station or within 25 feet of a station building or fence, available isometric drawings and/or as-built station drawings shall be reviewed for locations of buried regulator control, electrical/communication, remote monitoring (e.g., ERX), and/or odorant lines. Known buried regulator control, electrical/communication, remote monitoring (e.g., ERX), and/or odorant lines shall be located prior to excavation.

e. Expose pipe at tie-in location(s). Positively verify the expected system status and configuration by reviewing maps and other records (e.g., work order, service line records) to ensure that the exposed pipe is the one to be tapped by confirming the diameter, pressure, content, material, coating, joint connections, manufacturer's markings, color, pipe temperature, etc. A recommended best practice is to expose tie-ins early on in the project, so that differences between the plan and what actually exists in the field can be addressed in a timely manner. Discrepancies shall be investigated and resolved, prior to tapping, and a contingency plan shall be developed to identify applicable shut-off valve(s), which shall be located and checked for accessibility and operation before tapping activities begin. If modifications to the Tie-in Plan are required, the changes shall be approved, documented, and communicated in accordance with Section 5.1.2.i. above.

   NOTE: If pressure verification indicates a pressure that is above the MAOP or outside of the **normal operating pressure** ranges as defined in GS 1012.010 "Definitions," promptly notify local System Operations leadership and Gas Control.

f. Inspect pipe condition to determine suitability for tapping.

1. Inspect pipeline for external corrosion. Refer to GS 1410.010 “Metallic Pipeline Exposures” for additional guidance.
2. Verify wall thickness (if appropriate).
3. Verify proper tap/seam/joint relationships. The tap should not intersect a longitudinal pipe seam or a circumferential weld of the pipeline. Refer to current Company welding procedures for additional guidance.
4. Check for evidence that would indicate the existence of a casing (e.g., variance in diameter or material, presence of vents).

g. If there is a possibility that non-restraint type mechanical couplings exist in the pipeline, the following steps should be considered to help prevent coupling pullout.

1. Check the Tie-in Plan and/or contact Engineering to consider taking the pipeline out of service or reducing the operating pressure before attempting to uncover the pipeline.
2. Install concrete support under the tie-in location to avoid additional stress on the existing pipeline. Provide protection for the pipeline from damage by the concrete by installing extra coating and tape wrap, rock shield, or an equivalent protective isolating material.
3. Install support (e.g., sandbags, side booms) on isolated sections of mechanically joined pipeline to avoid additional stress.
4. For tie-ins on a metallic pipeline operating above 10 psig, evaluate the pipeline to determine the existence of mechanical couplings for a distance equal to or greater than the safe embedment distance from the edge of the tie-in excavation along the pipeline that will remain in-service, if practicable.

   NOTE: If the evaluation along the safe embedment distance cannot be completed or is inconclusive, consult with Engineering.

   Methods of evaluation for unknown mechanical couplings include the following options.

   i. Use an approved camera system for live insertion through an in-service pipeline. The use of a camera to inspect for mechanical couplings is preferred since it minimizes disturbance to the pipeline. If the pipeline operating pressure is higher than the maximum working pressure of the camera system, consider reducing the pipeline operating pressure to allow for the use of a camera to inspect for mechanical couplings. If reducing the pipeline operating pressure is not practicable, refer to options

identified in bullets “ii” and “iii” below.

The inspection distance shall be equal to or greater than the safe embedment distance from the edge of the tie-in excavation along the pipeline that will remain in-service.

ii. Adjust the stopple (i.e., pressure control) equipment away from the tie-in/separation location to allow the use of an approved camera system through a pipeline that has been shut down and purged of gas.

Adjust the placement of the stopple fitting and equipment at a distance equal to or greater than the safe embedment distance from the edge of the tie-in excavation. Insert a camera system through the pipeline that has been shut down and purged in accordance with GS 1690.010 "Purging." The use of an air mover in accordance with GS 1770.020 “Use of Air Movers at Tie-Ins” may be required if complete shutdown cannot be maintained while performing the camera inspection.

iii. Strip the topsoil from the top of the pipeline from the edge of the tie-in excavation along the pipeline that will remain in-service for a distance equal to or greater than the safe embedment distance. If removing the topsoil from the top of the pipeline is the only valid option, consider using vacuum excavation at an angle to minimize topsoil removal. Only uncover one joint at a time. Consider adding an anchor prior to stripping topsoil.

iv. If the use of a camera or stripping the topsoil from the top of the pipeline is not practicable, anchoring and/or blocking (or equivalent restraint) shall be planned for installation prior to tie-in operations. Refer to GS 1320.010 “Mechanical Coupling Connections.”

5. Take further actions based on results of evaluation for unknown mechanical couplings.

If no indication of couplings are found, the project may resume without further investigation.

If mechanical coupling(s) are found or if the evaluation is inconclusive, take actions to prevent potential pullout of unknown mechanical couplings. One or more of the following actions may be appropriate.

i. Relocate the proposed tie-in upstream of found coupling(s) to remove the coupling(s) (preferred action).

NOTE: Evaluation of the pipeline from the edge of the

new tie-in excavation for a distance equal to or greater than the safe embedment distance is required if not previously evaluated.

ii. Harness (preferred) or strap known or found coupling(s). Only uncover one joint at a time, provide restraint (e.g., harness), then backfill.

iii. Anchor.

iv. Block to prevent pipeline movement at exposed changes in direction or dead ends.

v. Take the pipeline out of service.

vi. Reduce the operating pressure during construction and/or tie-in operations to reduce the safe embedment distance or to eliminate coupling(s) found from within the safe embedment distance.

vii. Submit a map revision according to GS 2610.040 “Map Revision” to record the location of the found coupling(s). See Section 8.2 below.

Refer to GS 1320.010 “Mechanical Coupling Connections” for additional guidance.

6. DURING CONSTRUCTION

Qualified Company personnel shall be on site and in charge of the tie-in execution.

Assignments, as outlined in Section 5.1.2, shall be executed as planned and discussed in the Tie-in Plan execution briefing.

6.1 Pressure Monitoring

Whenever the Company or its contractor performs live gas main-to-main connections (i.e., tie-in connections, branch connections, bypasses), properly calibrated pressure gauges shall be installed in appropriate locations and utilized prior to and during tie-in operations, regardless of the system operating pressure, in order to reduce the possibility of over-pressurization of gas mains.

Regulating stations identified in the Tie-in Plan shall be monitored throughout the tie-in process by qualified personnel that can take corrective action at the station in the event an Abnormal Operating Condition (AOC) occurs, until the tie-in gauges are removed to ensure proper operation. Engineering will provide expected pressure ranges. Actual pressure information will be recorded as identified in the Tie-in Plan: Execution Steps.

The most crucial part of the tie-in/bypass operation is the initial stopping or rerouting of

the gas supply. To ensure that pressure is maintained, monitoring shall be conducted during the installation and operation of the stopping and/or bypassing equipment.

In the case of looped systems, gauges shall be monitored to ensure that a sufficient volume of gas is flowing through the looped system and that the flow of gas is not watered off or blocked off.

Special consideration should be given to monitoring pressures at industrial or commercial customers affected by the tie-in (e.g., flow restriction due to bypass or change in flow direction) to avoid operating issues or an unplanned service interruption.

In addition, special consideration shall be given to monitoring pressures at regulator stations where the tie-in significantly affects the normal flow through the station. If a tie-in involves shutting down a section of pipeline immediately downstream of a regulator station supply, leak-through of the bypass valve or regulator orifice may occur which could result in a buildup of downstream pressure and a possible overpressure situation.

When the existing mains are stopped/plugged, a variance of pressure may occur on either side of the separation. If an unexpected sharp pressure drop is observed, it may be necessary to restore the flow of gas by either increasing the pressure at the regulator (if possible) or by removing the stopping/plugging device. At no time shall a stopping device be removed if there is any indication that an outage has occurred, until corrective action has been taken, and a new Tie-in Plan is prepared.

Tie-in gauges shall be left in place and monitored following completion of the tie-in for a minimum of 30 minutes to ensure the piping system is operating as expected.

6.2 Bypassing and Stopping Techniques

Engineering shall provide assistance for appropriate bypass sizing.

Clarification for 6.2.

It is still acceptable to plan to temporarily interrupt service to customers to perform a tie-in (e.g., take a pipeline temporarily out of service to pressure test).

Whenever the flow of gas is stopped, the isolated section of main shall be checked for leak-through before cutting into or parting the line. When positive shut-off of gas by a valve or line stopper is not accomplished, "live-gas" precautions shall be strictly followed to avoid exposure to combustible gas-air mixtures. Refer to GS 1770.010 “Prevention of Accidental Ignition” for additional guidance. An air mover or purger may be used to prevent the introduction of gas into the work area at open ends. Refer to GS 1770.020 “Use of Air Movers at Tie-Ins” and GS 1690.010 “Purging” for additional guidance.

Before a bypass is placed in operation, the bypass piping shall be leak tested. Refer to applicable GS 1500.010 “Pressure Testing” for additional guidance.

Regulation contained in temporary bypasses, shall be designed by Engineering.

When designing an in-line tie-in along a one-way feed, the installation of a bypass is necessary to maintain gas service to downstream customers, unless an alternate gas supply is arranged (e.g. portable gas supply, alternate fuel).

6.3 Joining Considerations

The preferred method for tie-in joints shall be welded or fused. Some exceptions include the following.

a. Following manufacturer's recommendations if a weld could result in weld heat or splatter deteriorating a bag, stopper, or valve.

b. A combustible atmosphere in the work area cannot be avoided.

c. Other structures, unusual depth, or restrictions on excavation size may prevent adequate space for welding or fusion.

d. The tie-in is on cast iron pipe.

e. An installation is temporary (e.g., regulators for bypassing or uprating).

f. It is not possible to make an acceptable plastic fusion due to propane permeation of plastic pipe.

6.4 Additional Tie-In Considerations

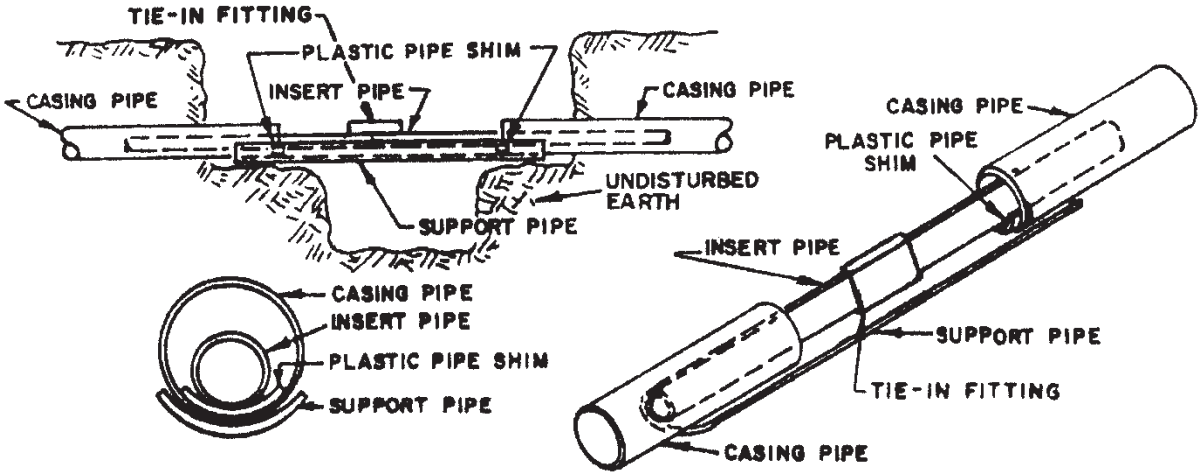
The following general tie-in considerations shall be used as applicable.

a. Certain branch connections may require reinforcement, depending on size and pressure. Refer to GS 2420.010 "Reinforcement Requirements for Branch Connections" for additional guidance.

b. The height of all tie-in fittings must be considered prior to installation to ensure adequate cover. Final cover from top-of-ground to top-of-fittings involved with the tie-in shall be installed according to GS 3010.090 "Cover."

c. Minimize the effects of contraction/expansion of plastic pipe on tie-ins. Whenever possible, the final tie-in should be performed after the majority of the pipeline is backfilled and allowed to remain overnight to let the pipe cool down to near normal ground temperatures.

d. In case piped situations, when there is any possibility of excessive ground settlement, the carrier pipe shall be supported by installing a split piece of rigid pipe under the tie-in connection, spanning the areas of possible settlement as illustrated below.



e. All tie-in fittings and tapping equipment shall be adequately supported. Larger diameter pipe may require special support (e.g., concrete pad).

f. Use backfill material that will compact well, (e.g., sand, gravel mixture, screenings). Heavy or wet clays and frozen earth are not suitable for bedding pipe at tie-ins.

g. Weld fittings and steel pipe shall be used to make elevation changes that ensure that plastic to steel transition connections are made on firm ground. Transition fittings shall not be welded directly to a three-way tee (shortstopp or spherical tee). Additional information regarding plastic to steel transition connections is found in GS 1680.020 "Plastic to Steel Transition Connections."

h. Stick plastic pipe may be fused to coiled plastic pipe at tie-in points to facilitate the tie-ins.

7. POST-CONSTRUCTION

The following steps shall be followed after tie-in/tapping operations are completed.

a. Inspect for internal corrosion if a piece of the pipe is removed for the tie-in. Refer to GS 1440.010 "Internal Corrosion" for additional guidance. Report findings according to GS 1410.010 "Metallic Pipe Exposures."

b. Apply corrosion control materials according to GS 1420.010 "Corrosion Control Design-General" and/or Form GS 1420.010-1 "Transmittal of Corrosion Control Requirements."

c. Restore gas service to affected customers.

d. Complete each tie-in by removing tapping equipment and installing completion plug, removing squeeze-off jacks or removing bags and installing leak repair

clamps, or installing and/or removing any other appropriate materials, tools, or equipment.

e. Tie-in gauges shall be left in place and monitored following completion of the tie-in for a minimum of 30 minutes to ensure the piping system is operating as expected.

f. Engineering shall determine whether post construction odorant level testing is necessary, which should be part of the Tie-in Plan. If odorant level testing is required, refer to the applicable GS 1670.020 “Odor Level Monitoring” and GS 1670.040 “Pipeline Conditioning New Pipelines.”

8. RECORDS

8.1 Written Tie-In Plans

Approved and executed Tie-in Plans, including completed documentation of each checklist and step, shall be filed with the work order completion report and retained for at least the life of the pipeline plus 10 years.

8.2 Map Revisions

When unmapped mechanical coupling(s) are found and left in-service on a metallic pipeline, a map revision shall be submitted in accordance with GS 2610.040 “Map Revision” to record the location of the coupling(s). If a mechanical coupling is exposed, document the existing restraint found or the type of restraint installed (e.g., weld straps, harness) at the mechanical coupling(s).

EXHIBIT A
(1 of 18)

Example Tie-in Plan Template

NiSource

Project ID:	Engineer:	Date
Project Name:	J.O. #:	Version

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Example Tie-in Plan Template

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Project ID:	Engineer:	Date
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<<Project Name>>

Tie-In Plan: DESIGN

(To be completed prior to project approval)

System Number(s) involved		Tie-in Site Identifiers	
MAOP(s)		Expected Pressure Range(s)	
Feed into tie-in site	Choose an item	Bypass(es) Needed	Choose an item
M&R Needed during Tie-in?	Choose an item		

Tie-In Plan: Cover Sheet

No tie-in is to be made without a Written Tie-in Plan

1. The purpose of this plan is to address the requirements of tapping (GS 1680.010), pressure testing (GS 1500.010), purging (GS 1690.010), and abandonment (GS 1740.010) when performing tie-in planning and execution.
2. All persons performing any tie-in/bypass/abandonment operation ("tie-in") shall review the entire Tie-in Plan.
3. When any clarification or alteration is required, contact Engineering as far in advance of the tie-in as possible.
4. Engineering must re-review the Tie-in Plan prior to the start of the process when the temperature is at or below XX°F during any portion of the tie-in.
5. All persons performing tie-in operations shall have valid Operator Qualifications (OQ) for the actions they will perform. OQ shall be valid through the entire tie-in process and documented in the Company's system of record for the Project.
6. The person overseeing and controlling execution of the tie-in process is referred to as the "Person in Charge". The Person in Charge is responsible for verifying each step is complete, documenting completion on the Tie-in Plan and authorizing movement to the next step.
7. Throughout all Tie-in planning, preparation and execution, all persons shall follow proper procedures, Gas Standards, and safety precautions. These include but are not limited to the following Contingnecy Plan, Tie-in Plan, and checklists attached below:
   - Tie-in Planning – Engineering
   - Tie-in Preparation – Construction / Field Operations
   - Tie-in Execution Briefing – Construction / Field Operations

Contingency (Emergency Shut-down) Plan for this tie-in:

The project Contingency plan shall be used in the event of an emergency or hazardous situation during execution of the Tie-in plan. This is a supplement to the Emergency Manual and Gas Standard series GS 1150.

Contact the Field Operations Leader {Name of Field Operations Leader} at phone number {Field Operations Leader's Phone number} immediately in the event of an emergency.

A decision to shut down mains shall be based on protection of life and property, followed by maintaining gas service to customers.

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Example Tie-in Plan Template

NiSource

Project ID:	Engineer:	Date
Project Name:	J.O. #:	Version

Emergency Isolation Valve(s) and Alternate Points of isolation have been identified, documented on the Project's Emergency Isolation Valve Form, and included with this document.

Checklist: Tie-in Planning – Engineering

☑	N/A	Tie-in Planning – Engineering (Check the appropriate box for each item)
☐	☐	a. Identify regulator station(s) requiring locating buried "control lines" ("control lines" also refer to regulator control, electrical/communication, remote monitoring (e.g., ERX), and/or odorant lines) prior to tie-in (GS 1100.040).
☐	☐	b. Identify regulator station(s) potentially requiring monitoring during tie-in. i. Regulator stations within 25 feet of tie-in excavation work, unless all control lines are confirmed to be completely above ground (ON 15-05). ii. Trace all lines planned for abandonment to confirm appropriate action taken for any existing control lines or service lines. iii. Upstream and/or downstream stations impacted by tie-in (GS 1680.010). iv. Perform station flow analysis based on planned system modification to assure proper capacity with focus on post-project under or oversizing. v. Regulator stations or commercial/industrial customers upstream that may be impacted by purging operations (GS 1690.010). vi. Station isometric drawings current and included in the project drawings. vii. List of stations identified:

Station ID	Station Impacted (Y/N)	Control Lines Impacted (Y/N)	Monitoring Required (Y/N)	Comments

Sign-offs: _____ Engineer _____ System Operations

☐	☐	c. Determine if tie-in(s) affect systems monitored by Gas Control, and add notification of Gas Control to the applicable tie-in scenario(s) (GS 1680.010, GS 1740.010).
☐		d. Identify MAOP of pipeline and expected range of pressures during tie-in operations for communication to field personnel and Gas Control.
☐	☐	e. Determine necessity of, size, length and temperature limitations for a bypass (GS 1680.010).
☐	☐	f. Determine the need for reinforcement for branch connections (GS 2420.010).
☐	☐	g. Determine if pressure changes are expected from moving customers from one system to another.
☐	☐	h. Determine if scope of job requires odorant checks and pipeline conditioning (GS 1670.040).
☐	☐	i. Identify downstream M&R and customer stations supplied by the project's pipeline section. Ensure proper equipment is installed to prevent pipeline debris from entering regulator equipment (e.g.: strainers). Plan for equipment installations and monitoring at downstream stations as needed.
☐		j. Create Emergency Shutdown plan. Identify valve(s) to be operated in case of emergency (GS 1680.010).
☐		k. Project drawings updated to show tie-in locations and designs, including required materials (permanent and temporary bypass) on the bill of materials.

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Example Tie-in Plan Template

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Project ID:	Engineer:	Date
Project Name:	J.O. #:	Version

Project's Emergency Isolation Valves & Alternate Points

Ops Center: _____

<<SYSTEM NUMBER>> (<< HP / MP / IP / LP >>) SEGMENT ISOLATION VALVES

Total Quantity of Isolation Valves: _____ Additional Valves: _____

Verify & record that each valve is Operational within 30 days of tie-in, and verify Accessibility immediately before tie-in.

Ref #	Cross St / House # Or Alternate Point Description	Size	Type (ST/PL)	Year Installed	Facility ID / AKA	Critical? (Y/N)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Closing these valves will isolate the following area(s): <<List Streets and Critical Customers>>

DISCLAIMER: THE ISOLATION OF THIS AREA DOES NOT GUARANTEE CONTINUOUS FLOW DOWNSTREAM OF THE ISOLATED AREA

<<Copy and complete this page for each system that has work done on it by this project.
This paragraph should be deleted>>

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EXHIBIT A
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Example Tie-in Plan Template

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Project ID:	Engineer:	Date
Project Name:	J.O. #:	Version

Pipe Internal Surface Area Calculation for Odorant Monitoring

Engineer to put a screenshot or other legible output copy of the project's "Pipe Surface Area Calculator" on this page for odorant check requirements (this text should be deleted)

EXHIBIT A
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Example Tie-in Plan Template

NiSource

Project ID:	Engineer:	Date
Project Name:	J.O. #:	Version

Tie-In Plan: Execution Steps

(To be completed prior to the Tie-in Advance Briefing with modifications or additions as needed during construction)

Advance Briefing: This briefing shall be conducted by Engineering.

Tie-in and Contingency Plan Reviewed by:

Title (or designee)	Name	Signature (or describe alternate confirmation)	Date
Engineer			
M&R Leader			
Construction or Field Leader			
Engineering Leader			

Checklist: Tie-in Preparation – Construction / Field Operations

☑	N/A	Tie-in Planning – Construction / Field Operations (Check the appropriate box for each item)
☐		a. Review job order package for completeness, accuracy and any system restrictions that must be considered prior to construction that could alter Tie-In Plans and Procedures.
☐		b. Set up Work Area Protection (GS 4100.020, GS 1770.010). • Traffic plan • Confined space entry • Excavation safety (shoring and ladders) • Noise and particulate protection for hard surface removal • Fire extinguishers • Conformance with HSE 4100.010 Hazardous Atmosphere Consideration • Adequate number of road plates available
☐	☐	c. Locate control lines at regulator stations identified by Engineering. Verify that the Isometric Sketch at each engineering-identified station contains control line measurements; notify engineering if sketch is incomplete, incorrect, or older than one calendar year. Work with Engineering to update station documentation (and Infrastructure Records) accordingly.
☐		d. Locate valve(s) identified for Emergency Shutdown, and verify that valve(s) are accessible and operable prior to Tie-in.
☐	☐	e. Notify customers who will have service temporarily interrupted to review job expectations (if applicable).
☐		f. Visually expose and verify systems and configurations match the Tie-in plan. Investigate and address inconsistencies. Ensure adequate plans are established to plate or protect road openings for off-hours.
☐		g. Verify required equipment and materials are available.
☐		h. Verify pressure and contents of pipeline(s) (GS 1680.010).
☐		i. Inspect pipe condition to determine suitability for tapping (GS 1680.010).
☐	☐	j. Obtain safe embedment distance from Engineering and evaluate metallic pipelines for the existence of mechanical couplings and take steps to prevent coupling pullout (GS 1680.010).
☐		k. Pressure test all pipelines and bypasses that will contain gas prior to introduction of gas (GS 1500.010).

EXHIBIT A
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Example Tie-in Plan Template

NiSource

Project ID:	Engineer:	Date
Project Name:	J.O. #:	Version

☑	N/A	Tie-in Planning – Construction / Field Operations (Check the appropriate box for each item)
☐		l. Identify potential Abnormal Operating Conditions (AOCs) that could occur during tie-in and purging operations, including over- or under-pressurization. Discuss acceptable responses to identified AOCs with personnel assigned to monitor pressures.
☐		m. Conduct Tie-in Execution briefing whenever a new tie-in sequence is started (GS 1680.010). Discuss communication expectation at critical points during the Tie-in (e.g., monitoring pressures prior, during and after Tie-in).

Checklist: Pre-Construction Review – Construction / Field Operations

☑	Pre-Construction Review – Construction/Field Operations (Check the box once each item is completed)
☐	a. Review Tie-in Plan and Contingency Plan.
☐	b. Review the Operator Qualification(s). All persons performing Tie-in operations shall have valid Operator Qualifications (OQ) for the actions they will perform. OQ shall be valid through the entire Tie-in process and documented in the Company's system of record for the Project (e.g., WMSdocs, Maximo).
☐	c. Notify Gas Control that work is to start in conformance with Tie-In Procedures (if indicated as necessary). GS 1170.010 Gas Control Room Management Standard.
☐	d. Designate individuals responsible for various aspects of the operation (e.g., make assignments for monitoring pressure at various locations during tie-in operation.
☐	e. Discuss potential Abnormal Operating Conditions (AOCs) that could occur during tie-in and purging operations, including over- or under-pressurization. Discuss acceptable responses to identified AOCs with personnel assigned to monitor pressures. Reminder to communicate and resolve any AOCs prior to continuing further Tie-in operations.
☐	f. Reminder of Stop Work Authority.
☐	g. Verify that tapping equipment is rated equal to or greater than the operating pressure.
☐	h. Review expected system status and configuration, based on Company records and the Tie-in Plan • Verify tie-in designs are compatible with what is found in the tie-in excavation. • Confirm depths, sizes, materials, and pressures. Address inconsistencies before continuing. • Update Tie-In plans with field verified information. Thoroughly review tie-in plan details with all personnel involved to ensure understanding of the procedure steps and individual roles and responsibilities.
☐	i. Review system MAOPs and acceptable pressure ranges expected to be encountered at system monitoring locations.
☐	j. Verify that on-site communications equipment is functioning properly.
☐	k. Review requirements of work zone and personal protective equipment (PPE) safety.
☐	l. Perform tie-in in accordance with Tie-In Plan and applicable procedures. • Reminder that modifications to the Tie-in plan shall be approved by an Engineer, a Field Operations Leader/Supervisor, a Construction Front Line Leader/Supervisor, or a qualified designee. • Changes shall be documented, and list those parties involved in determining them. • Any changes or adjustments to the tie-in plan shall be communicated with the Engineer and the personnel performing the tasks and documented that the discussion of changes took place.

Crew Foreman

(Signature) (Printed Name) (Date)

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EXHIBIT A
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Example Tie-in Plan Template

MiSource

Project ID:	Engineer:	Date
Project Name:	J.O. #:	Version

Inspector or Supervisor

(Signature) (Printed Name) (Date)

EXHIBIT A
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Example Tie-in Plan Template

MiSource

Project ID:	Engineer:	Date
Project Name:	J.O. #:	Version

Main Installation Standard Operating Procedure

IN PROGRESS status for Use by Columubia Gas Construction/Operations Team

The following checklist is to be used by the Construction Team when working a main installation that is in the In Progress Status. The following tasks must be completed before moving the JO into the Completed Status.

This list is not intended to replace or circumvent all applicable Gas Standards or the instructions in the JO.

While this list is applicable to most main installations, the SOP is intended to address the unique operating characteristics, system configuration and potential improper operations that could occur on this specific project. Moreover, this SOP will ensure consistent performance of the tasks necessary to safely install main in compliance with federal, state regulations and company standards.

Tasks to be completed by the Construction Team for main installations before moving JO to Complete Status

Purpose: Provide direction on main installations to:

1. Identify prerequisite tasks required prior to performing field construction.
2. Identify and address system configuration and system impacts in order to mitigate potential improper system operations.
3. Identify and perform critical steps required to install new gas facilities.
4. Document completed project.

Procedure Roles and Responsibilities:

RESPONSIBILITY	PERSONNEL
Oversee Implementation of Procedure	Crew Leader/Construction Coordinator
Confirm Personnel Qualifications	Construction FLL/Construction Coordinator
Notifications (police, municipalities, Gas Control, etc)	Construction FLL
Coordination (police, municipalities, Gas Control, etc)	Construction FLL
Monitor System Pressures	Designated Crew Member
Operate Critical Valve(s)	Designated Crew Member
Monitor Excavation Safety	Crew Leader/Construction Coordinator
Document Project Completion	Crew Leader/Construction Coordinator
As-builts	Crew Leader/Construction Coordinator
Backfill and Restoration	Crew Leader/Construction Coordinator
Site Safety	Crew Leader
Locate and Mark	Dig Safe Technician

EXHIBIT A
(10 of 18)

Example Tie-in Plan Template

MiSource

Project ID:	Engineer:	Date
Project Name:	J.O. #:	Version

Project-Specific Tie-in / Purge / Abandonment Steps

#1 – Plastic Branch Saddle Side Tap
#2 – Plastic Double Squeeze Scenario 1
#3 – Plastic Double Squeeze Scenario 2
#4 – Plastic Full Flow Tee By Double Squeeze W/Two Bypasses
#5 – Plastic High Volume Tapping Tee (HVTT)
#6 – Plastic Single Squeeze Abandonment
#7 – Plastic Single Squeeze One-Way Feed ("Squeeze-and-Go")
#8 – Plastic Triple Squeeze
#9 – Steel Abandonment Using a Pressure Control Fitting
#10 – Steel Double Bag Stopping - Low Pressure Only
#11 – Steel Single Pressure Control Fitting
#12 – Steel Two Pressure Control Fittings

1. Person in charge and contractor / crew leader reviewed the Tie-in Plan and determined the number of crew members needed to perform the tie-in is: _____

Title	Name (printed)	Signature (verification the step is complete)	Date

2. Execution Briefing conducted by the Person in Charge on the day of the tie-in.

Person In Charge Title	Name (printed)	Signature (verification the step is complete)	Date

Crew Member Attendees	Crew Member Attendees

3. Notify Gas Control (Columbia 1-800-921-2165, NIPSCO 1-219-853-5612) of the work to be performed. This notification shall include:
   a. point of contact for the crew preforming the tie-in activity

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EXHIBIT A
(11 of 18)

Example Tie-in Plan Template

MiSource

Project ID:	Engineer:	Date
Project Name:	J.O. #:	Version

b. list of the points monitored by Gas Control that could be impacted by the work
c. proposed start and end times of the tie-in activity, and
d. the MAOP of pipeline and expected range of pressures during Tie-in operations.

Person In Charge Title	Name (printed)	Signature (verification the step is complete)	Date

4. Installed gauge, verified and monitored main line pressure at all points as indicated on site specific sketch.

Person In Charge Title	Name (printed)		Signature (verification the step is complete)		Date
Gauge	Expected Press. Range	Actual Pressure	Temperature	Time	Date
A					
B					
C					
D					

5. Mainline piping and pressure control fittings installed per site specific sketch. Provided support for weight of fitting and tapping equipment as necessary.

Person In Charge Title	Name (printed)	Signature (verification the step is complete)	Date

6. Pressure Test per **GS 1500.010**, and per Job Order design completed.

Person In Charge Title	Name (printed)	Signature (verification the step is complete)	Date

7. Qualified M&R Personnel monitored Regulator Station(s). Gauges were actively watched and personnel were ready to take immediate action (i.e., having a wrench on the applicable outlet valve(s) prior to the start of the tie-in). Monitoring to continue until the tie-in gauges were removed after the tie-ins are complete.

EXHIBIT A
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Example Tie-in Plan Template

MiSource

Project ID:	Engineer:	Date
Project Name:	J.O. #:	Version

Person In Charge Title	Name (printed)		Signature (verification the step is complete)		Date
Station Premise / Name	Expected Press. Range	Actual Pressure	Temperature	Time	Date

8. First pressure control fitting drilled out at point _____.

Person In Charge Title	Name (printed)		Signature (verification the step is complete)		Date
Gauge	Expected Press. Range	Actual Pressure	Temperature	Time	Date
A					
B					
C					
D					
Station Premise / Name	Expected Press. Range	Actual Pressure	Temperature	Time	Date

9. Purged at point _____, as indicated on site specific sketch and filled with gas. Air is purged out of new main and 95% gas is achieved with CGI unit.

Person In Charge Title	Name (printed)		Signature (verification the step is complete)		Date
Gauge	Expected Press. Range	Actual Pressure	Temperature	Time	Date
A					
B					
C					
D					

EXHIBIT A
(13 of 18)

Example Tie-in Plan Template

NiSource

Project ID:	Engineer:	Date
Project Name:	J.O. #:	Version

Person In Charge Title	Name (printed)		Signature (verification the step is complete)		Date
Station Premise / Name	Expected Press. Range	Actual Pressure	Temperature	Time	Date

10. Second pressure control fitting drilled out at point _____.

Person In Charge Title	Name (printed)		Signature (verification the step is complete)		Date
Gauge	Expected Press. Range	Actual Pressure	Temperature	Time	Date
A					
B					
C					
D					
Station Premise / Name	Expected Press. Range	Actual Pressure	Temperature	Time	Date

11. If applicable, change over or add regulator control / sensing lines and services to new main. Do not continue until all regulator control / sensing lines and services are changed over.

Person In Charge Title	Name (printed)	Signature (verification the step is complete)	Date

Abandonment:

12. Notified appropriate Company personnel that pipeline will be taken out of service.

Person In Charge Title	Name (printed)	Signature (verification the step is complete)	Date

EXHIBIT A
(14 of 18)

Example Tie-in Plan Template

NiSource

Project ID:	Engineer:	Date
Project Name:	J.O. #:	Version

13. Set stopping devices in pressure control fittings at points _____ and _____ to stop flow into pipe to be abandoned.

Person In Charge Title	Name (printed)		Signature (verification the step is complete)		Date
Gauge	Expected Press. Range	Actual Pressure	Temperature	Time	Date
A					
B					
C					
D					
Station Premise / Name	Expected Press. Range	Actual Pressure	Temperature	Time	Date

14. Properly depressurized gas from main to be abandoned via vent at point _____. Depressurize to zero (0) PSIG, continuing to monitor gauges.

Person In Charge Title	Name (printed)		Signature (verification the step is complete)		Date
Gauge	Expected Press. Range	Actual Pressure	Temperature	Time	Date
A					
B					
C					
D					
Station Premise / Name	Expected Press. Range	Actual Pressure	Temperature	Time	Date

15. Verified adequate shutdown (point _____) and system stabilization. (waited a minimum of 15 minutes).

EXHIBIT A
(15 of 18)

Example Tie-in Plan Template

NiSource

Project ID:	Engineer:	Date
Project Name:	J.O. #:	Version

Person In Charge Title	Name (printed)		Signature (verification the step is complete)		Date
Gauge	Expected Press. Range	Actual Pressure	Temperature	Time	Date
A					
B					
C					
D					
Station Premise / Name	Expected Press. Range	Actual Pressure	Temperature	Time	Date

16. Utilized an air mover at point _____ to create suction on pipe to be abandoned.

Person In Charge Title	Name (printed)		Signature (verification the step is complete)		Date
Gauge	Expected Press. Range	Actual Pressure	Temperature	Time	Date
A					
B					
C					
D					
Station Premise / Name	Expected Press. Range	Actual Pressure	Temperature	Time	Date

17. Properly purged gas from piping to be abandoned at point _____ until a sustained reading of less than 2% gas is achieved with CGI unit by opening or separating main at opposite ends of piping to be abandoned at points _____ and _____.

EXHIBIT A
(16 of 18)

Example Tie-in Plan Template

NiSource

Project ID:	Engineer:	Date
Project Name:	J.O. #:	Version

Person In Charge Title	Name (printed)		Signature (verification the step is complete)		Date
Gauge	Expected Press. Range	Actual Pressure	Temperature	Time	Date
A					
B					
C					
D					
Station Premise / Name	Expected Press. Range	Actual Pressure	Temperature	Time	Date

18. Properly cut and separated mains at points _____ and _____. If used, mechanical end caps are strapped or blocked as required (GS 1320.010).

Person In Charge Title	Name (printed)		Signature (verification the step is complete)		Date
Gauge	Expected Press. Range	Actual Pressure	Temperature	Time	Date
A					
B					
C					
D					
Station Premise / Name	Expected Press. Range	Actual Pressure	Temperature	Time	Date

19. All pipe ends are properly sealed for abandonment.

Person In Charge Title	Name (printed)	Signature (verification the step is complete)	Date

EXHIBIT A
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Example Tie-in Plan Template

NiSource

Project ID:	Engineer:	Date
Project Name:	J.O. #:	Version

20. Removed stopping devices at points _____ and _____ and removed vents.

Person In Charge Title	Name (printed)		Signature (verification the step is complete)		Date
Gauge	Expected Press. Range	Actual Pressure	Temperature	Time	Date
A					
B					
C					
D					
Station Premise / Name	Expected Press. Range	Actual Pressure	Temperature	Time	Date

21. Performed completion process for pressure control fittings at points _____ and _____.

Person In Charge Title	Name (printed)	Signature (verification the step is complete)	Date

22. Gauges left in place and monitored following the completion of the tie-in for a minimum of 30 minutes.

Person In Charge Title	Name (printed)		Signature (verification the step is complete)		Date
Gauge	Expected Press. Range	Actual Pressure	Temperature	Time	Date
A					
B					
C					
D					
Station Premise / Name	Expected Press. Range	Actual Pressure	Temperature	Time	Date

EXHIBIT A
(18 of 18)

Example Tie-in Plan Template

NiSource

Project ID:	Engineer:	Date
Project Name:	J.O. #:	Version

Person In Charge Title	Name (printed)		Signature (verification the step is complete)		Date

23. Remove all gauges at monitoring points.

Person In Charge Title	Name (printed)		Signature (verification the step is complete)		Date
Gauge	Expected Press. Range	Actual Pressure	Temperature	Time	Date
A					
B					
C					
D					
Station Premise / Name	Expected Press. Range	Actual Pressure	Temperature	Time	Date

24. Soap tested all required fitting, test point, monitoring, and purge locations.
25. Test for PCBs, inspect for internal corrosion, and secure materials when required.
26. If applicable, monitor, address, and document Odorant levels.
27. Gas Control (Columbia 1-800-921-2165, NIPSCO 1-219-853-5612) is notified the work is completed.

Person In Charge Title	Name (printed)	Signature (verification the step is complete)	Date

28. Tie-in process complete.

Person In Charge Title	Name (printed)	Signature (verification the step is complete)	Date

#13 – M&R Monitor Replacement & Bypass Removal

#14 – Perform Uprate (0001: XX-XXXXXXX-XX)

EXHIBIT B

Example Tie-in Sketch Template

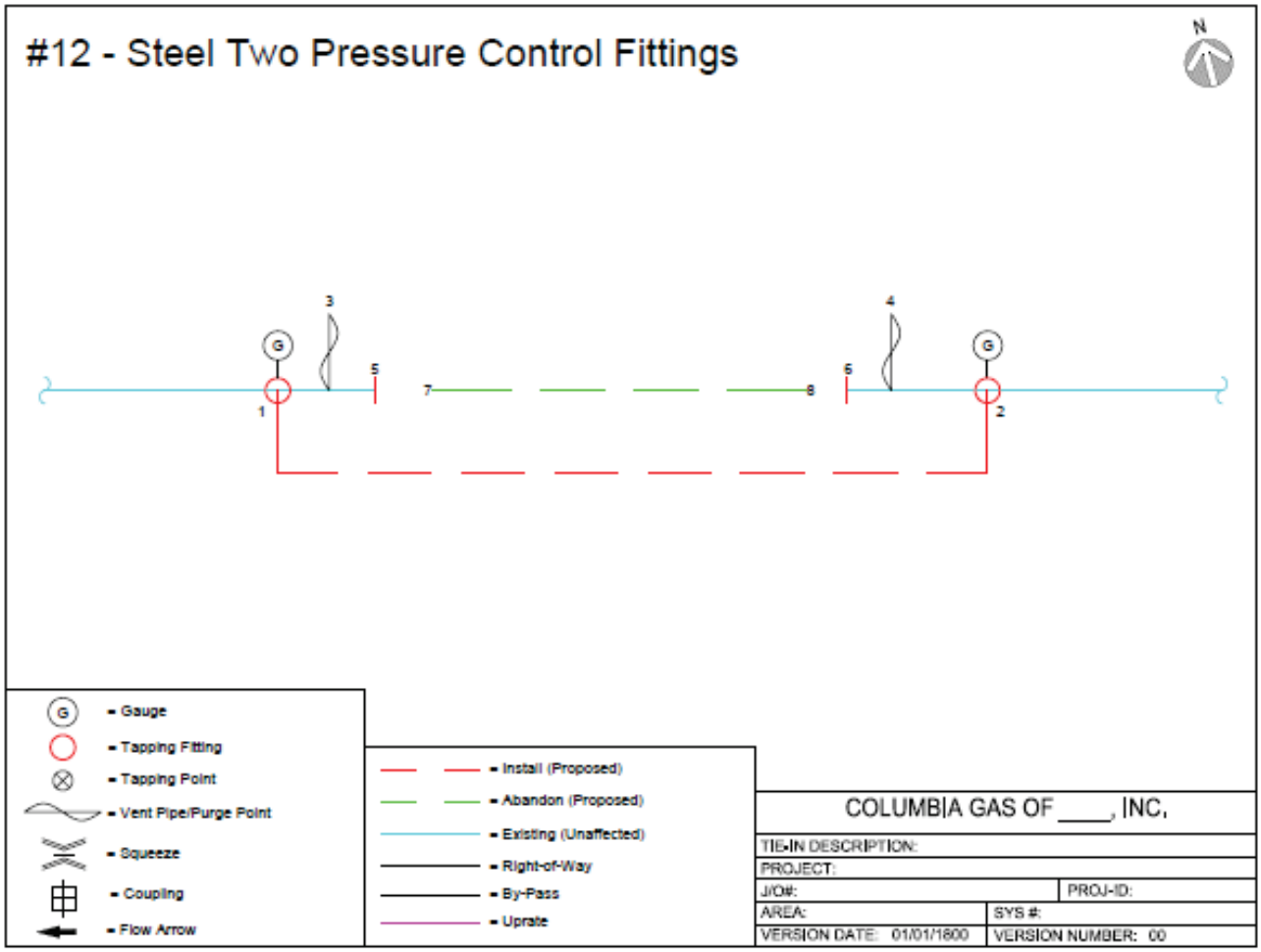
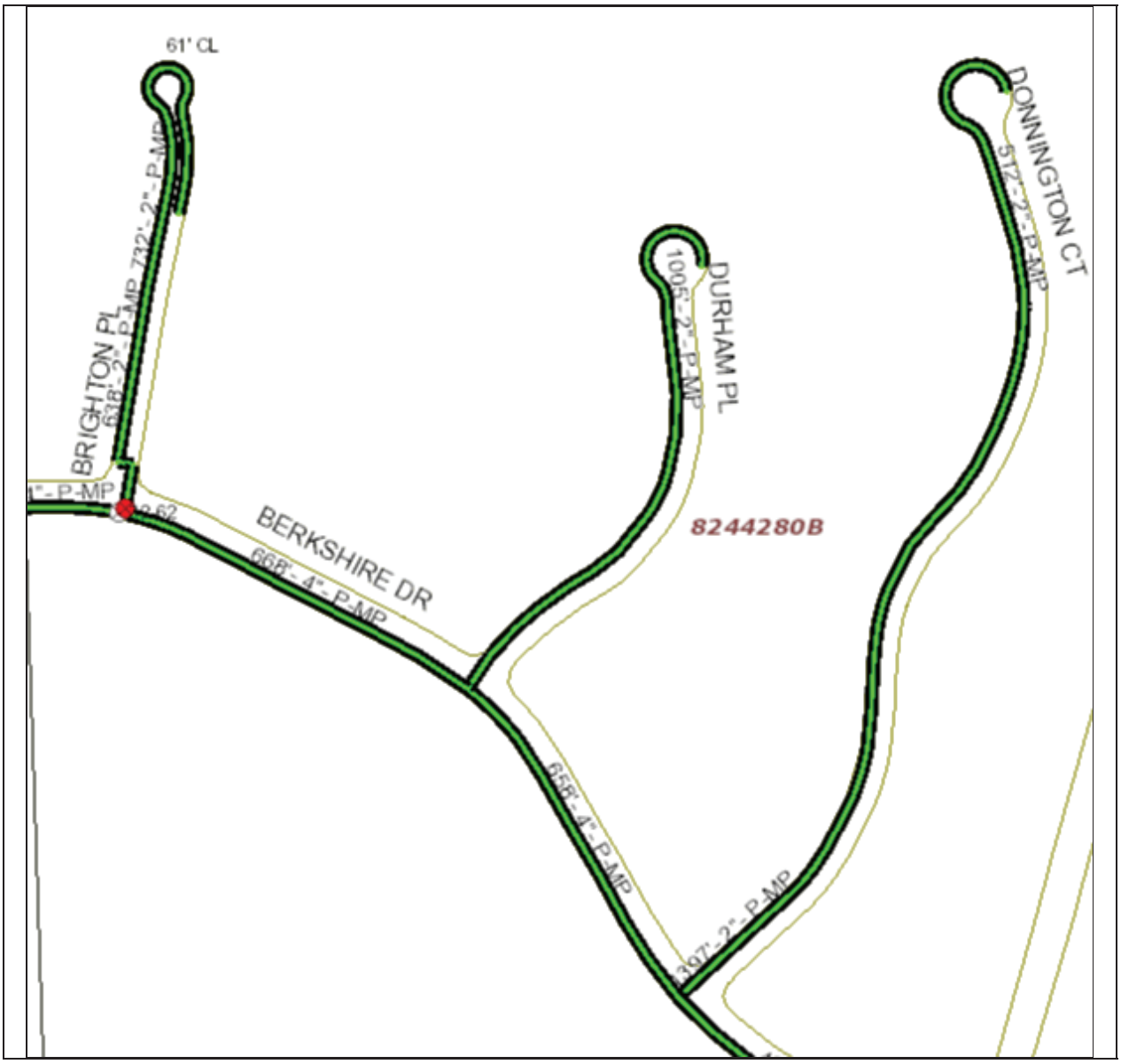


EXHIBIT C
(1 of 2)

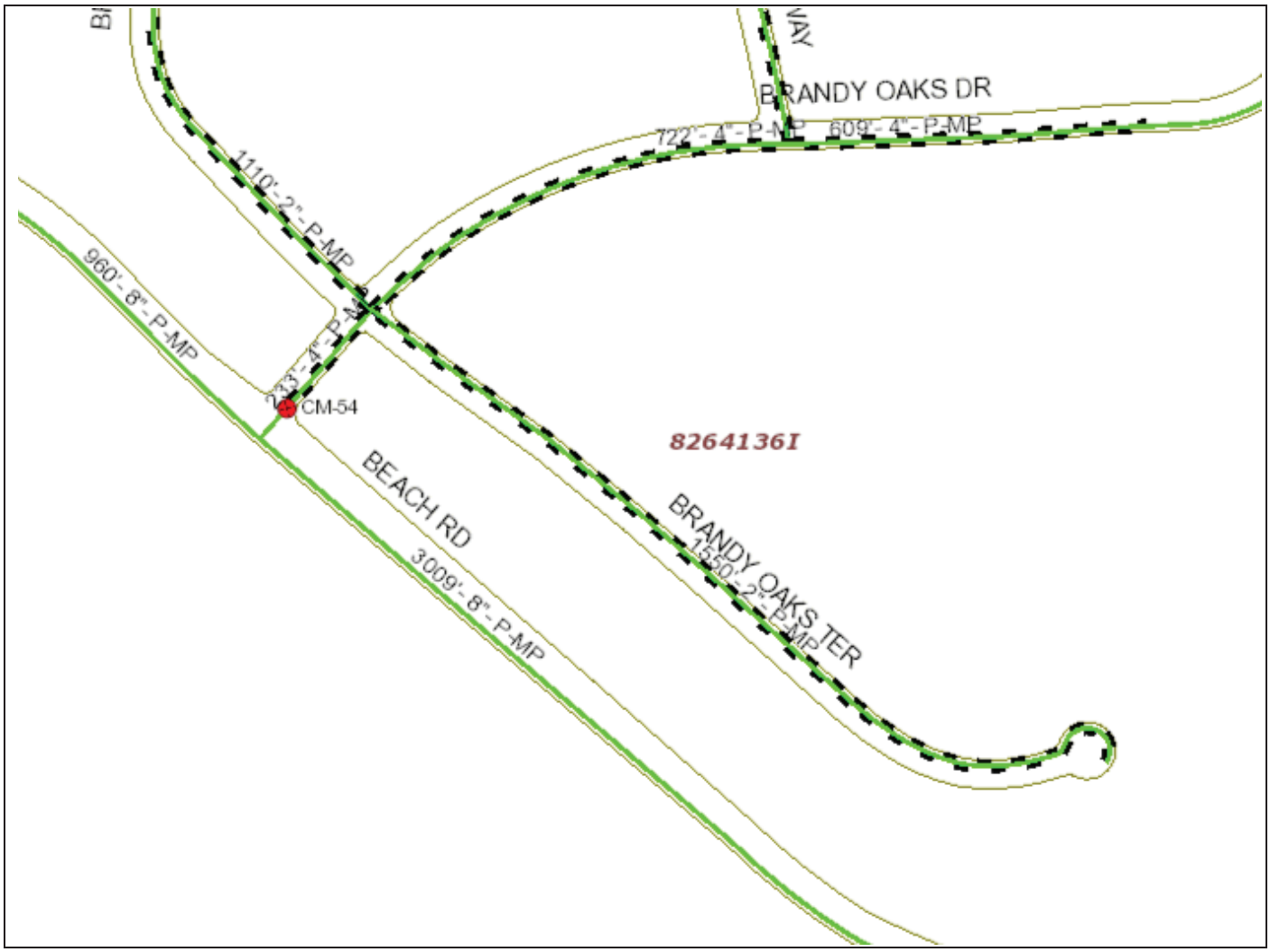
GIS Mapping Symbol for Propane Piping Systems



Propane Piping System: Normal Pressure Color Code Outlined in Solid Black

EXHIBIT C
(2 of 2)

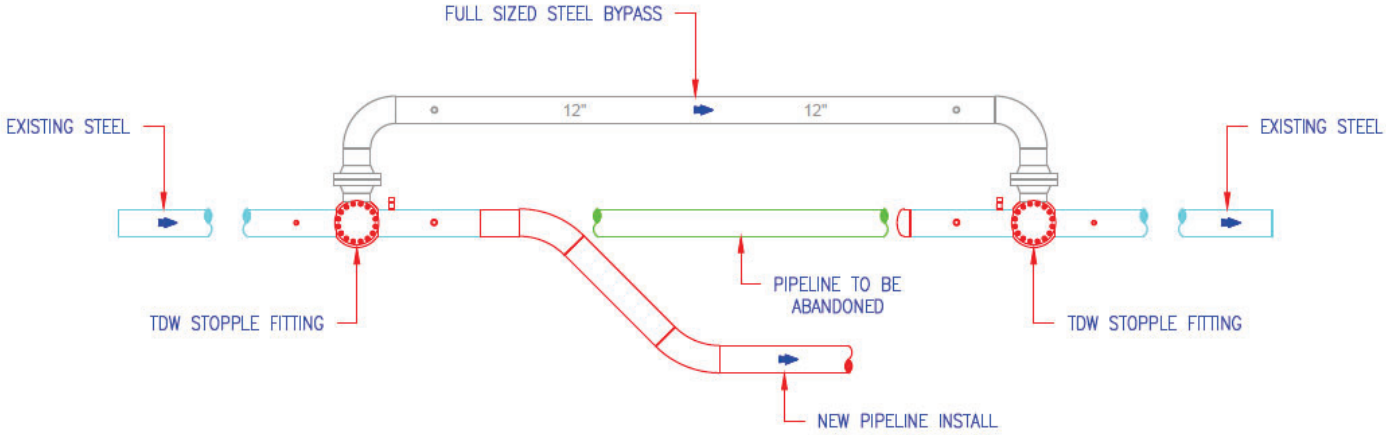
GIS Mapping Symbol for Propane Piping Systems Converted to Natural Gas



Propane Piping System Converted to Natural Gas: Normal Pressure Color Code Outlined with Black Dashes

EXHIBIT D

Example of a Direct Tie-In with a Full-Sized Steel Bypass



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Harper, Dustin A	OQ_TASK CDOQM7 (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Harper, Dustin A	OQ_TASK CDOQM4A (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Harper, Dustin A	OQ_TASK CDOQM4GDS6.11 (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Harper, Dustin A	OQ_TASK CDOQM1A (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Harper, Dustin A	OQ_TASK CDOQM2A (Rev 3/3/2014 09:07 AM ET)	10/6/2020
Harper, Dustin A	OQ_TASK CDOQI1C (Rev 12/13/2006 03:38 PM ET)	10/6/2020
Harper, Dustin A	OQ_TASK CDOQL3 (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Harper, Dustin A	OQ_TASK CDOQM1 (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Harper, Dustin A	OQ_TASK CDOQH1 (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Harper, Dustin A	CRS NISE00004 (Rev 1 - 11/9/2017 02:07 PM ET)	10/5/2020
Harper, Dustin A	ONLINEC NIEHS0167 (Rev 11/19/2015 10:24 PM ET)	10/5/2020
Harper, Dustin A	ONLINEC NIEHS0210 (Rev 8/19/2020 12:58 PM ET)	10/5/2020
Harper, Dustin A	ONLINEC NIHR00021 (Rev 1 - 7/7/2020 04:07 PM ET)	10/2/2020
Harper, Dustin A	ONLINEC NIETHICS0003_2020 (Rev 1 - 7/15/2020 02:14 PM ET)	10/2/2020
Harper, Dustin A	ONLINEC NIITSANS008_2020 (Rev 1 - 7/7/2020 08:49 AM ET)	9/18/2020
Harper, Dustin A	POLPROC CDOQNOC3010.820_2007 (Rev 1 - 7/13/2020 11:08 AM ET)	9/18/2020
Harper, Dustin A	POLPROC CDOQNOC3010.810_2007 (Rev 1 - 7/13/2020 11:04 AM ET)	9/18/2020
Harper, Dustin A	POLPROC CDOQNOC1730.010_2007 (Rev 1 - 7/13/2020 11:02 AM ET)	9/18/2020
Harper, Dustin A	POLPROC CDOQNOC1500.020_2007 (Rev 1 - 7/13/2020 10:58 AM ET)	9/18/2020
Harper, Dustin A	POLPROC CDOQNOC1500.010_2007 (Rev 1 - 7/13/2020 10:53 AM ET)	9/18/2020
Harper, Dustin A	POLPROC CDON1907_1909 (Rev 1 - 10/3/2019 03:38 PM ET)	9/15/2020
Harper, Dustin A	OQ_TASK CDOQM4GDS6.11 (Rev 1/1/1981 01:00 AM ET)	9/11/2020
Harper, Dustin A	POLPROC CDOPGSR1660.060_2007 (Rev 1 - 7/13/2020 10:27 AM ET)	8/31/2020
Harper, Dustin A	POLPROC CDOPGSR1660.040_2007 (Rev 1 - 7/13/2020 10:22 AM ET)	8/31/2020
Harper, Dustin A	POLPROC CDOPGSR1170.040_2006 (Rev 1 - 7/10/2020 12:48 PM ET)	8/31/2020
Harper, Dustin A	POLPROC CDOPGSR1020.030_2007 (Rev 1 - 7/10/2020 12:57 PM ET)	8/31/2020
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Harper, Dustin A	ONLINEC NIETHICS0071 (Rev 1 - 4/8/2020 10:01 AM ET)	8/27/2020
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Harper, Dustin A	ONLINEC NICMCDLMVR2020 (Rev 4/7/2020 12:04 PM ET)	8/10/2020
Harper, Dustin A	ONLINEC NiCM0011 (Rev 4/22/2020 03:58 PM ET)	7/13/2020
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Harper, Dustin A	ONLINEC NIITSANS022 (Rev 1 - 1/20/2020 01:38 PM ET)	6/10/2020
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Harper, Dustin A	POLPROC CDOQNOC1100.010_2001 (Rev 1 - 2/10/2020 10:44 AM ET)	5/18/2020
Harper, Dustin A	ONLINEC NION2001_2001 (Rev 1 - 2/3/2020 02:34 PM ET)	5/18/2020
Harper, Dustin A	ONLINEC NION1910_2001 (Rev 1 - 2/10/2020 03:40 PM ET)	5/18/2020
Harper, Dustin A	ONLINEC NION1905_1912 (Rev 1 - 2/10/2020 12:44 PM ET)	5/15/2020
Harper, Dustin A	ONLINEC NIEHS0198 (Rev 5/8/2020 02:59 PM ET)	5/15/2020
Harper, Dustin A	POLPROC CDOPGSRBRE0100_2001 (Rev 1 - 2/10/2020 11:25 AM ET)	4/21/2020
Harper, Dustin A	POLPROC CDOPGSR1770.020_2001 (Rev 1 - 2/10/2020 11:19 AM ET)	4/13/2020
Harper, Dustin A	POLPROC CDOPGSR1720.010_2001 (Rev 1 - 2/10/2020 10:59 AM ET)	4/13/2020
Harper, Dustin A	POLPROC CDOPGSR1708.070_1912 (Rev 1 - 2/7/2020 02:17 PM ET)	4/13/2020

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Harper, Dustin A	POLPROC CDON1913_1910 (Rev 1 - 10/30/2019 10:02 AM ET)	4/13/2020
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Harper, Dustin A	POLPROC CDOQNOC1302.010_1910 (Rev 1 - 10/30/2019 09:55 AM ET)	3/25/2020
Harper, Dustin A	POLPROC CDOQNOC1300.010_1910 (Rev 1 - 10/30/2019 09:54 AM ET)	3/25/2020
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Harper, Dustin A	ONLINEC CDOP40022_2018 (Rev 2/28/2018 12:27 PM ET)	3/25/2020
Harper, Dustin A	CRS NIEHS0050 (Rev 1/1/1981 01:00 AM ET)	3/25/2020
Harper, Dustin A	PERFEVAL CDOP00241 (Rev 1 - 12/8/2017 11:55 AM ET)	2/26/2020
Harper, Dustin A	CRS NIEHS00162011 (Rev 1/18/2011 03:35 PM ET)	1/31/2020
Harper, Dustin A	OQ_TASK CDOQM4GDS6.7 (Rev 1/1/1981 01:00 AM ET)	1/24/2020
Harper, Dustin A	OQ_TASK CDOQM4A (Rev 1/1/1981 01:00 AM ET)	1/24/2020
Harper, Dustin A	OQ_TASK CDOQM4GDS6.4 (Rev 1/1/1981 01:00 AM ET)	1/24/2020
Harper, Dustin A	OQ_TASK CDOQL3 (Rev 1/1/1981 01:00 AM ET)	1/24/2020
Harper, Dustin A	OQ_TASK CDOQL3A (Rev 1/1/1981 01:00 AM ET)	1/24/2020
Harper, Dustin A	OQ_TASK CDOQL3B (Rev 12/30/2008 08:52 AM ET)	1/24/2020
Harper, Dustin A	ONLINEC NIEHS0190 (Rev 10/1/2018 04:43 PM ET)	12/30/201
Harper, Dustin A	ONLINEC NISC0032 (Rev 1 - 6/5/2018 09:41 AM ET)	12/23/201
Harper, Dustin A	ONLINEC NIETHICS0032_2019 (Rev 1 - 9/17/2019 10:20 AM ET)	12/16/201
Harper, Dustin A	CRS NIEHS0115 (Rev 1 - 1/1/1981 01:00 AM ET)	12/16/201
Harper, Dustin A	ONLINEC NICM0005 (Rev 8/14/2008 03:17 PM ET)	12/16/201
Harper, Dustin A	CRS NISE00004 (Rev 1 - 11/9/2017 02:07 PM ET)	12/11/201
Harper, Dustin A	CRS NIEHS00162011 (Rev 1/18/2011 03:35 PM ET)	12/1/2019
Harper, Dustin A	CRS NIEHS0050 (Rev 1/1/1981 01:00 AM ET)	12/1/2019
Harper, Dustin A	ONLINEC NIEHSNGD0110 (Rev 8/22/2012 04:30 PM ET)	11/21/201
Harper, Dustin A	CRS NIOD00231 (Rev 1 - 6/22/2019 05:15 PM ET)	10/16/201
Harper, Dustin A	CRS NIOD00242 (Rev 1 - 10/30/2019 10:12 AM ET)	10/16/201
Harper, Dustin A	CRS NIOD00243 (Rev 1 - 10/30/2019 12:16 PM ET)	10/16/201
Harper, Dustin A	ONLINEC NIEHS0167 (Rev 11/19/2015 10:24 PM ET)	10/7/2019
Harper, Dustin A	CRS NIEHS0001 (Rev 1/1/1981 01:00 AM ET)	10/1/2019
Harper, Dustin A	ONLINEC NIETHICS0043_2019 (Rev 1 - 8/8/2019 04:40 PM ET)	10/1/2019
Harper, Dustin A	POLPROC CDOPGSR1150.010_1809 (Rev 1 - 8/28/2019 02:01 PM ET)	9/26/2019
Harper, Dustin A	ONLINEC NISMS0010 (Rev 8/6/2019 11:07 AM ET)	8/22/2019
Harper, Dustin A	PERFEVAL CDOP00241 (Rev 1 - 12/8/2017 11:55 AM ET)	8/22/2019
Harper, Dustin A	CRS NIEHS0077 (Rev 1/1/1981 01:00 AM ET)	8/13/2019
Harper, Dustin A	ONLINEC NISMS0001A (Rev 11/29/2018 09:40 AM ET)	8/13/2019
Harper, Dustin A	CRS NISMS0007 (Rev 7/30/2019 02:35 PM ET)	8/13/2019
Harper, Dustin A	ONLINEC NIETHICS0067 (Rev 1 - 4/29/2019 09:15 AM ET)	8/5/2019 0
Harper, Dustin A	ONLINEC NION1908_1907 (Rev 1 - 7/2/2019 01:03 PM ET)	8/5/2019 1
Harper, Dustin A	POLPROC CDON1907_1907 (Rev 1 - 7/2/2019 12:55 PM ET)	8/5/2019 1
Harper, Dustin A	POLPROC CDON1907_1907 (Rev 1 - 7/2/2019 12:55 PM ET)	8/1/2019 1
Harper, Dustin A	ONLINEC NION1908_1907 (Rev 1 - 7/2/2019 01:03 PM ET)	8/1/2019 1
Harper, Dustin A	CRS CDOP40109 (Rev 1 - 6/21/2019 08:38 AM ET)	7/17/2019

Harper, Dustin A	CRS NIEHS0039R (Rev 11/7/2005 01:28 PM ET)	6/25/2019
Harper, Dustin A	CBT NIETHICS0066 (Rev 1 - 4/17/2019 04:59 PM ET)	6/10/2019
Harper, Dustin A	POLPROC CDON1903_1905 (Rev 1 - 5/9/2019 01:05 PM ET)	5/31/2019
Harper, Dustin A	POLPROC CDOPGSR6400.110_1905 (Rev 1 - 5/9/2019 01:01 PM ET)	5/31/2019
Harper, Dustin A	POLPROC CDOPGSR1714.040_1905 (Rev 1 - 5/9/2019 12:43 PM ET)	5/31/2019
Harper, Dustin A	POLPROC CDOPGSR1500.020_1905 (Rev 1 - 5/9/2019 09:55 AM ET)	5/31/2019
Harper, Dustin A	POLPROC CDOQNOC3020.030_1904 (Rev 1 - 4/25/2019 04:45 PM ET)	5/31/2019
Harper, Dustin A	POLPROC CDOQNOC1320.010_1904 (Rev 1 - 4/25/2019 04:36 PM ET)	5/23/2019
Harper, Dustin A	POLPROC CDOPGSR1012.010_1904 (Rev 1 - 4/25/2019 04:28 PM ET)	5/23/2019
Harper, Dustin A	ONLINEC NICMCDLMVR (Rev 4/3/2019 12:39 PM ET)	5/23/2019
Harper, Dustin A	POLPROC CDOQNOC1308.010_1901 (Rev 1 - 2/11/2019 01:10 PM ET)	3/21/2019
Harper, Dustin A	POLPROC CDOQNOC1304.010_1901 (Rev 1 - 2/11/2019 01:09 PM ET)	3/21/2019
Harper, Dustin A	POLPROC CDOQNOC1302.010_1901 (Rev 1 - 2/11/2019 01:07 PM ET)	3/21/2019
Harper, Dustin A	POLPROC CDOQNOC1680.010_1902 (Rev 1 - 3/3/2019 01:10 PM ET)	3/21/2019
Harper, Dustin A	ONLINEC NION1902_1902 (Rev 1 - 3/3/2019 12:58 PM ET)	3/21/2019
Harper, Dustin A	POLPROC CDOQNOC1301.010_1901 (Rev 1 - 2/11/2019 01:05 PM ET)	3/13/2019
Harper, Dustin A	POLPROC CDOQNOC1300.010_1901 (Rev 1 - 2/11/2019 01:02 PM ET)	3/13/2019
Harper, Dustin A	OQ_TASK CDOQL3A (Rev 1/1/1981 01:00 AM ET)	3/1/2019 0
Harper, Dustin A	OQ_TASK CDOQL3B (Rev 12/30/2008 08:52 AM ET)	3/1/2019 0
Harper, Dustin A	DOC NICMCDLVIOLATIONS (Rev 3/17/2005 05:15 PM ET)	2/28/2019
Harper, Dustin A	PHYS NICMCDLPHYS (Rev 12/31/2004 10:58 AM ET)	2/22/2019
Harper, Dustin A	POLPROC CDOQNOC1704.010_1901 (Rev 1 - 1/31/2019 10:34 AM ET)	2/20/2019
Harper, Dustin A	POLPROC CDOPGSR1708.020_1901 (Rev 1 - 1/29/2019 01:24 PM ET)	2/20/2019
Harper, Dustin A	POLPROC CDOPGSR1652.015_1901 (Rev 1 - 1/29/2019 01:09 PM ET)	2/20/2019
Harper, Dustin A	POLPROC CDOPGSR1652.010_1901 (Rev 1 - 1/29/2019 12:56 PM ET)	2/20/2019
Harper, Dustin A	POLPROC CDOPGSR1150.060_1901 (Rev 1 - 1/29/2019 12:35 PM ET)	2/20/2019
Harper, Dustin A	ONLINEC NION1901_1901 (Rev 1 - 1/14/2019 10:54 AM ET)	2/19/2019
Harper, Dustin A	CRS NIEHS0114 (Rev 1/1/1981 01:00 AM ET)	2/19/2019
Harper, Dustin A	CRS NIDOTMPR (Rev 1 - 1/4/2019 08:17 AM ET)	2/15/2019
Harper, Dustin A	ONLINEC NIEHS0190 (Rev 10/1/2018 04:43 PM ET)	1/30/2019
Harper, Dustin A	CBT NIETHICS0064 (Rev 1 - 7/13/2018 03:33 PM ET)	1/22/2019
Harper, Dustin A	ONLINEC NIEHSNGD0110 (Rev 8/22/2012 04:30 PM ET)	12/24/201
Harper, Dustin A	CRS NIEHS0050 (Rev 1/1/1981 01:00 AM ET)	12/24/201
Harper, Dustin A	CRS NIEHS00162011 (Rev 1/18/2011 03:35 PM ET)	12/12/201
Harper, Dustin A	OQ_TASK CDOQI1C (Rev 12/13/2006 03:38 PM ET)	12/4/2018
Harper, Dustin A	OQ_TASK CDOQI1D (Rev 7/29/2011 02:48 PM ET)	12/4/2018
Harper, Dustin A	OQ_TASK CDOQL2A (Rev 1/1/1981 01:00 AM ET)	12/4/2018
Harper, Dustin A	OQ_TASK CDOQL3B (Rev 12/30/2008 08:52 AM ET)	12/4/2018
Harper, Dustin A	OQ_TASK CDOQM1 (Rev 1/1/1981 01:00 AM ET)	12/4/2018
Harper, Dustin A	OQ_TASK CDOQM10A (Rev 1/1/1981 01:00 AM ET)	12/4/2018
Harper, Dustin A	OQ_TASK CDOQM1A (Rev 1/1/1981 01:00 AM ET)	12/4/2018
Harper, Dustin A	OQ_TASK CDOQM1A (Rev 1/1/1981 01:00 AM ET)	12/4/2018
Harper, Dustin A	OQ_TASK CDOQM2A (Rev 3/3/2014 09:07 AM ET)	12/4/2018
Harper, Dustin A	OQ_TASK CDOQM3 (Rev 1/1/1981 01:00 AM ET)	12/4/2018
Harper, Dustin A	OQ_TASK CDOQH1 (Rev 1/1/1981 01:00 AM ET)	12/4/2018
Harper, Dustin A	CRS NIEHS0001 (Rev 1/1/1981 01:00 AM ET)	11/29/201
Harper, Dustin A	ONLINEC NIEHS0167 (Rev 11/19/2015 10:24 PM ET)	11/27/201

Harper, Dustin A	CRS NIEHS0077 (Rev 1/1/1981 01:00 AM ET)	11/27/2018
Harper, Dustin A	CBT NIETHICS0063 (Rev 1 - 7/13/2018 01:14 PM ET)	11/7/2018
Harper, Dustin A	CBT NIETHICS0062 (Rev 1 - 5/25/2018 03:18 PM ET)	11/7/2018
Harper, Dustin A	ONLINEC NIIM00001 (Rev 1 - 1/17/2014 07:49 AM ET)	11/7/2018
Harper, Dustin A	ONLINEC CDOP40050 (Rev 1 - 6/6/2013 01:41 PM ET)	10/26/2018
Harper, Dustin A	ONLINEC NIEHS0188 (Rev 6/22/2018 03:37 PM ET)	9/28/2018
Harper, Dustin A	CRS NION1809_1809 (Rev 1 - 9/18/2018 04:40 PM ET)	9/20/2018
Harper, Dustin A	CRS NION1505_1809 (Rev 1 - 9/18/2018 04:48 PM ET)	9/20/2018
Harper, Dustin A	CBT NIETHICS0060 (Rev 1 - 3/23/2018 09:15 AM ET)	9/18/2018
Harper, Dustin A	POLPROC CDOPGSR3020.100_1801 (Rev 1 - 2/22/2018 02:25 PM ET)	9/18/2018
Harper, Dustin A	POLPROC CDOPGSR3020.020_1801 (Rev 1 - 2/22/2018 02:23 PM ET)	9/18/2018
Harper, Dustin A	CRS CDOP00320 (Rev 1 - 7/17/2018 09:47 AM ET)	8/30/2018
Harper, Dustin A	POLPROC CDOQNOC1770.020_1806 (Rev 1 - 6/5/2018 09:31 AM ET)	8/29/2018
Harper, Dustin A	POLPROC CDOQNOC1680.010_1806 (Rev 1 - 6/5/2018 09:27 AM ET)	8/29/2018
Harper, Dustin A	POLPROC CDOQNOC1320.010_1806 (Rev 1 - 6/5/2018 09:22 AM ET)	8/23/2018
Harper, Dustin A	ONLINEC NION1804_1804 (Rev 1 - 6/5/2018 09:16 AM ET)	8/23/2018
Harper, Dustin A	POLPROC NIOPGSR4100.020_1804 (Rev 1 - 6/5/2018 11:25 AM ET)	8/13/2018
Harper, Dustin A	POLPROC CDOPGSR4440.020_1806 (Rev 1 - 6/5/2018 09:50 AM ET)	8/13/2018
Harper, Dustin A	POLPROC CDOPGSR4440.010_1806 (Rev 1 - 6/5/2018 09:44 AM ET)	8/13/2018
Harper, Dustin A	POLPROC CDOQNOC1670.040_1709 (Rev 1 - 9/26/2017 10:40 AM ET)	8/8/2018 1
Harper, Dustin A	ONLINEC NIETHICS0059 (Rev 1 - 2/26/2018 03:40 PM ET)	7/23/2018
Harper, Dustin A	CRS NIETHICS0003_2018 (Rev 1/12/2018 01:31 PM ET)	6/27/2018
Harper, Dustin A	ONLINEC CDOP40022_2018 (Rev 2/28/2018 12:27 PM ET)	4/24/2018
Harper, Dustin A	ONLINEC NION1803_1801 (Rev 1 - 2/22/2018 02:37 PM ET)	4/24/2018
Harper, Dustin A	ONLINEC NION1802_1801 (Rev 1 - 2/22/2018 02:36 PM ET)	4/24/2018
Harper, Dustin A	CRS NIEHS0184 (Rev 1 - 2/23/2018 01:13 PM ET)	4/24/2018
Harper, Dustin A	CRS CDOP00281 (Rev 1 - 4/9/2018 12:54 PM ET)	4/19/2018
Harper, Dustin A	POLPROC CDOQNOC6500.060_1801 (Rev 1 - 2/22/2018 02:31 PM ET)	4/17/2018
Harper, Dustin A	POLPROC CDOQNOC1754.010_1801 (Rev 1 - 2/21/2018 08:48 PM ET)	4/17/2018
Harper, Dustin A	POLPROC CDOQNOC1750.210_1801 (Rev 1 - 2/21/2018 08:37 PM ET)	4/17/2018
Harper, Dustin A	POLPROC CDOQNOC1750.040_1801 (Rev 1 - 2/21/2018 08:34 PM ET)	4/17/2018
Harper, Dustin A	POLPROC CDOQNOC1750.020_1801 (Rev 1 - 2/21/2018 08:32 PM ET)	4/16/2018
Harper, Dustin A	POLPROC CDOQNOC1750.010_1801 (Rev 1 - 2/21/2018 08:29 PM ET)	4/16/2018
Harper, Dustin A	POLPROC CDOQNOC1730.010_1801 (Rev 1 - 2/21/2018 08:24 PM ET)	4/16/2018
Harper, Dustin A	POLPROC CDOQNOC1680.040_1801 (Rev 1 - 2/21/2018 07:52 PM ET)	4/16/2018
Harper, Dustin A	POLPROC CDOQNOC1680.012_1801 (Rev 1 - 2/20/2018 04:34 PM ET)	4/16/2018
Harper, Dustin A	POLPROC CDOQNOC1620.010_1801 (Rev 1 - 2/20/2018 04:15 PM ET)	4/16/2018
Harper, Dustin A	POLPROC CDOQNOC1500.010_1801 (Rev 1 - 2/20/2018 04:11 PM ET)	4/16/2018
Harper, Dustin A	POLPROC CDOQNOC1450.010_1801 (Rev 1 - 2/20/2018 04:04 PM ET)	4/16/2018
Harper, Dustin A	POLPROC CDOQNOC1420.410_1801 (Rev 1 - 2/20/2018 03:42 PM ET)	4/16/2018
Harper, Dustin A	POLPROC CDOQNOC1420.040_1801 (Rev 1 - 2/20/2018 03:25 PM ET)	4/16/2018
Harper, Dustin A	POLPROC CDOQNOC1170.040_1801 (Rev 1 - 2/20/2018 03:09 PM ET)	4/16/2018
Harper, Dustin A	POLPROC CDOQNOC1150.080_1801 (Rev 1 - 2/20/2018 02:58 PM ET)	4/16/2018
Harper, Dustin A	POLPROC CDOQNOC1150.070_1801 (Rev 1 - 2/20/2018 02:55 PM ET)	4/16/2018
Harper, Dustin A	POLPROC CDOQNOC1100.050_1801 (Rev 1 - 2/20/2018 02:51 PM ET)	4/16/2018
Harper, Dustin A	POLPROC CDOQNOC1100.010_1801 (Rev 1 - 2/20/2018 02:28 PM ET)	4/16/2018
Harper, Dustin A	POLPROC CDON1801_1801 (Rev 1 - 2/22/2018 02:34 PM ET)	4/16/2018

Harper, Dustin A	POLPROC CDOPGSR6400.030_1801 (Rev 1 - 2/22/2018 02:28 PM ET)	4/9/2018 0
Harper, Dustin A	POLPROC CDOPGSR3020.100_1801 (Rev 1 - 2/22/2018 02:25 PM ET)	4/9/2018 0
Harper, Dustin A	POLPROC CDOPGSR3020.020_1801 (Rev 1 - 2/22/2018 02:23 PM ET)	4/9/2018 0
Harper, Dustin A	POLPROC CDOPGSR3000.500_1801 (Rev 1 - 2/22/2018 02:20 PM ET)	4/9/2018 0
Harper, Dustin A	POLPROC CDOPGSR2300.040_1801 (Rev 1 - 2/22/2018 02:12 PM ET)	4/9/2018 0
Harper, Dustin A	POLPROC CDOPGSR2300.030_1801 (Rev 1 - 2/22/2018 02:09 PM ET)	4/9/2018 0
Harper, Dustin A	POLPROC CDOPGSR2300.020_1801 (Rev 1 - 2/22/2018 02:07 PM ET)	4/9/2018 0
Harper, Dustin A	POLPROC CDOPGSR2300.010_1801 (Rev 1 - 2/22/2018 02:04 PM ET)	4/9/2018 0
Harper, Dustin A	POLPROC CDOPGSR1708.007_1801 (Rev 1 - 2/22/2018 02:38 PM ET)	4/9/2018 0
Harper, Dustin A	POLPROC CDOPGSR1708.020_1801 (Rev 1 - 2/21/2018 08:22 PM ET)	3/20/2018
Harper, Dustin A	POLPROC CDOPGSR1670.020_1801 (Rev 1 - 2/20/2018 04:31 PM ET)	3/20/2018
Harper, Dustin A	POLPROC CDOPGSR1420.520_1801 (Rev 1 - 2/20/2018 03:52 PM ET)	3/20/2018
Harper, Dustin A	POLPROC CDOPGSR1100.030_1801 (Rev 1 - 2/20/2018 02:46 PM ET)	3/20/2018
Harper, Dustin A	CRS NISE00004 (Rev 1 - 11/9/2017 02:07 PM ET)	3/20/2018
Harper, Dustin A	CRS NIEHS0176 (Rev 1 - 3/27/2017 02:56 PM ET)	3/20/2018
Harper, Dustin A	CRS NIEHS0101 (Rev 1/1/1981 01:00 AM ET)	2/21/2018
Harper, Dustin A	CRS NPCM1910.134C (Rev 1/1/1981 01:00 AM ET)	2/21/2018
Harper, Dustin A	CRS NIEHS0104 (Rev 1/1/1981 01:00 AM ET)	2/21/2018
Harper, Dustin A	CRS NIEHS0111 (Rev 1/1/1981 01:00 AM ET)	2/21/2018
Harper, Dustin A	CRS NIEHS0114 (Rev 1/1/1981 01:00 AM ET)	2/21/2018
Harper, Dustin A	CRS NIEHS0182 (Rev 1/15/2018 02:18 PM ET)	2/21/2018
Harper, Dustin A	CRS NIEHS0183 (Rev 1/15/2018 02:28 PM ET)	2/21/2018
Harper, Dustin A	CRS NIEHSNGD0190 (Rev 8/31/2015 09:00 PM ET)	2/21/2018
Harper, Dustin A	CRS NIENV0010 (Rev 1 - 4/13/2017 12:43 PM ET)	2/21/2018
Harper, Dustin A	CRS NIEHS0039R (Rev 11/7/2005 01:28 PM ET)	2/7/2018 0
Harper, Dustin A	DOC NICMCDLVIOLATIONS (Rev 3/17/2005 05:15 PM ET)	2/2/2018 1
Harper, Dustin A	OQ_TASK CDOQF1A (Rev 1/1/1981 01:00 AM ET)	1/23/2018
Harper, Dustin A	OQ_TASK CDOQF2 (Rev 1/1/1981 01:00 AM ET)	1/23/2018
Harper, Dustin A	ONLINEC NIEHSNGD0110 (Rev 8/22/2012 04:30 PM ET)	1/16/2018
Harper, Dustin A	ONLINEC NIETHICS0058 (Rev 1 - 8/10/2017 03:45 PM ET)	1/12/2018
Harper, Dustin A	POLPROC CDOQNOC3020.035_1708 (Rev 1 - 8/31/2017 11:59 AM ET)	1/12/2018
Harper, Dustin A	POLPROC CDOQNOC1750.022_1708 (Rev 1 - 8/31/2017 11:57 AM ET)	1/12/2018
Harper, Dustin A	ONLINEC NIEHSNGD0192 (Rev 1 - 10/14/2015 11:29 AM ET)	1/12/2018
Harper, Dustin A	ONLINEC NIEHSNGD0111 (Rev 1/8/2013 01:43 PM ET)	1/12/2018
Harper, Dustin A	PERFEVAL CDOP00241 (Rev 1 - 12/8/2017 11:55 AM ET)	1/10/2018
Harper, Dustin A	CRS NIEHSNGD0095 (Rev 3/14/2012 09:32 AM ET)	12/28/201
Harper, Dustin A	OJT CDOP40138 (Rev 8/23/2016 01:08 PM ET)	12/20/201
Harper, Dustin A	CRS NIEHS0077 (Rev 1/1/1981 01:00 AM ET)	12/18/201
Harper, Dustin A	CRS NIEHS0115 (Rev 1/1/1981 01:00 AM ET)	11/21/201
Harper, Dustin A	ONLINEC NICM0005 (Rev 8/14/2008 03:17 PM ET)	11/21/201
Harper, Dustin A	CRS NIEHS0050 (Rev 1/1/1981 01:00 AM ET)	11/21/201
Harper, Dustin A	ONLINEC NIEHSNGD0034 (Rev 1 - 6/2/2014 02:48 PM ET)	11/7/2017
Harper, Dustin A	CRS NIEHS00162011 (Rev 1/18/2011 03:35 PM ET)	11/7/2017
Harper, Dustin A	ONLINEC NIITSANS007_2017 (Rev 1 - 10/31/2017 04:27 PM ET)	11/7/2017
Harper, Dustin A	ONLINEC NIITSANS002_2017 (Rev 1 - 10/2/2017 11:45 AM ET)	11/3/2017
Harper, Dustin A	POLPROC CDOQNOC1760.012_1709 (Rev 1 - 9/26/2017 11:51 AM ET)	11/3/2017
Harper, Dustin A	POLPROC CDOQNOC1100.010_1706 (Rev 1 - 8/31/2017 10:32 AM ET)	11/1/2017

Harper, Dustin A	CRS CDOP40187 (Rev 10/12/2017 11:35 AM ET)	10/19/201
Harper, Dustin A	FIELD CDSFFIRESCHL (Rev 1/1/1981 01:00 AM ET)	9/12/2017
Harper, Dustin A	CRS NIEHS0001 (Rev 1/1/1981 01:00 AM ET)	9/1/2017 0
Harper, Dustin A	ONLINEC NIEHS0167 (Rev 11/19/2015 10:24 PM ET)	9/1/2017 0
Harper, Dustin A	CRS NIEHS0175 (Rev 1 - 3/27/2017 02:47 PM ET)	9/1/2017 0
Harper, Dustin A	ONLINEC NIITSANS015_2017 (Rev 1 - 7/25/2017 02:32 PM ET)	9/1/2017 0
Harper, Dustin A	ONLINEC NIETHICS0057 (Rev 1 - 6/5/2017 02:49 PM ET)	9/1/2017 0
Harper, Dustin A	ONLINEC NIEHS0178 (Rev 4/13/2017 03:26 PM ET)	7/14/2017
Harper, Dustin A	POLPROC CDOPGSR2650.010_1704 (Rev 1 - 7/3/2017 10:29 AM ET)	7/14/2017
Harper, Dustin A	POLPROC CDON1702_1704 (Rev 1 - 7/3/2017 10:03 AM ET)	7/14/2017
Harper, Dustin A	ONLINEC NIITSANS014_2017 (Rev 1 - 5/31/2017 03:27 PM ET)	7/14/2017
Harper, Dustin A	ONLINEC NIETHICS0056 (Rev 1 - 3/6/2017 04:04 PM ET)	7/14/2017
Harper, Dustin A	ONLINEC NIITSANS010_2017 (Rev 1 - 5/9/2017 08:04 AM ET)	6/28/2017
Harper, Dustin A	CRS NIEHS0172 (Rev 1 - 10/24/2016 02:58 PM ET)	6/28/2017
Harper, Dustin A	ONLINEC NIITSANS008_2017 (Rev 1 - 5/9/2017 08:02 AM ET)	6/26/2017
Harper, Dustin A	ONLINEC CDOP40152 (Rev 1 - 12/2/2016 05:29 PM ET)	6/6/2017 0
Harper, Dustin A	CRS CDOP40170 (Rev 4/5/2017 01:39 PM ET)	4/20/2017
Harper, Dustin A	CRS NIEHS0114 (Rev 1/1/1981 01:00 AM ET)	4/3/2017 0
Harper, Dustin A	CRS NIEHS0039R (Rev 11/7/2005 01:28 PM ET)	3/3/2017 0
Harper, Dustin A	ONLINEC NIEHSNGD0110 (Rev 8/22/2012 04:30 PM ET)	3/1/2017 0
Harper, Dustin A	ONLINEC NIETHICS0032_2017 (Rev 1 - 11/30/2016 03:22 PM ET)	3/1/2017 0
Harper, Dustin A	POLPROC CDOQNOC1714.030_1701 (Rev 1 - 1/23/2017 03:19 PM ET)	3/1/2017 0
Harper, Dustin A	CRS NIEHSNGD0101 (Rev 1 - 2/3/2014 03:54 PM ET)	2/28/2017
Harper, Dustin A	CRS NIEHSNGD0197 (Rev 1 - 12/21/2016 11:44 AM ET)	2/28/2017
Harper, Dustin A	PHYS NICMCDLPHYS (Rev 12/31/2004 10:58 AM ET)	2/24/2017
Harper, Dustin A	CRS CDOP40153 (Rev 1/16/2017 02:07 PM ET)	2/16/2017
Harper, Dustin A	CRS CDSFATMOSCON (Rev 1/1/1981 01:00 AM ET)	2/8/2017 1
Harper, Dustin A	OQ_TASK CDOQF1A (Rev 1/1/1981 01:00 AM ET)	2/8/2017 1
Harper, Dustin A	OQ_TASK CDOQF2 (Rev 1/1/1981 01:00 AM ET)	2/8/2017 1
Harper, Dustin A	ONLINEC CDOQM7A (Rev 1 - 9/9/2010 03:00 PM ET)	1/31/2017
Harper, Dustin A	OQ_TASK CDOQM7 (Rev 1/1/1981 01:00 AM ET)	1/31/2017
Harper, Dustin A	CRS NIEHSNGD0017 (Rev 1 - 2/22/2012 05:31 PM ET)	1/12/2017
Harper, Dustin A	ONLINEC NIEHSNGD0111 (Rev 1/8/2013 01:43 PM ET)	1/12/2017
Harper, Dustin A	ONLINEC NIEHSNGD0192 (Rev 1 - 10/14/2015 11:29 AM ET)	1/12/2017
Harper, Dustin A	CRS NIEHSNGD0095 (Rev 3/14/2012 09:32 AM ET)	1/10/2017
Harper, Dustin A	CRS NIEHS0077 (Rev 1/1/1981 01:00 AM ET)	1/10/2017
Harper, Dustin A	ONLINEC CDOP41222 (Rev 1 - 5/28/2015 11:22 AM ET)	1/3/2017 0
Harper, Dustin A	POLPROC CDOQNOC1690.010_1610 (Rev 1 - 10/19/2016 03:32 PM ET)	1/3/2017 0
Harper, Dustin A	ONLINEC NION1612_1610 (Rev 1 - 10/19/2016 03:35 PM ET)	12/29/201
Harper, Dustin A	ONLINEC NION1611_1610 (Rev 1 - 10/19/2016 03:35 PM ET)	12/29/201
Harper, Dustin A	ONLINEC NION1609_1608 (Rev 1 - 10/19/2016 03:24 PM ET)	12/29/201
Harper, Dustin A	ONLINEC CDON1608_1607 (Rev 1 - 10/19/2016 03:23 PM ET)	12/29/201
Harper, Dustin A	ONLINEC NION1607_1607 (Rev 1 - 10/19/2016 03:22 PM ET)	12/29/201
Harper, Dustin A	ONLINEC NION1606_1607 (Rev 1 - 10/19/2016 03:22 PM ET)	12/29/201
Harper, Dustin A	CRS NIEHS0050 (Rev 1/1/1981 01:00 AM ET)	12/29/201
Harper, Dustin A	POLPROC CDOPGSR4400.050_1610 (Rev 1 - 10/19/2016 03:33 PM ET)	12/29/201
Harper, Dustin A	POLPROC CDOPGSR4200.040_1610 (Rev 1 - 10/19/2016 03:33 PM ET)	12/29/201

Harper, Dustin A	POLPROC CDOPGSR1770.010_1610 (Rev 1 - 10/19/2016 03:32 PM ET)	12/29/2016
Harper, Dustin A	POLPROC CDOPGSR1652.010_1610 (Rev 1 - 10/19/2016 03:29 PM ET)	12/29/2016
Harper, Dustin A	ONLINEC NIEHSNGD0034 (Rev 1 - 6/2/2014 02:48 PM ET)	12/22/2016
Harper, Dustin A	CRS NIEHS00162011 (Rev 1/18/2011 03:35 PM ET)	12/22/2016
Harper, Dustin A	CRS CDOP40131 (Rev 7/15/2016 03:18 PM ET)	12/21/2016
Harper, Dustin A	CRS CDOP40143 (Rev 9/12/2016 03:40 PM ET)	12/21/2016
Harper, Dustin A	CRS NIEHS0001 (Rev 1/1/1981 01:00 AM ET)	12/14/2016
Harper, Dustin A	CRS CDOP40123 (Rev 5/18/2016 03:43 PM ET)	11/30/2016
Harper, Dustin A	ONLINEC NION1613_1611 (Rev 1 - 11/7/2016 09:02 PM ET)	11/21/2016
Harper, Dustin A	ONLINEC CDOP40132 (Rev 1 - 7/18/2016 05:24 PM ET)	11/21/2016
Harper, Dustin A	ONLINEC NIEHSNP0065_2016 (Rev 3/31/2016 09:41 AM ET)	11/21/2016
Harper, Dustin A	ONLINEC NIETHICS0055 (Rev 1 - 8/25/2016 11:06 AM ET)	11/16/2016
Harper, Dustin A	ONLINEC NIITSANS015_2016 (Rev 1 - 8/31/2016 03:14 PM ET)	11/16/2016
Harper, Dustin A	POLPROC NICO00002 (Rev 1 - 8/26/2016 10:41 AM ET)	11/16/2016
Harper, Dustin A	ONLINEC NIETHICS0050 (Rev 1 - 10/19/2015 11:38 AM ET)	11/16/2016
Harper, Dustin A	ONLINEC NIITSANS014_2016 (Rev 1 - 8/31/2016 03:12 PM ET)	10/17/2016
Harper, Dustin A	ONLINEC CDOP40122 (Rev 1 - 5/18/2016 03:38 PM ET)	10/12/2016
Harper, Dustin A	ONLINEC NIETHICS0054 (Rev 1 - 6/9/2016 03:53 PM ET)	10/12/2016
Harper, Dustin A	POLPROC CDOQNOC3020.040_1606 (Rev 1 - 6/15/2016 03:07 PM ET)	9/13/2016
Harper, Dustin A	POLPROC CDOQNOC3020.035_1606 (Rev 1 - 6/15/2016 03:07 PM ET)	9/13/2016
Harper, Dustin A	POLPROC CDOQNOC3020.012_1606 (Rev 1 - 6/15/2016 03:05 PM ET)	9/13/2016
Harper, Dustin A	POLPROC CDOQNOC1500.010_1606 (Rev 1 - 6/15/2016 02:51 PM ET)	9/13/2016
Harper, Dustin A	POLPROC CDOQNOC1304.010_1604 (Rev 1 - 6/15/2016 02:48 PM ET)	9/13/2016
Harper, Dustin A	POLPROC CDOPGSR4200.020_1606 (Rev 1 - 6/15/2016 03:10 PM ET)	9/9/2016 0
Harper, Dustin A	POLPROC CDOPGSR3000.020_1605 (Rev 1 - 6/15/2016 03:04 PM ET)	9/9/2016 0
Harper, Dustin A	POLPROC CDOPGSR1730.010_1606 (Rev 1 - 6/22/2016 03:56 PM ET)	9/9/2016 0
Harper, Dustin A	POLPROC CDOPGSR1708.100_1606 (Rev 1 - 6/15/2016 02:54 PM ET)	9/8/2016 1
Harper, Dustin A	POLPROC CDOPGSR1500.020_1606 (Rev 1 - 6/15/2016 02:52 PM ET)	9/8/2016 1
Harper, Dustin A	ONLINEC NIEHSNP0064_2016 (Rev 3/31/2016 09:38 AM ET)	7/15/2016
Harper, Dustin A	ONLINEC NIITSANS006_2016 (Rev 1 - 5/26/2016 08:42 AM ET)	7/15/2016
Harper, Dustin A	ONLINEC NIITSANS007_2016 (Rev 1 - 5/26/2016 08:40 AM ET)	7/5/2016 0
Harper, Dustin A	CRS NIETHICS0003_2016 (Rev 4/21/2016 12:40 PM ET)	7/5/2016 0
Harper, Dustin A	ONLINEC NIITSANS012_2016 (Rev 1 - 5/26/2016 08:37 AM ET)	6/6/2016 0
Harper, Dustin A	CRS NIEHS0114 (Rev 1/1/1981 01:00 AM ET)	6/2/2016 0
Harper, Dustin A	CRS NIEHS0039R (Rev 11/7/2005 01:28 PM ET)	6/2/2016 0
Harper, Dustin A	ONLINEC NIEHSNGD0110 (Rev 8/22/2012 04:30 PM ET)	6/2/2016 0
Harper, Dustin A	ONLINEC NIEHSNGD0111 (Rev 1/8/2013 01:43 PM ET)	5/31/2016
Harper, Dustin A	ONLINEC NIITSANS010_2015 (Rev 1 - 2/9/2015 02:58 PM ET)	5/31/2016
Harper, Dustin A	CRS CDOP40118 (Rev 3/23/2016 04:11 PM ET)	5/23/2016
Harper, Dustin A	ONLINEC NIEHSNP0063_2016 (Rev 3/31/2016 07:54 AM ET)	5/17/2016
Harper, Dustin A	ONLINEC NIITSANS008_2015 (Rev 1 - 3/30/2015 02:25 PM ET)	5/3/2016 0
Harper, Dustin A	ONLINEC NIETHICS0052 (Rev 1 - 1/11/2016 10:26 AM ET)	4/27/2016
Harper, Dustin A	ONLINEC NIETHICS0049 (Rev 1 - 10/19/2015 11:35 AM ET)	4/27/2016
Harper, Dustin A	ONLINEC NIITSANS004 (Rev 1 - 5/22/2014 11:25 AM ET)	4/27/2016
Harper, Dustin A	POLPROC CDOQNOC3020.100_1601 (Rev 1 - 2/12/2016 11:00 AM ET)	4/27/2016
Harper, Dustin A	POLPROC CDOQNOC3010.060_1601 (Rev 1 - 2/12/2016 10:59 AM ET)	4/27/2016
Harper, Dustin A	POLPROC CDOQNOC3010.050_1601 (Rev 1 - 2/12/2016 10:58 AM ET)	4/27/2016

Harper, Dustin A	POLPROC CDOQNOC3000.500_1601 (Rev 1 - 2/12/2016 10:55 AM ET)	4/27/2016
Harper, Dustin A	POLPROC CDOQNOC1770.010_1601 (Rev 1 - 2/12/2016 10:54 AM ET)	4/27/2016
Harper, Dustin A	POLPROC CDOQNOC1720.010_1601 (Rev 1 - 2/12/2016 10:33 AM ET)	4/27/2016
Harper, Dustin A	POLPROC CDOQNOC1714.040_1601 (Rev 1 - 2/12/2016 10:29 AM ET)	4/27/2016
Harper, Dustin A	POLPROC CDOQNOC1708.060_1601 (Rev 1 - 2/12/2016 10:21 AM ET)	4/27/2016
Harper, Dustin A	POLPROC CDOQNOC1708.022_1601 (Rev 1 - 2/12/2016 10:20 AM ET)	4/22/2016
Harper, Dustin A	POLPROC CDOQNOC1708.020_1601 (Rev 1 - 2/12/2016 10:19 AM ET)	4/22/2016
Harper, Dustin A	POLPROC CDOQNOC1704.010_1601 (Rev 1 - 2/12/2016 10:18 AM ET)	4/22/2016
Harper, Dustin A	POLPROC CDOQNOC1680.050_1601 (Rev 1 - 2/12/2016 10:15 AM ET)	4/22/2016
Harper, Dustin A	POLPROC CDOQNOC1680.010_1601 (Rev 1 - 2/12/2016 10:14 AM ET)	4/22/2016
Harper, Dustin A	POLPROC CDOQNOC1430.110_1601 (Rev 1 - 2/12/2016 10:04 AM ET)	4/22/2016
Harper, Dustin A	POLPROC CDOQNOC1420.410_1601 (Rev 1 - 2/12/2016 10:00 AM ET)	4/22/2016
Harper, Dustin A	POLPROC CDOQNOC1301.010_1601 (Rev 1 - 2/12/2016 09:52 AM ET)	4/22/2016
Harper, Dustin A	ONLINEC NION1603_1602 (Rev 1 - 2/24/2016 01:55 PM ET)	4/22/2016
Harper, Dustin A	ONLINEC NION1601_1601 (Rev 1 - 2/24/2016 01:53 PM ET)	4/22/2016
Harper, Dustin A	ONLINEC NIEHSNGD0192 (Rev 1 - 10/14/2015 11:29 AM ET)	4/22/2016
Harper, Dustin A	POLPROC CDOPGSR3010.040_1601 (Rev 1 - 2/12/2016 10:56 AM ET)	4/22/2016
Harper, Dustin A	POLPROC CDOPGSR1750.810_1601 (Rev 1 - 2/12/2016 10:47 AM ET)	4/22/2016
Harper, Dustin A	POLPROC CDOPGSR1714.060_1601 (Rev 1 - 2/12/2016 10:32 AM ET)	4/22/2016
Harper, Dustin A	POLPROC CDOPGSR1714.020_1601 (Rev 1 - 2/12/2016 10:24 AM ET)	4/22/2016
Harper, Dustin A	POLPROC CDOPGSR1708.070_1601 (Rev 1 - 2/12/2016 10:22 AM ET)	4/19/2016
Harper, Dustin A	POLPROC CDOPGSR1702.010_1601 (Rev 1 - 2/12/2016 10:17 AM ET)	4/19/2016
Harper, Dustin A	POLPROC CDOPGSR1670.020_1601 (Rev 1 - 2/12/2016 10:13 AM ET)	4/19/2016
Harper, Dustin A	POLPROC CDOPGSR1450.010_1601 (Rev 1 - 2/12/2016 10:08 AM ET)	4/19/2016
Harper, Dustin A	POLPROC CDOPGSR1440.010_1601 (Rev 1 - 2/12/2016 10:06 AM ET)	4/19/2016
Harper, Dustin A	POLPROC CDOPGSR1420.540_1601 (Rev 1 - 2/12/2016 10:03 AM ET)	4/19/2016
Harper, Dustin A	POLPROC CDOPGSR1420.010_1601 (Rev 1 - 2/12/2016 09:59 AM ET)	4/18/2016
Harper, Dustin A	POLPROC CDOPGSR1320.010_1601 (Rev 1 - 2/12/2016 09:55 AM ET)	4/18/2016
Harper, Dustin A	POLPROC CDOPGSR1100.020_1601 (Rev 1 - 2/12/2016 09:51 AM ET)	4/18/2016
Harper, Dustin A	POLPROC CDOPGSR1012.010_1601 (Rev 1 - 2/12/2016 09:43 AM ET)	4/18/2016
Harper, Dustin A	CRS NIEHSNGD0193 (Rev 2/2/2016 03:43 PM ET)	3/31/2016
Harper, Dustin A	DOC NICMCDLVIOLATIONS (Rev 3/17/2005 05:15 PM ET)	3/31/2016
Harper, Dustin A	CRS NIEHSNGD0095 (Rev 3/14/2012 09:32 AM ET)	3/10/2016
Harper, Dustin A	ONLINEC NIITSANS003 (Rev 1 - 5/22/2014 09:59 AM ET)	3/10/2016
Harper, Dustin A	ONLINEC NIEHSNP0062_2016 (Rev 2/3/2016 04:24 PM ET)	3/3/2016 0
Harper, Dustin A	CRS NIEHS0025 (Rev 1/1/1981 01:00 AM ET)	3/3/2016 0
Harper, Dustin A	ONLINEC NIEHS0167 (Rev 11/19/2015 10:24 PM ET)	3/3/2016 0
Harper, Dustin A	CRS NIEHS0077 (Rev 1/1/1981 01:00 AM ET)	3/3/2016 0
Harper, Dustin A	CRS NIEHS0164 (Rev 11/11/2015 12:39 PM ET)	2/18/2016
Harper, Dustin A	ONLINEC CDOP40110 (Rev 1 - 12/21/2015 10:49 AM ET)	2/16/2016
Harper, Dustin A	SIM CDOPTABLETOPDRILLS (Rev 1/6/2006 02:06 PM ET)	2/2/2016 0
Harper, Dustin A	OQ_TASK CDOQF1A (Rev 1/1/1981 01:00 AM ET)	1/26/2016
Harper, Dustin A	OQ_TASK CDOQF2 (Rev 1/1/1981 01:00 AM ET)	1/26/2016
Harper, Dustin A	OQ_TASK CDOQL1C (Rev 7/8/2011 06:03 PM ET)	1/26/2016
Harper, Dustin A		
Haaser, Mark T	ONLINEC CDOP00261 (Rev 1 - 1/23/2018 04:57 PM ET)	10/19/202(
Haaser, Mark T	CRS NIEHS00162011 (Rev 1/18/2011 03:35 PM ET)	10/19/202(

Haaser, Mark T	CRS NIEHS0001 (Rev 1/1/1981 01:00 AM ET)	10/19/202
Haaser, Mark T	ONLINEC NIETHICS0070 (Rev 1 - 3/13/2020 05:05 PM ET)	10/13/202
Haaser, Mark T	CRS NIEHS0184 (Rev 1 - 2/23/2018 01:13 PM ET)	10/13/202
Haaser, Mark T	CRS NISE00004 (Rev 1 - 11/9/2017 02:07 PM ET)	10/13/202
Haaser, Mark T	ONLINEC NIEHS0210 (Rev 8/19/2020 12:58 PM ET)	10/13/202
Haaser, Mark T	ONLINEC NIHR00021 (Rev 1 - 7/7/2020 04:07 PM ET)	10/13/202
Haaser, Mark T	ONLINEC NIETHICS0003_2020 (Rev 1 - 7/15/2020 02:14 PM ET)	10/7/2020
Haaser, Mark T	POLPROC CDON1907_1909 (Rev 1 - 10/3/2019 03:38 PM ET)	10/7/2020
Haaser, Mark T	POLPROC CDOPGSR1170.040_2006 (Rev 1 - 7/10/2020 12:48 PM ET)	10/7/2020
Haaser, Mark T	POLPROC CDOPGSR1020.030_2007 (Rev 1 - 7/10/2020 12:57 PM ET)	10/7/2020
Haaser, Mark T	POLPROC CDOPGSR1020.010_2007 (Rev 1 - 7/10/2020 12:55 PM ET)	10/7/2020
Haaser, Mark T	ONLINEC NION2009_2008 (Rev 1 - 8/18/2020 08:48 AM ET)	10/7/2020
Haaser, Mark T	OQ_TASK CDOQM7 (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Haaser, Mark T	OQ_TASK CDOQM4H.1 (Rev 5/28/2014 02:58 PM ET)	10/6/2020
Haaser, Mark T	OQ_TASK CDOQM5 (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Haaser, Mark T	OQ_TASK CDOQM5A (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Haaser, Mark T	OQ_TASK CDOQM4GDS6.17 (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Haaser, Mark T	OQ_TASK CDOQM4GDS6.18 (Rev 2/3/2005 03:10 PM ET)	10/6/2020
Haaser, Mark T	OQ_TASK CDOQM4GDS6.11 (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Haaser, Mark T	OQ_TASK CDOQM4GDS6.16 (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Haaser, Mark T	OQ_TASK CDOQM4A (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Haaser, Mark T	OQ_TASK CDOQM1A (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Haaser, Mark T	OQ_TASK CDOQM2A (Rev 3/3/2014 09:07 AM ET)	10/6/2020
Haaser, Mark T	OQ_TASK CDOQL3 (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Haaser, Mark T	OQ_TASK CDOQM10 (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Haaser, Mark T	OQ_TASK CDOQL2 (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Haaser, Mark T	OQ_TASK CDOQI1C (Rev 12/13/2006 03:38 PM ET)	10/6/2020
Haaser, Mark T	OQ_TASK CDOQL1C (Rev 7/8/2011 06:03 PM ET)	10/6/2020
Haaser, Mark T	OQ_TASK CDOQH1 (Rev 1/1/1981 01:00 AM ET)	10/6/2020
Haaser, Mark T	OQ_TASK CDOQG1 (Rev 2/18/2009 09:56 AM ET)	10/6/2020
Haaser, Mark T	CRS NIOP0028 (Rev 1 - 7/2/2020 04:54 PM ET)	9/25/2020
Haaser, Mark T	CRS NIOP0029 (Rev 1 - 7/2/2020 05:06 PM ET)	9/25/2020
Haaser, Mark T	ONLINEC NIEHS0167 (Rev 11/19/2015 10:24 PM ET)	7/14/2020
Haaser, Mark T	ONLINEC NIITSANS008_2020 (Rev 1 - 7/7/2020 08:49 AM ET)	7/14/2020
Haaser, Mark T	ONLINEC NION2007_2006 (Rev 1 - 6/30/2020 10:57 AM ET)	7/14/2020
Haaser, Mark T	ONLINEC NIETHICS0071 (Rev 1 - 4/8/2020 10:01 AM ET)	6/29/2020
Haaser, Mark T	CRS NISMS0007 (Rev 7/30/2019 02:35 PM ET)	6/29/2020
Haaser, Mark T	ONLINEC NiCM0011 (Rev 4/22/2020 03:58 PM ET)	6/29/2020
Haaser, Mark T	ONLINEC NIITSANS022 (Rev 1 - 1/20/2020 01:38 PM ET)	6/2/2020 1
Haaser, Mark T	ONLINEC CDOP40022_2018 (Rev 2/28/2018 12:27 PM ET)	6/2/2020 1
Haaser, Mark T	ONLINEC NION1905_1912 (Rev 1 - 2/10/2020 12:44 PM ET)	6/2/2020 1
Haaser, Mark T	POLPROC CDOPGSRBRE0100_2001 (Rev 1 - 2/10/2020 11:25 AM ET)	6/2/2020 0
Haaser, Mark T	POLPROC CDOPGSR1770.020_2001 (Rev 1 - 2/10/2020 11:19 AM ET)	6/2/2020 0
Haaser, Mark T	POLPROC CDOPGSR1720.010_2001 (Rev 1 - 2/10/2020 10:59 AM ET)	6/2/2020 0
Haaser, Mark T	POLPROC CDOPGSR1708.070_1912 (Rev 1 - 2/7/2020 02:17 PM ET)	6/2/2020 0
Haaser, Mark T	ONLINEC NIEHS0198 (Rev 5/8/2020 02:59 PM ET)	6/2/2020 0
Haaser, Mark T	POLPROC CDON1913_1910 (Rev 1 - 10/30/2019 10:02 AM ET)	4/14/2020

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Haaser, Mark T	POLPROC CDOPGSR3010.071_1910 (Rev 1 - 10/30/2019 10:00 AM ET)	4/14/2020
Haaser, Mark T	ONLINEC NIWB0006 (Rev 1 - 3/25/2020 02:57 PM ET)	4/14/2020
Haaser, Mark T	CRS NISMS0008 (Rev 7/30/2019 02:43 PM ET)	3/27/2020
Haaser, Mark T	ONLINEC NIETHICS0032_2019 (Rev 1 - 9/17/2019 10:20 AM ET)	1/10/2020
Haaser, Mark T	ONLINEC NIEHS0190 (Rev 10/1/2018 04:43 PM ET)	1/7/2020 1
Haaser, Mark T	ONLINEC CDOP00261 (Rev 1 - 1/23/2018 04:57 PM ET)	12/11/2019
Haaser, Mark T	CRS NISE00004 (Rev 1 - 11/9/2017 02:07 PM ET)	12/6/2019
Haaser, Mark T	ONLINEC NIEHS0167 (Rev 11/19/2015 10:24 PM ET)	12/6/2019
Haaser, Mark T	ONLINEC NIETHICS0043_2019 (Rev 1 - 8/8/2019 04:40 PM ET)	11/20/2019
Haaser, Mark T	ONLINEC NIETHICS0067 (Rev 1 - 4/29/2019 09:15 AM ET)	10/11/2019
Haaser, Mark T	ONLINEC NION1908_1907 (Rev 1 - 7/2/2019 01:03 PM ET)	10/4/2019
Haaser, Mark T	POLPROC CDOPGSR2810.050_1907 (Rev 1 - 6/20/2019 11:53 AM ET)	10/4/2019
Haaser, Mark T	POLPROC CDOPGSR1740.010_1809 (Rev 1 - 8/28/2019 01:59 PM ET)	10/4/2019
Haaser, Mark T	POLPROC CDOPGSR1150.010_1809 (Rev 1 - 8/28/2019 02:01 PM ET)	10/4/2019
Haaser, Mark T	ONLINEC NISMS0010 (Rev 8/6/2019 11:07 AM ET)	9/17/2019
Haaser, Mark T	ONLINEC NISMS0001A (Rev 11/29/2018 09:40 AM ET)	9/13/2019
Haaser, Mark T	CRS NIOD00231 (Rev 1 - 6/22/2019 05:15 PM ET)	9/4/2019 0
Haaser, Mark T	CRS NIOD00242 (Rev 1 - 10/30/2019 10:12 AM ET)	9/4/2019 0
Haaser, Mark T	CRS NIOD00243 (Rev 1 - 10/30/2019 12:16 PM ET)	9/4/2019 0
Haaser, Mark T	CRS NISMS0007 (Rev 7/30/2019 02:35 PM ET)	8/21/2019
Haaser, Mark T	POLPROC CDON1907_1907 (Rev 1 - 7/2/2019 12:55 PM ET)	8/21/2019
Haaser, Mark T	CBT NIETHICS0066 (Rev 1 - 4/17/2019 04:59 PM ET)	8/21/2019
Haaser, Mark T	CRS NIOP0017 (Rev 1 - 8/16/2019 02:07 PM ET)	8/21/2019
Haaser, Mark T	POLPROC CDOQNOC1420.410_1905 (Rev 1 - 5/9/2019 09:34 AM ET)	8/2/2019 0
Haaser, Mark T	POLPROC CDOPGSR6400.110_1905 (Rev 1 - 5/9/2019 01:01 PM ET)	7/5/2019 0
Haaser, Mark T	POLPROC CDOPGSR1756.010_1905 (Rev 1 - 5/9/2019 12:49 PM ET)	7/5/2019 0
Haaser, Mark T	ONLINEC NICMCDLMVR (Rev 4/3/2019 12:39 PM ET)	6/28/2019
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Haaser, Mark T	ONLINEC NION1905_1905 (Rev 1 - 5/29/2019 11:16 AM ET)	6/26/2019
Haaser, Mark T	POLPROC CDOPGSR1750.010_1904 (Rev 1 - 4/15/2019 11:51 AM ET)	6/10/2019
Haaser, Mark T	ONLINEC NICMCDLMVR (Rev 4/3/2019 12:39 PM ET)	5/24/2019
Haaser, Mark T	POLPROC CDOQNOC1680.010_1902 (Rev 1 - 3/3/2019 01:10 PM ET)	3/22/2019
Haaser, Mark T	ONLINEC NION1902_1902 (Rev 1 - 3/3/2019 12:58 PM ET)	3/22/2019
Haaser, Mark T	PERFEVAL CDOP00241 (Rev 1 - 12/8/2017 11:55 AM ET)	2/25/2019
Haaser, Mark T	PERFEVAL CDOP00241 (Rev 1 - 12/8/2017 11:55 AM ET)	2/22/2019
Haaser, Mark T	PERFEVAL CDOP00241 (Rev 1 - 12/8/2017 11:55 AM ET)	2/22/2019
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Haaser, Mark T	ONLINEC NION1813_1810 (Rev 1 - 1/29/2019 12:17 PM ET)	2/20/2019
Haaser, Mark T	POLPROC CDOPGSR1652.010_1901 (Rev 1 - 1/29/2019 12:56 PM ET)	2/18/2019
Haaser, Mark T	CRS NIDOTMPR (Rev 1 - 1/4/2019 08:17 AM ET)	2/18/2019
Haaser, Mark T	ONLINEC NION1901_1901 (Rev 1 - 1/14/2019 10:54 AM ET)	2/18/2019
Haaser, Mark T	ONLINEC NIEHS0190 (Rev 10/1/2018 04:43 PM ET)	1/8/2019 1
Haaser, Mark T	CBT NIETHICS0064 (Rev 1 - 7/13/2018 03:33 PM ET)	1/8/2019 1
Haaser, Mark T	ONLINEC NICMFERC2018B (Rev 1/3/2018 04:18 PM ET)	1/8/2019 0
Haaser, Mark T	CRS NIEHS0115 (Rev 1 - 1/1/1981 01:00 AM ET)	1/8/2019 0
Haaser, Mark T	ONLINEC NICM0005 (Rev 8/14/2008 03:17 PM ET)	1/8/2019 0

Haaser, Mark T	CRS NIEHS0050 (Rev 1/1/1981 01:00 AM ET)	1/8/2019 0
Haaser, Mark T	CRS NIEHS00162011 (Rev 1/18/2011 03:35 PM ET)	1/8/2019 0
Haaser, Mark T	CRS NIEHS0001 (Rev 1/1/1981 01:00 AM ET)	1/8/2019 0
Haaser, Mark T	CRS CDOP00326 (Rev 1 - 11/20/2018 11:55 AM ET)	12/17/2018
Haaser, Mark T	OQ_TASK CDOQM5 (Rev 1/1/1981 01:00 AM ET)	12/14/2018
Haaser, Mark T	OQ_TASK CDOQM5A (Rev 1/1/1981 01:00 AM ET)	12/14/2018
Haaser, Mark T	ONLINEC NIEHS0167 (Rev 11/19/2015 10:24 PM ET)	12/14/2018
Haaser, Mark T	CBT NIETHICS0063 (Rev 1 - 7/13/2018 01:14 PM ET)	12/14/2018
Haaser, Mark T	CBT NIETHICS0062 (Rev 1 - 5/25/2018 03:18 PM ET)	11/7/2018
Haaser, Mark T	ONLINEC NIIM00001 (Rev 1 - 1/17/2014 07:49 AM ET)	9/24/2018
Haaser, Mark T	ONLINEC CDOP40050 (Rev 1 - 6/6/2013 01:41 PM ET)	9/24/2018
Haaser, Mark T	ONLINEC NIERS0005 (Rev 1 - 8/8/2018 10:37 AM ET)	9/24/2018
Haaser, Mark T	ONLINEC NIEHS0188 (Rev 6/22/2018 03:37 PM ET)	9/24/2018
Haaser, Mark T	CRS NION1505_1809 (Rev 1 - 9/18/2018 04:48 PM ET)	9/19/2018
Haaser, Mark T	CRS NION1809_1809 (Rev 1 - 9/18/2018 04:40 PM ET)	9/19/2018
Haaser, Mark T	ONLINEC NISC0035 (Rev 1 - 7/27/2018 12:02 PM ET)	8/27/2018
Haaser, Mark T	CBT NIETHICS0060 (Rev 1 - 3/23/2018 09:15 AM ET)	8/27/2018
Haaser, Mark T	PERFEVAL CDOP00241 (Rev 1 - 12/8/2017 11:55 AM ET)	8/20/2018
Haaser, Mark T	POLPROC CDOQNOC1770.020_1806 (Rev 1 - 6/5/2018 09:31 AM ET)	8/15/2018
Haaser, Mark T	POLPROC CDOQNOC1680.010_1806 (Rev 1 - 6/5/2018 09:27 AM ET)	8/15/2018
Haaser, Mark T	ONLINEC NION1804_1804 (Rev 1 - 6/5/2018 09:16 AM ET)	8/15/2018
Haaser, Mark T	POLPROC NIOPGSR4100.020_1804 (Rev 1 - 6/5/2018 11:25 AM ET)	8/15/2018
Haaser, Mark T	POLPROC CDOPGSR4440.020_1806 (Rev 1 - 6/5/2018 09:50 AM ET)	8/14/2018
Haaser, Mark T	POLPROC CDOPGSR4440.010_1806 (Rev 1 - 6/5/2018 09:44 AM ET)	8/14/2018
Haaser, Mark T	SIM CDOPEMEREXERCISE (Rev 1 - 1/6/2006 03:54 PM ET)	8/7/2018 0
Haaser, Mark T	POLPROC CDOQNOC1670.040_1709 (Rev 1 - 9/26/2017 10:40 AM ET)	6/25/2018
Haaser, Mark T	ONLINEC NIETHICS0059 (Rev 1 - 2/26/2018 03:40 PM ET)	6/25/2018
Haaser, Mark T	ONLINEC NISC0032 (Rev 1 - 6/5/2018 09:41 AM ET)	6/25/2018
Haaser, Mark T	CRS NIETHICS0003_2018 (Rev 1/12/2018 01:31 PM ET)	6/6/2018 0
Haaser, Mark T	ONLINEC CDOP40022_2018 (Rev 2/28/2018 12:27 PM ET)	6/4/2018 0
Haaser, Mark T	CRS NIEHS0104 (Rev 1/1/1981 01:00 AM ET)	6/1/2018 1
Haaser, Mark T	CRS NIEHS0111 (Rev 1/1/1981 01:00 AM ET)	6/1/2018 1
Haaser, Mark T	CRS NIEHS0114 (Rev 1/1/1981 01:00 AM ET)	6/1/2018 1
Haaser, Mark T	CRS NIEHS0182 (Rev 1/15/2018 02:18 PM ET)	6/1/2018 1
Haaser, Mark T	CRS NIEHS0183 (Rev 1/15/2018 02:28 PM ET)	6/1/2018 1
Haaser, Mark T	CRS NIEHSNGD0190 (Rev 8/31/2015 09:00 PM ET)	6/1/2018 1
Haaser, Mark T	CRS NIENV0010 (Rev 1 - 4/13/2017 12:43 PM ET)	6/1/2018 1
Haaser, Mark T	ONLINEC NION1802_1801 (Rev 1 - 2/22/2018 02:36 PM ET)	5/16/2018
Haaser, Mark T	CRS NIEHS0184 (Rev 1 - 2/23/2018 01:13 PM ET)	5/14/2018
Haaser, Mark T	ONLINEC CDOQM7A (Rev 1 - 9/9/2010 03:00 PM ET)	5/14/2018
Haaser, Mark T	OQ_TASK CDOQM7 (Rev 1/1/1981 01:00 AM ET)	5/14/2018
Haaser, Mark T	POLPROC CDOQNOC1754.010_1801 (Rev 1 - 2/21/2018 08:48 PM ET)	4/27/2018
Haaser, Mark T	POLPROC CDOQNOC1750.210_1801 (Rev 1 - 2/21/2018 08:37 PM ET)	4/27/2018
Haaser, Mark T	POLPROC CDOQNOC1750.040_1801 (Rev 1 - 2/21/2018 08:34 PM ET)	4/27/2018
Haaser, Mark T	POLPROC CDOQNOC1750.020_1801 (Rev 1 - 2/21/2018 08:32 PM ET)	4/27/2018
Haaser, Mark T	POLPROC CDOQNOC1750.010_1801 (Rev 1 - 2/21/2018 08:29 PM ET)	4/25/2018
Haaser, Mark T	POLPROC CDON1801_1801 (Rev 1 - 2/22/2018 02:34 PM ET)	4/10/2018

Haaser, Mark T	POLPROC CDOPGSR1708.007_1801 (Rev 1 - 2/22/2018 02:38 PM ET)	4/10/2018
Haaser, Mark T	POLPROC CDOQNOC6500.060_1801 (Rev 1 - 2/22/2018 02:31 PM ET)	4/5/2018 1
Haaser, Mark T	POLPROC CDOQNOC1730.010_1801 (Rev 1 - 2/21/2018 08:24 PM ET)	4/5/2018 1
Haaser, Mark T	POLPROC CDOQNOC1680.012_1801 (Rev 1 - 2/20/2018 04:34 PM ET)	4/5/2018 1
Haaser, Mark T	POLPROC CDOQNOC1670.010_1801 (Rev 1 - 2/20/2018 04:28 PM ET)	4/5/2018 1
Haaser, Mark T	POLPROC CDOQNOC1620.010_1801 (Rev 1 - 2/20/2018 04:15 PM ET)	4/5/2018 1
Haaser, Mark T	POLPROC CDOQNOC1450.010_1801 (Rev 1 - 2/20/2018 04:04 PM ET)	4/5/2018 1
Haaser, Mark T	POLPROC CDOQNOC1420.410_1801 (Rev 1 - 2/20/2018 03:42 PM ET)	4/5/2018 1
Haaser, Mark T	POLPROC CDOQNOC1420.040_1801 (Rev 1 - 2/20/2018 03:25 PM ET)	4/5/2018 1
Haaser, Mark T	POLPROC CDOQNOC1170.040_1801 (Rev 1 - 2/20/2018 03:09 PM ET)	4/5/2018 1
Haaser, Mark T	POLPROC CDOQNOC1150.080_1801 (Rev 1 - 2/20/2018 02:58 PM ET)	4/5/2018 1
Haaser, Mark T	POLPROC CDOQNOC1150.070_1801 (Rev 1 - 2/20/2018 02:55 PM ET)	4/5/2018 1
Haaser, Mark T	POLPROC CDOPGSR6400.030_1801 (Rev 1 - 2/22/2018 02:28 PM ET)	4/5/2018 1
Haaser, Mark T	POLPROC CDOPGSR2300.040_1801 (Rev 1 - 2/22/2018 02:12 PM ET)	4/5/2018 0
Haaser, Mark T	POLPROC CDOPGSR2300.030_1801 (Rev 1 - 2/22/2018 02:09 PM ET)	4/5/2018 0
Haaser, Mark T	POLPROC CDOPGSR2300.020_1801 (Rev 1 - 2/22/2018 02:07 PM ET)	4/5/2018 0
Haaser, Mark T	POLPROC CDOPGSR2300.010_1801 (Rev 1 - 2/22/2018 02:04 PM ET)	4/5/2018 0
Haaser, Mark T	POLPROC CDOPGSR1708.020_1801 (Rev 1 - 2/21/2018 08:22 PM ET)	4/5/2018 0
Haaser, Mark T	POLPROC CDOPGSR1670.020_1801 (Rev 1 - 2/20/2018 04:31 PM ET)	4/5/2018 0
Haaser, Mark T	POLPROC CDOPGSR1420.520_1801 (Rev 1 - 2/20/2018 03:52 PM ET)	4/5/2018 0
Haaser, Mark T	OQ_TASK CDOQM4GDS6.11 (Rev 1/1/1981 01:00 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQM4GDS6.16 (Rev 1/1/1981 01:00 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQM4GDS6.17 (Rev 1/1/1981 01:00 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQM4H.1 (Rev 5/28/2014 02:58 PM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQM10 (Rev 1/1/1981 01:00 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQM10A (Rev 1/1/1981 01:00 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQM1A (Rev 1/1/1981 01:00 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQH1 (Rev 1/1/1981 01:00 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQL3 (Rev 1/1/1981 01:00 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQL3A (Rev 1/1/1981 01:00 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQL3B (Rev 12/30/2008 08:52 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQL3B (Rev 12/30/2008 08:52 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQM4 (Rev 1/1/1981 01:00 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQM4A (Rev 1/1/1981 01:00 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQM4GDS6.10 (Rev 1/1/1981 01:00 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQM4GDS6.11 (Rev 1/1/1981 01:00 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQM4GDS6.16 (Rev 1/1/1981 01:00 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQM4GDS6.17 (Rev 1/1/1981 01:00 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQM4GDS6.18 (Rev 2/3/2005 03:10 PM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQM4GDS6.4 (Rev 1/1/1981 01:00 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQM4GDS6.7 (Rev 1/1/1981 01:00 AM ET)	3/26/2018
Haaser, Mark T	OQ_TASK CDOQG1 (Rev 2/18/2009 09:56 AM ET)	3/22/2018
Haaser, Mark T	OQ_TASK CDOQI1A (Rev 1/1/1981 01:00 AM ET)	3/22/2018
Haaser, Mark T	OQ_TASK CDOQI1B (Rev 1/1/1981 01:00 AM ET)	3/22/2018
Haaser, Mark T	OQ_TASK CDOQI1C (Rev 12/13/2006 03:38 PM ET)	3/22/2018
Haaser, Mark T	OQ_TASK CDOQI1D (Rev 7/29/2011 02:48 PM ET)	3/22/2018
Haaser, Mark T	OQ_TASK CDOQL1C (Rev 7/8/2011 06:03 PM ET)	3/22/2018

Haaser, Mark T	OQ_TASK CDOQL2 (Rev 1/1/1981 01:00 AM ET)	3/22/2018
Haaser, Mark T	OQ_TASK CDOQL2A (Rev 1/1/1981 01:00 AM ET)	3/22/2018
Haaser, Mark T	OQ_TASK CDOQM2A (Rev 3/3/2014 09:07 AM ET)	3/22/2018
Haaser, Mark T	CRS NISE00004 (Rev 1 - 11/9/2017 02:07 PM ET)	2/23/2018
Haaser, Mark T	CRS NIEHS0176 (Rev 1 - 3/27/2017 02:56 PM ET)	2/23/2018
Haaser, Mark T	ONLINEC CDOP00261 (Rev 1 - 1/23/2018 04:57 PM ET)	2/23/2018
Haaser, Mark T	ONLINEC NIETHICS0058 (Rev 1 - 8/10/2017 03:45 PM ET)	1/12/2018
Haaser, Mark T	OQ_TASK CDOQI1A (Rev 1/1/1981 01:00 AM ET)	1/2/2018 1
Haaser, Mark T	OQ_TASK CDOQI1B (Rev 1/1/1981 01:00 AM ET)	1/2/2018 1
Haaser, Mark T	OQ_TASK CDOQI1C (Rev 12/13/2006 03:38 PM ET)	1/2/2018 1
Haaser, Mark T	OQ_TASK CDOQI1D (Rev 7/29/2011 02:48 PM ET)	1/2/2018 1
Haaser, Mark T	OQ_TASK CDOQL2 (Rev 1/1/1981 01:00 AM ET)	1/2/2018 1
Haaser, Mark T	OQ_TASK CDOQL2A (Rev 1/1/1981 01:00 AM ET)	1/2/2018 1
Haaser, Mark T	POLPROC CDOQNOC3020.035_1708 (Rev 1 - 8/31/2017 11:59 AM ET)	12/20/201
Haaser, Mark T	POLPROC CDOQNOC1750.022_1708 (Rev 1 - 8/31/2017 11:57 AM ET)	12/20/201
Haaser, Mark T	POLPROC CDOPGSR4460.030_1709 (Rev 1 - 8/31/2017 12:29 PM ET)	12/20/201
Haaser, Mark T	CRS NIEHS0050 (Rev 1/1/1981 01:00 AM ET)	12/20/201
Haaser, Mark T	CRS NIEHS00162011 (Rev 1/18/2011 03:35 PM ET)	12/20/201
Haaser, Mark T	CRS NIEHS0001 (Rev 1/1/1981 01:00 AM ET)	12/20/201
Haaser, Mark T	ONLINEC NIITSANS007_2017 (Rev 1 - 10/31/2017 04:27 PM ET)	12/20/201
Haaser, Mark T	ONLINEC NIEHS0167 (Rev 11/19/2015 10:24 PM ET)	11/28/201
Haaser, Mark T	ONLINEC NIITSANS002_2017 (Rev 1 - 10/2/2017 11:45 AM ET)	11/28/201
Haaser, Mark T	POLPROC CDOQNOC1760.012_1709 (Rev 1 - 9/26/2017 11:51 AM ET)	10/23/201
Haaser, Mark T	CRS NIEHS0175 (Rev 1 - 3/27/2017 02:47 PM ET)	10/23/201
Haaser, Mark T	ONLINEC NIITSANS015_2017 (Rev 1 - 7/25/2017 02:32 PM ET)	9/1/2017 0
Haaser, Mark T	ONLINEC NIETHICS0057 (Rev 1 - 6/5/2017 02:49 PM ET)	9/1/2017 0
Haaser, Mark T	POLPROC CDOPGSR2650.010_1704 (Rev 1 - 7/3/2017 10:29 AM ET)	9/1/2017 0
Haaser, Mark T	ONLINEC NIEHS0178 (Rev 4/13/2017 03:26 PM ET)	7/13/2017
Haaser, Mark T	ONLINEC NIEHS0152G (Rev 5/1/2009 02:26 PM ET)	7/13/2017
Haaser, Mark T	ONLINEC NIITSANS014_2017 (Rev 1 - 5/31/2017 03:27 PM ET)	7/11/2017
Haaser, Mark T	ONLINEC NIETHICS0056 (Rev 1 - 3/6/2017 04:04 PM ET)	7/11/2017
Haaser, Mark T	ONLINEC NIITSANS010_2017 (Rev 1 - 5/9/2017 08:04 AM ET)	6/29/2017
Haaser, Mark T	ONLINEC NIITSANS008_2017 (Rev 1 - 5/9/2017 08:02 AM ET)	6/29/2017
Haaser, Mark T	CRS NIENV0009 (Rev 1 - 4/13/2017 12:38 PM ET)	5/25/2017
Haaser, Mark T	CRS NIEHS0172 (Rev 1 - 10/24/2016 02:58 PM ET)	5/5/2017 0
Haaser, Mark T	ONLINEC CDOP40152 (Rev 1 - 12/2/2016 05:29 PM ET)	5/5/2017 0
Haaser, Mark T	CRS NIEHS0039R (Rev 11/7/2005 01:28 PM ET)	5/5/2017 0
Haaser, Mark T	ONLINEC NIETHICS0032_2017 (Rev 1 - 11/30/2016 03:22 PM ET)	4/4/2017 1
Haaser, Mark T	ONLINEC NIEHSNGD0110 (Rev 8/22/2012 04:30 PM ET)	4/4/2017 0
Haaser, Mark T	POLPROC CDOQNOC1714.030_1701 (Rev 1 - 1/23/2017 03:19 PM ET)	4/4/2017 0
Haaser, Mark T	OQ_TASK CDOQM4A (Rev 1/1/1981 01:00 AM ET)	4/3/2017 0
Haaser, Mark T	CRS NIEHSNGD0197 (Rev 1 - 12/21/2016 11:44 AM ET)	2/24/2017
Haaser, Mark T	ONLINEC NIEHS0152C (Rev 5/1/2009 02:25 PM ET)	1/19/2017
Haaser, Mark T	ONLINEC NIEHS0152F (Rev 5/1/2009 02:26 PM ET)	1/19/2017
Haaser, Mark T	ONLINEC NIEHS0152D (Rev 5/1/2009 02:25 PM ET)	1/19/2017
Haaser, Mark T	ONLINEC NIEHS0152E (Rev 5/1/2009 02:25 PM ET)	1/18/2017
Haaser, Mark T	ONLINEC NIEHS0152A (Rev 5/1/2009 02:21 PM ET)	1/18/2017

Haaser, Mark T	ONLINEC NIEHS0152B (Rev 5/1/2009 02:25 PM ET)	1/18/2017
Haaser, Mark T	POLPROC CDOQNOC1690.010_1610 (Rev 1 - 10/19/2016 03:32 PM ET)	12/20/2016
Haaser, Mark T	CRS CDOP40119 (Rev 4/19/2016 12:43 PM ET)	12/20/2016
Haaser, Mark T	ONLINEC NION1611_1610 (Rev 1 - 10/19/2016 03:35 PM ET)	12/20/2016
Haaser, Mark T	ONLINEC NION1609_1608 (Rev 1 - 10/19/2016 03:24 PM ET)	12/20/2016
Haaser, Mark T	ONLINEC CDON1608_1607 (Rev 1 - 10/19/2016 03:23 PM ET)	12/20/2016
Haaser, Mark T	ONLINEC NION1607_1607 (Rev 1 - 10/19/2016 03:22 PM ET)	12/20/2016
Haaser, Mark T	ONLINEC NION1606_1607 (Rev 1 - 10/19/2016 03:22 PM ET)	12/20/2016
Haaser, Mark T	CRS NIEHS0115 (Rev 1/1/1981 01:00 AM ET)	12/20/2016
Haaser, Mark T	ONLINEC NICM0005 (Rev 8/14/2008 03:17 PM ET)	12/20/2016
Haaser, Mark T	CRS NIEHS0050 (Rev 1/1/1981 01:00 AM ET)	12/8/2016
Haaser, Mark T	POLPROC CDOPGSR4460.020_1610 (Rev 1 - 10/19/2016 03:34 PM ET)	12/7/2016
Haaser, Mark T	POLPROC CDOPGSR4460.010_1610 (Rev 1 - 10/19/2016 03:34 PM ET)	12/7/2016
Haaser, Mark T	POLPROC CDOPGSR4400.050_1610 (Rev 1 - 10/19/2016 03:33 PM ET)	12/7/2016
Haaser, Mark T	POLPROC CDOPGSR4200.040_1610 (Rev 1 - 10/19/2016 03:33 PM ET)	12/7/2016
Haaser, Mark T	POLPROC CDOPGSR1770.010_1610 (Rev 1 - 10/19/2016 03:32 PM ET)	12/7/2016
Haaser, Mark T	POLPROC CDOPGSR1652.010_1610 (Rev 1 - 10/19/2016 03:29 PM ET)	12/7/2016
Haaser, Mark T	CRS NIEHS00162011 (Rev 1/18/2011 03:35 PM ET)	12/7/2016
Haaser, Mark T	CRS NIEHS0001 (Rev 1/1/1981 01:00 AM ET)	12/7/2016
Haaser, Mark T	ONLINEC NION1613_1611 (Rev 1 - 11/7/2016 09:02 PM ET)	12/7/2016
Haaser, Mark T	ONLINEC CDOP40132 (Rev 1 - 7/18/2016 05:24 PM ET)	12/7/2016
Haaser, Mark T	ONLINEC NIEHSNP0065_2016 (Rev 3/31/2016 09:41 AM ET)	12/7/2016
Haaser, Mark T	ONLINEC NIETHICS0055 (Rev 1 - 8/25/2016 11:06 AM ET)	11/17/2016
Haaser, Mark T	CRS NIEHS0114 (Rev 1/1/1981 01:00 AM ET)	11/17/2016
Haaser, Mark T	ONLINEC NIITSANS015_2016 (Rev 1 - 8/31/2016 03:14 PM ET)	11/17/2016
Haaser, Mark T	POLPROC NICO00002 (Rev 1 - 8/26/2016 10:41 AM ET)	11/17/2016
Haaser, Mark T	CRS CDSFATMOSCON (Rev 1/1/1981 01:00 AM ET)	11/9/2016
Haaser, Mark T	ONLINEC NIETHICS0050 (Rev 1 - 10/19/2015 11:38 AM ET)	10/24/2016
Haaser, Mark T	ONLINEC NIITSANS014_2016 (Rev 1 - 8/31/2016 03:12 PM ET)	10/24/2016
Haaser, Mark T	ONLINEC CDOP40122 (Rev 1 - 5/18/2016 03:38 PM ET)	10/24/2016
Haaser, Mark T	CRS NIEHSNGD0193 (Rev 2/2/2016 03:43 PM ET)	9/30/2016
Haaser, Mark T	ONLINEC NIETHICS0054 (Rev 1 - 6/9/2016 03:53 PM ET)	9/27/2016
Haaser, Mark T	POLPROC CDOQNOC3020.040_1606 (Rev 1 - 6/15/2016 03:07 PM ET)	9/27/2016
Haaser, Mark T	POLPROC CDOQNOC3020.035_1606 (Rev 1 - 6/15/2016 03:07 PM ET)	9/27/2016
Haaser, Mark T	POLPROC CDOQNOC3020.012_1606 (Rev 1 - 6/15/2016 03:05 PM ET)	9/27/2016
Haaser, Mark T	POLPROC CDOPGSR4200.020_1606 (Rev 1 - 6/15/2016 03:10 PM ET)	9/27/2016
Haaser, Mark T	POLPROC CDOPGSR1708.100_1606 (Rev 1 - 6/15/2016 02:54 PM ET)	8/30/2016
Haaser, Mark T	ONLINEC NIEHSNP0064_2016 (Rev 3/31/2016 09:38 AM ET)	8/30/2016
Haaser, Mark T	ONLINEC NIITSANS006_2016 (Rev 1 - 5/26/2016 08:42 AM ET)	8/30/2016
Haaser, Mark T	ONLINEC NIITSANS007_2016 (Rev 1 - 5/26/2016 08:40 AM ET)	8/30/2016
Haaser, Mark T	CRS NIETHICS0003_2016 (Rev 4/21/2016 12:40 PM ET)	7/25/2016
Haaser, Mark T	ONLINEC NIITSANS012_2016 (Rev 1 - 5/26/2016 08:37 AM ET)	7/13/2016
Haaser, Mark T	ONLINEC NIITSANS010_2015 (Rev 1 - 2/9/2015 02:58 PM ET)	6/27/2016
Haaser, Mark T	ONLINEC NIEHSNP0063_2016 (Rev 3/31/2016 07:54 AM ET)	6/7/2016 0
Haaser, Mark T	ONLINEC NIITSANS008_2015 (Rev 1 - 3/30/2015 02:25 PM ET)	5/20/2016
Haaser, Mark T	FIELD CDSFFIRESCHL (Rev 1/1/1981 01:00 AM ET)	5/16/2016
Haaser, Mark T	ONLINEC NIETHICS0052 (Rev 1 - 1/11/2016 10:26 AM ET)	5/13/2016

Haaser, Mark T	ONLINEC NIETHICS0049 (Rev 1 - 10/19/2015 11:35 AM ET)	4/28/2016
Haaser, Mark T	ONLINEC NIITSANS004 (Rev 1 - 5/22/2014 11:25 AM ET)	4/28/2016
Haaser, Mark T	POLPROC CDOQNOC1770.010_1601 (Rev 1 - 2/12/2016 10:54 AM ET)	4/28/2016
Haaser, Mark T	POLPROC CDOQNOC1754.010_1601 (Rev 1 - 2/12/2016 10:51 AM ET)	4/28/2016
Haaser, Mark T	POLPROC CDOQNOC1750.050_1601 (Rev 1 - 2/12/2016 10:39 AM ET)	4/28/2016
Haaser, Mark T	POLPROC CDOQNOC1708.060_1601 (Rev 1 - 2/12/2016 10:21 AM ET)	4/28/2016
Haaser, Mark T	POLPROC CDOQNOC1708.022_1601 (Rev 1 - 2/12/2016 10:20 AM ET)	4/28/2016
Haaser, Mark T	POLPROC CDOQNOC1704.010_1601 (Rev 1 - 2/12/2016 10:18 AM ET)	4/28/2016
Haaser, Mark T	POLPROC CDOQNOC1680.010_1601 (Rev 1 - 2/12/2016 10:14 AM ET)	4/28/2016
Haaser, Mark T	POLPROC CDOQNOC1430.110_1601 (Rev 1 - 2/12/2016 10:04 AM ET)	4/28/2016
Haaser, Mark T	POLPROC CDOQNOC1420.410_1601 (Rev 1 - 2/12/2016 10:00 AM ET)	4/28/2016
Haaser, Mark T	ONLINEC NION1601_1601 (Rev 1 - 2/24/2016 01:53 PM ET)	4/28/2016
Haaser, Mark T	POLPROC CDOPGSR1750.810_1601 (Rev 1 - 2/12/2016 10:47 AM ET)	4/28/2016
Haaser, Mark T	POLPROC CDOPGSR1750.210_1601 (Rev 1 - 2/12/2016 10:40 AM ET)	4/28/2016
Haaser, Mark T	POLPROC CDOPGSR1750.040_1601 (Rev 1 - 2/12/2016 10:36 AM ET)	4/28/2016
Haaser, Mark T	POLPROC CDOPGSR1714.060_1601 (Rev 1 - 2/12/2016 10:32 AM ET)	4/28/2016
Haaser, Mark T	POLPROC CDOPGSR1708.070_1601 (Rev 1 - 2/12/2016 10:22 AM ET)	4/28/2016
Haaser, Mark T	POLPROC CDOPGSR1702.010_1601 (Rev 1 - 2/12/2016 10:17 AM ET)	4/28/2016
Haaser, Mark T	POLPROC CDOPGSR1670.020_1601 (Rev 1 - 2/12/2016 10:13 AM ET)	4/27/2016
Haaser, Mark T	POLPROC CDOPGSR1450.010_1601 (Rev 1 - 2/12/2016 10:08 AM ET)	4/27/2016
Haaser, Mark T	POLPROC CDOPGSR1440.010_1601 (Rev 1 - 2/12/2016 10:06 AM ET)	4/27/2016
Haaser, Mark T	POLPROC CDOPGSR1420.540_1601 (Rev 1 - 2/12/2016 10:03 AM ET)	4/27/2016
Haaser, Mark T	POLPROC CDOPGSR1420.010_1601 (Rev 1 - 2/12/2016 09:59 AM ET)	4/27/2016
Haaser, Mark T	POLPROC CDOPGSR1012.010_1601 (Rev 1 - 2/12/2016 09:43 AM ET)	4/27/2016
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NiSource
DRUG AND ALCOHOL PLAN

U.S. DEPARTMENT OF TRANSPORTATION
PIPELINE & HAZARDOUS MATERIALS SAFETY ADMINISTRATION
(PHMSA)
PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF:
49 CFR PART 199
49 CFR PART 40

NiSource Inc.
801 East 86th Ave.
Merrillville, IN 46410
(219) 765-8878

For the direct or indirect subsidiaries of NiSource Inc., a.k.a. "Company" or "Employer," including, but not limited to:

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©NATIONAL COMPLIANCE MANAGEMENT SERVICE, INC. (NCMS)

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I.INTRODUCTION

1. Development of "Combined" Plan (§199.101 & §199.202)

The Pipeline and Hazardous Materials Safety Administration (PHMSA) is the agency within the Department of Transportation (DOT) that regulates operators in the natural gas and hazardous liquid pipeline industry. PHMSA's Drug and Alcohol Testing Regulation, 49 CFR Part 199, requires each operator to develop, maintain, and follow an Anti-Drug Plan and an Alcohol Misuse Prevention Plan. Historically, companies have produced these plans as two separate documents. This "combined" Anti-Drug and Alcohol Misuse Prevention Plan," merges both PHMSA-required plans into a single document.

Authorization for a combined plan was granted by PHMSA's Office of Pipeline Safety stating: "PHMSA will allow the combining of the two plans into one written plan, as long as all requirements of each regulation are met." The "requirements of each regulation" means the requirements of Part 199 and the requirements of DOT's "Procedures for Transportation Workplace Drug and Alcohol Testing," 49 CFR Part 40.

The Anti-Drug and Alcohol Misuse Prevention Plan, henceforth referred to as the "Plan," meets all the requirements of Part 199 and Part 40.

2. Approach (§199.239(b), §199.243. §199.7, §40.21)

The Plan will use the generic word "*Company*" in reference to the operator or contractor, as applicable, for which it is written. PHMSA's requirement for plan development and implementation applies equally to each operator and contractor that performs safety-sensitive operations, maintenance, or emergency-response functions on a pipeline or LNG facility within the natural gas and hazardous liquid pipeline industry. The Plan will describe how the Company will comply with government requirements. In any case where there is a discrepancy between the requirements of Part 40 with that of Part 199, Part 40 will prevail.

The Plan will identify "Company-additional" requirements – those that go beyond the minimum requirements of DOT. Company-additional requirements will be bold and **underscored.** Therefore, consider anything that is not underscored a requirement of DOT or a process put in place by the Company to meet a DOT requirement. Appendix D outlines the Company disciplinary actions and additional procedures.

The Plan is written in "plain language" and follows the requirements of each rule. However, the Plan does not repeat the language of either Part 40 or Part 199. Doing so would require the Company to produce a new plan every time DOT or PHMSA issued a change to their respective rule. The goal of DOT is to know that the Company understands the requirements of the rules and how the Company will go about achieving compliance. The Plan makes use of existing DOT language in places where summaries are used to explain a more detailed process (e.g., specimen collection and alcohol test procedures are extracted from DOT's "Employee Guide").

Cross references are made linking the Plan to the PHMSA Inspection Form for the purpose of assisting inspectors with specific areas of Plan compliance. The cross references will appear in the Plan as superscripted "endnotes". Each endnote matches an inspection number and description from the PHMSA Inspection Form. The Inspection Form cross references is found in Appendix E.

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[1] Title 49 Code of Federal Regulations (CFR), Part 199, "Drug and Alcohol Testing Requirements," Pipeline and Hazardous Materials Safety Administration, Department of Transportation, 53 FR 47096, Nov. 21, 1988 as amended.

[2] Title 49, Code of Federal Regulations (CFR), Part 40, "Procedures for Transportation Workplace Drug and Alcohol Testing Programs," Office of the Secretary, Department of Transportation, 65 FR 79462, Dec. 19, 2000 as amended.

[3] "What Employees Need To Know About DOT Drug & Alcohol Testing," ODAPC, DOT, October, 2010.

3. Background

Safety. The DOT requires transportation employers to develop and implement drug and alcohol testing programs in the interest of public safety. Safety is the highest priority for DOT. One of the means by which the DOT helps ensure safety is by subjecting those workers responsible for transportation safety to drug and alcohol testing. Workers tested under the DOT program have direct impact on the safety of the traveling public or the safety of those potentially affected by the transportation of hazardous products, such as natural gas, liquefied natural gas (LNG) and hazardous liquids.

Test Procedures. The overall responsibility for management and coordination of the DOT program resides within the Office of the Secretary of Transportation's (OST), Office of Drug and Alcohol Policy and Compliance (ODAPC). ODAPC issues Part 40. Whether the transportation employee is a pipeline worker, truck driver, or airline pilot, their drug and alcohol tests are conducted using the same Part 40 procedures. This consistency benefits all employees affected by DOT regulations in that each agency's regulations must adhere to DOT's testing procedures. Better known simply as "Part 40," this rule has become the standard for workplace testing in the United States.

Compliance Enforcement. **(§40.15(d))** Regulation and enforcement within the different transportation industries is the responsibility of the DOT agency that has authority over the particular industry. The regulatory authority requiring drug and alcohol testing of safety-sensitive employees in aviation, trucking, railroads, and mass transit industries is the Omnibus Transportation Employee Testing Act of 1991[5] (OTETA). The OTETA did not specifically address the pipeline industry. PHMSA has regulatory authority over the pipeline industry and conveyed their authority, for drug and alcohol testing, through the issuance of their regulation -- Part 199. Part 199 spells out *who* is subject to testing, *when* and in *what* situations. Operators, and in turn, their associated contractors, implement the regulations.

II. GENERAL

1. Scope (§40.409(b), §40.121, §199,(b), §40.81(3), §40.33, §40.213(2&3), §40.281)

Operators of pipeline facilities subject to 49 CFR Parts 192, 193,or 195 are required to test covered employees for the presence of prohibited drugs and alcohol. Contractors doing similar work on the behalf of their operators are subject to the same requirements. Part 199 requires of each operator the assurance that any contractor performing any DOT safety-sensitive work for that operator, under Parts 192, 193, or 195, is in full compliance with the provisions of the DOT's drug and alcohol program, as applicable.

2. Applicability

Part 199, and the provisions of the Plan, applies to operators and contractors only with respect to their employees located within the territory of the United States, including those employees located within the limits of the "Outer Continental Shelf." Part 199 and the provisions of the Plan do not apply to covered functions performed on master meter systems or pipeline systems that transport only petroleum gas or petroleum gas/air mixtures.

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[4] "Substance Abuse Program: Comprehensive Audit and Inspection Protocol Form, Combined Anti-Drug and Alcohol Misuse Programs, Form No.: 3.1.11, January 29, 2010" Pipeline and Hazardous Materials Safety Administration, Office of Pipeline Safety.

[5] Public Law 102-143, October 28, 1991, Title V – Omnibus Transportation Employee Testing, 105 Stat. 952-965; 49 U.S.C. 45104(2).

[6] Part 192 – Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards

[7] Part 193 – Liquefied Natural Gas Facilities: Federal Safety Standards

[8] Part 195 – Transportation of Hazardous Liquids by Pipeline

3. Compliance (§199.101 & §199.202)

Plan Development. The Plan meets the requirement of Part 199, paragraphs §199.101 and §199.202, respectively, to develop a written anti-drug plan and a written alcohol misuse prevention plan. The Plan describes the methods and procedures for compliance with the drug and alcohol program requirements of the DOT, including the employee assistance program. The Plan covers the operational, day-to-day requirements that are found in Part 199, and the procedural, testing requirements that are found in Part 40. The Plan provides appendices for the name and address of each laboratory that analyzes specimens for the Company, the Company's Medical Review Officer, and Substance Abuse Professionals. The Plan communicates to employees, Company officials, and DOT officials the path that the Company will follow in order to comply with the requirements for a successful DOT drug and alcohol program.

Plan Availability. The Plan will be posted in a common place, selected by the Company, for employee review and feedback. A copy of the Plan will be made available to all covered employees. * Any covered employee desiring a copy of Part 40 and/or Part 199 must contact the Designated Employer Representative (see Appendix B). The Plan provides a basic description of the rules and testing requirements, and shows how the Company implements and follows them. The Plan is not meant as a substitute for the detail provided in either rule. If there is any difference in instruction or interpretation between the Plan and the rules, the rules prevail. The Plan will be updated at any time its language, or the intent of its language, differs from that of either Part 40 or Part 199. Employees are encouraged to obtain and read Part 40 and Part 199 on their own.

4. "DOT" vs. "PHMSA"

All DOT workplace testing procedures will follow Part 40 requirements. All DOT procedural responsibilities for pipeline operators and contractors will follow Part 199. In the Plan, the term "DOT" will be used for references to general requirements (e.g., testing procedures) placed on all transportation employers, including operators and contractors. The use of the term "PHMSA" will be to distinguish specific, unique administration requirements versus general, DOT requirements (e.g., random alcohol testing is not required by PHMSA).

5. DOT Procedures

The Company will assure that the procedures of Part 40 are followed for drug and alcohol testing conducted under the requirements and authority of Part 199; a violation of Part 40 is a violation of Part 199. If the Company employs a Consortium/Third-Party Administrator (C/TPA) to assist in program development, implementation, and management, the C/TPA will, likewise, follow all the requirements of Part 40 and Part 199. It is the Company's goal to establish and maintain compliance with the DOT drug and alcohol program.

6. Stand-down Waiver (§40.21 & §199.7)

DOT "stand-down" is not in effect for this Company. The Company does not hold a stand-down waiver under Part 40, and has not applied for one. Should this status change, the Company will notify all covered employees and Company officials, in accordance with Part 40 requirements.

*** Additionally, employees may access the most current version of the Anti-Drug Plan and Alcohol Misuse Prevention Plan on the Company's intranet site. For the MySource homepage click on "Policy Center", then on "Corporate Policies > Drug & Alcohol Prevention. To provide employees with the most current information about program requirements, revisions will be made on the Company's intranet site as changes occur.**

7. Preemption of State and Local Laws

Part 40 and Part 199 are Federal laws. Federal law preempts any state or local law, rule, regulation, or order to the extent that: (a) compliance with both the state or local requirement and Part 40 or 199

is not possible; or, (b) compliance with the state or local requirement is an obstacle to the accomplishment and execution of any requirement of Part 40 or 199; or, (c) the state or local requirement is a pipeline safety standard applicable to interstate pipeline facilities. This provision does not preempt provisions of state criminal law that impose sanctions for reckless conduct leading to actual loss of life, injury, or damage to property, whether the provisions apply specifically to transportation employees or employers or to the general public.

8. Definitions

Definitions from Parts 40, 191, 195, and 199 have been combined in alphabetical order and are provided in a single listing. For purposes of the Plan the following definitions apply:

Accident - An incident reportable under Part 191 involving gas pipeline facilities or LNG facilities or an accident reportable under Part 195 involving hazardous liquid pipeline facilities.

a) (§191.3) – An accident on a gas pipeline or LNG facility is defined as an "incident," as follows:

1. An event that involves a release of gas from a pipeline or of liquefied natural gas or gas from an LNG facility and:
   a) A death, or personal injury necessitating inpatient hospitalization; or
   b) Estimated property damage, excluding cost of gas lost, to the operator or others, or both, of $50,000 or more ($5,000 or more for intrastate operators/contractors in Oklahoma and New Mexico).
   c) Unintentional estimated gas loss of three Million cubic feet or more;
2. An event that results in an emergency shutdown of an LNG facility.
3. An event that is significant, in the judgment of the operator, even though it did not meet the criteria of paragraphs (1) or (2).

b) (§195.50) – An accident report is required for each failure in a pipeline system in which there is a release of the hazardous liquid or carbon dioxide transported resulting in any of the following:

1. Explosion or fire not intentionally set by the operator.
2. Release of 5 gallons (19 liters) or more of hazardous liquid or carbon dioxide, except that no report is required for a release of less than 5 barrels (0.8 cubic meters) resulting from a pipeline maintenance activity if this release is:
   a) Not otherwise reportable under this section;
   b) Not one described in §195.52(a)(4);
   c) Confined to Company property or pipeline right-of-way; and
   d) Cleaned up promptly;
3. Death of any person.
4. Personal injury necessitating hospitalization;
5. Estimated property damage, including cost of clean-up and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding $50,000.

Administrator - The Administrator of the Pipeline and Hazardous Materials Safety Administration (PHMSA) or any person to whom authority in the matter concerned has been delegated by the Secretary of Transportation.

Adulterated specimen - A specimen that has been altered, as evidenced by test results showing either a substance that is not a normal constituent for that type of specimen or showing an abnormal concentration of an endogenous substance.

Affiliate - Persons are affiliates of one another if, directly or indirectly, one controls or has the power to control the other or a third party controls or has the power to control both. Indicators of control include, but are not limited to: interlocking management or ownership; shared interest among family members; shared facilities or equipment; or common use of employees. Following the issuance of a Public Interest Exclusion (PIE), an organization having the same or similar management, ownership, or principal employees as the service agent concerning who public interest exclusion is in effect is regarded as an affiliate. This definition is used in connection with the public interest exclusion procedures of Part 40, Subpart R.

Air blank - In evidential breath testing devices (EBTs) using gas chromatography technology, a reading of the device's internal standard. In all other EBTs, a reading of ambient air containing no alcohol.

Alcohol - The intoxicating agent in beverage alcohol, ethyl alcohol or other low molecular weight alcohols, including methyl or isopropyl alcohol.

Alcohol concentration - The alcohol in a volume of breath expressed in terms of grams of alcohol per 210 liters of breath as indicated by a breath test under this part.

Alcohol confirmation test - A subsequent test using an EBT, following a screening test with a result of 0.02 or greater, that provides quantitative data about the alcohol concentration.

Alcohol screening device (ASD) - A breath or saliva device, other than an EBT, that is approved by the National Highway Traffic Safety Administration (NHTSA) and appears on ODAPC's Web page for "Approved Screening Devices to Measure Alcohol in Bodily Fluids."

Alcohol screening test - An analytic procedure to determine whether an employee may have a prohibited concentration of alcohol in a breath or saliva specimen.

Alcohol testing site - A place selected by the employer where employees present themselves for the purpose of providing breath or saliva for an alcohol test.

Alcohol use - The drinking or swallowing of any beverage, liquid mixture or preparation (including any medication), containing alcohol.

Aliquot - A fractional part of a specimen used for testing. It is taken as a sample representing the whole specimen.

Breath Alcohol Technician (BAT) - A person who instructs and assists employees in the alcohol testing process and operates an evidential breath testing device.

Cancelled test - A drug or alcohol test that has a problem identified that cannot be or has not been corrected, or which Part 40 otherwise requires to be cancelled. A cancelled test is neither a positive nor a negative test.

Chain-of-custody (or Custody and Control Form (CCF)) - The procedure used to document the handling of the urine specimen from the time the employee gives the specimen to the collector until the specimen is destroyed. This procedure uses the Federal Drug Testing Custody and Control Form (CCF).

Collection Container - A container into which the employee urinates to provide the specimen for a drug test.

Collection Site - A place selected by the employer where employees present themselves for the purpose of providing a urine specimen for a drug test.

Collector - A person who instructs and assists employees at a collection site, who receives and makes an initial inspection of the specimen provided by those employees, and who initiates and completes the CCF.

Confirmatory drug test - A second analytical procedure performed on a different aliquot of the original specimen to identify and quantify the presence of a specific drug or drug metabolite.

Confirmation (or confirmatory) validity test - A second test performed on a different aliquot of the original urine specimen to further support a validity test result.

Confirmed drug test - A confirmation test result received by an MRO from a laboratory.

Consortium/Third-Party Administrator (C/TPA) - A service agent that provides or coordinates the provision of a variety of drug and alcohol testing services to employers. C/TPAs typically perform administrative tasks concerning the operation of the employers' drug and alcohol testing programs. This term includes, but is not limited to, groups of employers who join together to administer, as a single entity, the DOT drug and alcohol testing programs of its members. C/TPAs are not "employers" for purposes of Part 40.

Continuing education - Training for medical review officers (MROs) and substance abuse professionals (SAPs) who have completed qualification training and are performing MRO or SAP functions, designed to keep MROs and SAPs current on changes and developments in the DOT drug and alcohol testing program.

Covered function (or safety-sensitive function) - An operations, maintenance, or emergency- response function regulated by 49 CFR Part 192, 193, or 195 that is performed on a pipeline or on an LNG facility.

DOT Procedures (or Part 40) - The Procedures for Transportation Workplace Drug and Alcohol Testing Program published by the Office of the Secretary of Transportation in 49 CFR Part 40.

Designated employer representative (DER) - An employee authorized by the employer to take immediate action(s) to remove employees from safety-sensitive duties, or cause employees to be removed from these covered duties, and to make required decisions in the testing and evaluation processes. The DER also receives test results and other communications for the employer, consistent with the requirements of Part 40. Service agents cannot act as DERs.

Dilute specimen - A urine specimen with creatinine and specific gravity values that are lower than expected for human urine.

DOT, The Department, DOT agency - These terms encompass all DOT agencies, including, but not limited to, the Federal Aviation Administration (FAA), the Federal Railroad Administration (FRA), the Federal Motor Carrier Safety Administration (FMCSA), the Federal Transit Administration (FTA), the National Highway Traffic Safety Administration (NHTSA), the Pipeline and Hazardous Materials Safety Administration (PHMSA), and the Office of the Secretary (OST). These terms include any designee of a DOT agency.

Drugs - The drugs for which tests are required under Part 40 and DOT agency regulations are marijuana, cocaine, amphetamines, phencyclidine (PCP), and opioids.

Employee (covered employee) - Any person who is designated in a DOT agency regulation as subject to drug testing and/or alcohol testing. The term includes individuals currently performing safety-sensitive functions designated in DOT agency regulations and applicants for employment subject to pre-employment testing. For purposes of drug testing under Part 40, the term employee has the same meaning as the term "donor" as found on CCF and related guidance materials produced by the Department of Health and Human Services. For the purposes of regulation under Part 199, the term employee means a person who performs a covered function, including persons employed by operators, contractors engaged by operators, and persons employed by such contractors. This includes full-time, part-time and temporary employees. It also includes any applicant for a covered function.

Employer - A person or entity employing one or more employees (including an individual who is self- employed) subject to DOT agency regulations requiring compliance with Part 40. The term includes an employer's officers, representatives, and management personnel. Service agents are not employers for the purposes of Part 40.

Error Correction Training - Training provided to BATs, collectors, and screening test technicians (STTs) following an error that resulted in the cancellation of a drug or alcohol test. Error correction training must be provided in person or by a means that provides real-time observation and interaction between the instructor and trainee.

Evidential Breath Testing Device (EBT) - A device approved by NHTSA for the evidential testing of breath at the .02 and .04 alcohol concentrations, and appears on ODAPC's Web page for "Approved Evidential Breath Measurement Devices" because it conforms with the model specifications available from NHTSA.

HHS, Department of Health and Human Services - The Department of Health and Human Services or any designee of the Secretary, Department of Health and Human Services.

Initial drug test (also known as a ``Screening drug test'') - The test used to differentiate a negative specimen from one that requires further testing for drugs or drug metabolites.

Initial specimen validity test - The first test used to determine if a urine specimen is adulterated, diluted, substituted, or invalid.

Invalid drug test - The result reported by an HHS-certified laboratory in accordance with the criteria established by HHS Mandatory Guidelines when a positive, negative, adulterated, or substituted result cannot be established for a specific drug or specimen validity test.

Laboratory - Any U.S. laboratory certified by HHS under the National Laboratory Certification Program as meeting the minimum standards of Subpart C of the HHS Mandatory Guidelines for Federal Workplace Drug Testing Programs; or, in the case of foreign laboratories, a laboratory approved for participation by DOT under this part.

Limit of Detection (LOD) - The lowest concentration at which an item being measured can be identified, but (for quantitative assays) the concentration cannot be accurately calculated.

Limit of Quantitation - For quantitative assays, the lowest concentration at which the identity and concentration of the item being measured can be accurately established.

Medical Review Officer (MRO) - A person who is a licensed physician and who is responsible for receiving and reviewing laboratory results generated by an employer's drug testing program and evaluating medical explanations for certain drug test results.

Negative result -The result reported by an HHS-certified laboratory to an MRO when a specimen contains no drug or the concentration of the drug is less than the cutoff concentration for the drug or drug class and the specimen is a valid specimen.

Non-negative specimen - A urine specimen that is reported as adulterated, substituted, positive (for drug(s) or drug metabolite(s)), and/or invalid.

Office of Drug and Alcohol Policy and Compliance (ODAPC) - The office in the Office of the Secretary, DOT, that is responsible for coordinating drug and alcohol testing program matters within the Department and providing information concerning the implementation of Part 40.

Operator - A person who owns or operates pipeline facilities subject to 49 CFR Part 192, 193, or 195.

Oxidizing adulterant - A substance that acts alone or in combination with other substances to oxidize drugs or drug metabolites to prevent the detection of the drug or drug metabolites, or affects the reagents in either the initial or confirmatory drug test.

Performs a covered function - Actually performing, ready to perform, or immediately available to perform a covered function.

Pipeline - All parts of those physical facilities through which gas, hazardous liquids or carbon dioxide moves in transportation, including, but limited to, pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, pumping units, breakout tanks and fabricated assemblies.

Pipeline facility - 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, or transportation of hazardous liquids or carbon dioxide during the course of transportation.

Positive rate for random drug testing - The number of verified positive results for random drug tests conducted under Part 199, plus the number of refusals of random drug tests required by Part 199, divided by the total number of random drug tests conducted plus the number of refusals of random tests under Part 199.

Positive result - The result reported by an HHS-certified laboratory when a specimen contains a drug or drug metabolite equal to or greater than the cutoff concentrations.

Primary specimen - In drug testing, the urine specimen bottle that is opened and tested by a first laboratory to determine whether the employee has a drug or drug metabolite in his or her system; and for the purpose of validity testing. The primary specimen is distinguished from the split specimen, defined in this section.

Prohibited drug - Any of the following substances specified the Controlled Substances Act (21 U.S.C. 812): marijuana, cocaine, opioids, amphetamines, and phencyclidine (PCP).

Qualification Training - The training required in order for a collector, BAT, MRO, SAP, or STT to be qualified to perform their functions in the DOT drug and alcohol testing program. Qualification training may be provided by any appropriate means (e.g., classroom instruction, internet application, CD- ROM, video).

Reconfirmed - The result reported for a split specimen when the second laboratory is able to corroborate the original result reported for the primary specimen.

Rejected for testing - The result reported by an HHS-certified laboratory when no tests are performed for a specimen because of a fatal flaw or a correctable flaw that is not corrected.

Refresher Training - The training required periodically for qualified collectors, BATs, and STTs to review basic requirements and provide instruction concerning changes in technology (e.g., new testing methods that may be authorized) and amendments, interpretations, guidance, and issues concerning Part 40 and DOT agency drug and alcohol testing regulations (e.g., Part 199). Refresher training can be provided by any appropriate means (e.g., classroom instruction, internet application, CD-ROM, video).

Refusal to submit, refuse, or refuse to take - Behavior consistent with Part 40 concerning refusal to take a drug test or refusal to take an alcohol test.

Screening drug test - See Initial drug test definition above.

Screening Test Technician (STT) - A person who instructs and assists employees in the alcohol testing process and operates an ASD.

Secretary - The Secretary of Transportation or the Secretary's designee.

Service agent - Any person or entity, other than an employee of the employer, who provides services specified under Part 40 to employers and/or employees in connection with DOT drug and alcohol testing requirements. This includes, but is not limited to, collectors, BATs and STTs, laboratories, MROs, substance abuse professionals, and C/TPAs. To act as service agents, persons and organizations must meet the qualifications set forth in applicable sections of Part 40. Service agents are not employers for purposes of Parts 199 and 40.

Shipping container - A container that is used for transporting and protecting urine specimen bottles and associated documents from the collection site to the laboratory.

Specimen bottle - The bottle that, after being sealed and labeled according to the procedures in Part 40, is used to hold the urine specimen during transportation to the laboratory.

Split specimen - In drug testing, a part of the urine specimen that is sent to a first laboratory and retained unopened, and which is transported to a second laboratory in the event that the employee requests that it be tested following a verified positive test of the primary specimen or a verified adulterated or substituted test result.

Split specimen collection - A collection in which the urine collected is divided into two separate specimen bottles, the primary specimen (Bottle A) and the split specimen (Bottle B).

State agency - An agency of any of the several states, the District of Columbia, and the Commonwealth of Puerto Rico that participates under the pipeline safety laws (49 U.S.C. 60101 et seq.)

Stand-down - The practice of temporarily removing an employee from the performance of safety- sensitive functions based only on a report from a laboratory to the MRO of a confirmed positive test for a drug or drug metabolite, an adulterated test, or a substituted test, before the MRO has completed verification of the test result.

Substance Abuse Professional (SAP) - A person who evaluates employees who have violated a DOT drug and alcohol regulation and makes recommendations concerning education, treatment, follow-up testing, and aftercare.

Substituted specimen - A specimen with creatinine and specific gravity values that are so diminished or so divergent that they are not consistent with normal human urine.

Verified test - A drug test result or validity testing result from an HHS-certified laboratory that has undergone review and final determination by the MRO.

III. POLICY AND RESPONSIBILITIES

1. Company Policy

Policy Statement. The Company has a long-standing commitment to maintain the highest standards for employee safety and health. The use of controlled substances and the misuse of alcohol are contrary to these high standards. The use or possession of illegal controlled substances or alcoholic beverages while on Company property, or in any Company vehicle, or on Company time, including breaks or lunch, paid or unpaid, on any shift, is strictly prohibited.

DOT Compliance. The Company is aware that it is ultimately responsible for meeting the requirements of Parts 40 and 199. The DOT authorizes transportation employers to use a service agent(s) to perform tasks necessary to comply with the Plan. The Company understands that, under the DOT regulations, it is responsible for the actions of its service agents. The Company is responsible for developing and implementing a successful and comprehensive DOT workplace drug and alcohol program. Components of the Company's program include clear policies, provisions for education and training, drug and alcohol testing, and when needed, referral for evaluation, education, and treatment. The Company shall ensure that all covered employees are aware of the provisions and coverage of the Plan.

2. Responsibilities of Key Personnel

The Company will convey to responsible individuals -- the Designated Employer Representative(s) and affected supervisors - that, to the best of their ability, the privacy and confidentiality of any covered employee subject to the Plan must be maintained at all times.

Designated Employer Representative (DER) . Appendix B contains the name, address, and phone number of the DER(s). The DER is:

a. the key employee for the Company's drug and alcohol program functions, and has the knowledge and authority to make decisions about the testing process and answer questions about it.
b. **not** a service agent.
c. one or more employees of the Company assigned to ensure adequate coverage on all shifts and at all locations.
d. responsible for the preparation of the Plan, as well as providing oversight and evaluation on the Plan.
e. responsible to review all adverse personnel action or discipline applied under the Plan for consistency and conformance to human resources policies and procedures.
f. responsible for scheduling random, return-to-duty and follow-up testing, as applicable, and is authorized to receive and maintain, in a secure file system, all drug and alcohol testing results.
g. responsible for providing answers to employee questions regarding the testing program, and information on the resources available for drug and alcohol counseling.
h. Responsible for overseeing the employee assistance program (EAP).
i. **The Company will verify, audit, investigate and follow-up on Collector, Substance Abuse Professional and Medical Review Officer complaints.**

Supervisor. A Company individual(s) responsible for observing the performance and behavior of employees that is suggestive enough to lead to reasonable suspicion/cause drug and/or alcohol testing. Supervisors who will determine whether an employee must be drug tested and/or alcohol tested based on reasonable suspicion/cause will be trained in the "signs and symptoms" of each substance. The supervisor is required to document a reasonable suspicion/cause event. The supervisor may also be responsible for requests as the second supervisor for substantiation and concurrence for reasonable suspicion/cause drug test, if applicable.

3. Responsibility of Covered Employees (§199.239(b) & §199.243)

Compliance. Each covered employee must comply with the requirements of the Plan, and the DOT drug and alcohol rules it pertains to, in order to remain eligible to work in a DOT safety-sensitive position. Each covered employee has the responsibility to read, be knowledgeable of, and comply with, the requirements of the Plan, and Parts 40 and 199. Committing a DOT violation will result in the employee's immediate removal from the covered function, and remain so until successfully completing the DOT return-to-duty conditions of Part 40. The Plan describes circumstances for being tested, violations, prohibited conduct, and their subsequent consequences. The Plan describes what is available to each covered employee as services (e.g., EAP) in such cases where the employee has a potential problem with drugs or alcohol prior to a drug or alcohol test. **It is a condition of employment for all covered employees to sign the Acknowledgement/Receipt Form (Appendix A). In doing so, the employee attests to comply with the drug and alcohol program requirements of the Company and the requirements of the Plan. Failure to comply with this condition may result in disciplinary action up to and including termination.**

4. Use of Service Agents (§40.15(d), §40.409(b), §40.355)

Compliance. The Company will contract with service agents to accomplish many of the requirements of Parts 40 and 199. Appendix B (Designated Personnel and Service Agents) provides the names and addresses of service agents that are under contract. Contracts will contain a provision that the service agent will comply with Parts 40 and 199 in the services provided. The work of any service agent providing services to the Company will be open to inspection by the Company. The service agent must allow access to property and records by the operator, the Administrator, and if the operator is subject to the jurisdiction of a state agency, a representative of the state agency for the purpose of monitoring the operator's compliance with the requirements of Part 199. No service agent will serve as DER for this Company.

Public Interest Exclusion. The Company will not use a service agent against whom a Public Interest Exclusion (PIE) has been issued. The Company will stop using the services of a service agent no later than 90 days after the DOT has published the decision in the *Federal Register* or posted it on its web site that a PIE has been issued. The Company may apply to the ODAPC Director for an extension of 30 days if it is demonstrated that a substitute service agent cannot be found within 90 days.

Consortium/Third Party Administrator. The Company may employ the service of a Consortium/Third Party Administrator (C/TPA) to assist the DER with overall program management and consultation on any program issue. While the C/TPA will not serve as the DER, the C/TPA may support the DER by explaining the regulations and offering guidance on program-compliance issues.

Service Agent Restrictions. Service agents will not be permitted to require an employee to sign a consent, release, waiver of liability, or indemnification agreement with respect to any part of the DOT drug and alcohol testing process. Service agents will not act as an intermediary in the transmission of laboratory drug test results direct from the laboratory to the MRO, operator, or to another service agent, or in the transmission of alcohol test results of 0.02 or higher direct from the STT or BAT to the DER. Service agents will not make decisions to test employees based upon reasonable suspicion/cause, post-accident, return-to-duty, and follow-up determination criteria. Service agents will not make determinations regarding an employee's refusal to test for drugs or alcohol. Service agents will not impose conditions or requirements on the operator, such as DOT drug and alcohol testing of non-covered employees that DOT regulations do not authorize. Service agents will not intentionally delay the transmission of drug or alcohol testing-related documents concerning actions the service agent performed because of a payment dispute or other reasons.

5. Critical Service Agent Positions (§40.121, §199.109(b),§40.81(3),§40.33,§40.213(2-3),§40.281)

Compliance. The Company recognizes the significance of critical service agent positions within the DOT drug and alcohol program. The Company understands the importance of each service agent meeting their initial qualifications, as applicable, and then maintaining compliance throughout the conduct of their program functions, all in accordance with Part 40 and Part 199 requirements. The Company will ensure that the following critical positions meet DOT rule requirements:

a) Medical Review Officer (MRO) (§40.121 and §199.109(b));
b) Substance Abuse Professional (SAP) (§40.281);
c) Urine Specimen Collector (§40.33);
d) Screening test Technician (§40.213); and,
e) Breath Alcohol Technician (§40.213)

6. ”Non-DOT” Testing Program (§40.13)

Compliance. The Company may implement an additional drug and/or alcohol testing program, referred to as a ”non-DOT program.” Any additional testing program will be completely independent of the DOT testing program. Such a testing program would be developed under the Company’s own authority and kept separate from the DOT program. All DOT testing would be accomplished first; the Company’s non-DOT program would commence afterwards. The non-DOT program would use different forms and not use the Federal Custody and Control Form or the DOT Alcohol Testing Form. **The non-DOT program could test different people, for different drugs, and different reasons for testing. If the Company implements its own non-DOT testing program, the Company will define the program and notify all employees through a Non-DOT Program Plan.**

IV. DOT PROGRAM REQUIREMENTS

1. Employees Subject to Testing (§199.1)

Compliance. Any employee who would perform an operations, maintenance, or emergency- response function, regulated by Part 192, 193, or 195, on a pipeline or LNG facility, is subject to mandatory DOT drug and alcohol testing under this program. Such individuals are subject to DOT testing because their job functions have been determined by PHMSA to be a covered, or safety- sensitive, transportation function. Appendix C (Covered Positions) provides specific employee titles, for this Company, of those subject to testing under this program. However, it is the work that an individual performs, not the title of their job, which determines whether their work is covered and therefore subject to drug and alcohol testing.

Operator or Contractor. Covered employees may be employed by the operator, be a contractor engaged by the operator, or be employed by such a contractor; this includes full-time, part-time and temporary employees and includes any applicant for a covered function.

2. Acknowledgement/Receipt Form

The “Acknowledgement/Receipt Form,” (Appendix A), applies to all drug and/or alcohol tests, or related foregoing or subsequent DOT procedures, while the employee is in a covered function with the Company. The signed form will be maintained by the Company. For any test, the expectations placed on the employee by the Company are to “follow all instructions” in order to accomplish the test.

3. History-check Requirement (§40.25(a&b))

Compliance. Prior to the first time that the Company uses an employee to perform safety-sensitive duties (i.e., a new hire or an employee transferring into a safety-sensitive position) the Company will require a “history check” of the employee. The history check will look back into the employee’s past two years of DOT employment for DOT violations. History checks are conducted only after obtaining the employee’s written authorization to do so. Any employee refusing to provide written consent will not be permitted to perform safety-sensitive functions.

The Company will not allow the covered employee to perform their functions after 30 days from the date on which the employee first performed safety-sensitive functions, unless the Company has obtained or made and documented a good faith effort to obtain alcohol and drug testing information from previous DOT-regulated employers.

Information request. The Company will request the following information about the employee.

a) Alcohol tests with a result of 0.04 or higher alcohol concentration;
b) Verified positive drug tests;
c) Refusals to be tested (including verified adulterated or substituted drug test results);
d) Other violations of DOT agency drug and alcohol testing regulations; and
e) With respect to any employee who violated a DOT drug and alcohol regulation, documentation of the employee's successful completion of DOT return-to-duty and follow-up testing requirements.

The Company will make at least one attempt by telephone, e-mail or fax, and maintain documentation associated with the attempt to obtain history-check information (e.g., date and time of the attempt, person contacted). **If the Company finds evidence of past DOT violations, those violations may be used as the sole reason for not hiring the individual or for termination.**

Violation Consequences. The Company will not use any employee in a DOT safety-sensitive position that has had a past DOT violation and has not complied with DOT requirements for regaining eligibility to return to safety-sensitive work. The Company will also ask the employee if they had any pre-employment test that was positive for which the previous employer did not hire them. The employee's answer to this question will be maintained as part of the employee's history-check information.

4. Employee Notification of Tests

Employees will be notified directly when a test must be conducted. While the circumstances for a test will differ by its reason-for-test, the Company will endeavor to conduct all tests with only a limited number of Company personnel having knowledge of the reason for the test.

All testing will be unannounced until the last possible moment. The timing will vary in conjunction with the reason-for-test. For example, a pre-employment test will be announced during the job application; a random test is announced within the test period, but just prior to the test, to maintain the element of surprise; and, announcements of post-accident or reasonable suspicion tests are controlled by the circumstances that come to light around the time of the event (e.g., accident). All alcohol test will be conducted just prior to, during, or just after the performance of safety-sensitive duties. Drug tests may be conducted anytime the employee is at work.

The DER and Company supervisors will be responsible for notifications and to help maintain the element of confidentiality. When an employee is notified for a test, the employee must proceed to the collection site immediately. Immediately means that after notification, all the employee's actions must lead to an immediate specimen collection (or test). **The Company considers travel time to the collection site, 10 minutes plus travel as the maximum acceptable interval of time between notification and testing.**

In test situations such as post-accident and reasonable suspicion/cause, where the employee's job performance is called into possible question, supervisors will use their discretion and training to minimize further confrontation. A reasonable attempt will be made by the supervisor to isolate and inform the employee of the decision to test, the steps that must be taken to accomplish the test, and the consequences of refusing the test. If possible, for post-accident and reasonable suspicion tests, the Company will have the DER or a supervisor accompany the employee to the collection site.

5. DOT Drug Violations

Drug Violations. The following provides a listing of DOT drug violations prohibited of covered employees:

a) A verified positive drug test result;
b) A refusal to be tested, determined by:
   1. Having a verified adulterated or substituted drug test result;
   2. Failing to appear for any drug test (except a pre-employment test) within a reasonable time, as determined by the Company, after being directed to do so by the Company;
   3. Failing to remain at the drug testing site until the testing process is complete;
   4. Failing to provide a urine specimen for any drug test;
   5. Failing to allow a directly observed or monitored collection in a drug test that requires such a collection procedure;
   6. Failing to provide a sufficient amount of urine for a drug test when directed, and it has been determined, through a required medical evaluation, that there was no adequate medical explanation for the failure;
   7. Failing or declining to take an additional drug test the Company or collector has directed the employee to take;
   8. Failing to undergo a medical examination or evaluation, as directed by the MRO as part of the verification process, or as directed by the DER; or,
   9. Failing to cooperate with any part of the testing process (e.g., refuse to empty pockets or failure to wash hands when so directed by the collector, behave in a confrontational way that disrupts the collection process, tampering with a specimen).
   10. For an observed collection, fail to follow the observer's instructions to raise clothing above the waist, lower clothing and underpants, and to turn around to permit the observer to determine if there is any type of prosthetic or other device that could be used to interfere with the collection process.
   11. Possess or wear a prosthetic or other device that could interfere with the collection process.
   12. Admit to the collector or MRO that a specimen has been adulterated or substituted

6. DOT Alcohol Violations and Prohibited Conduct (§199.215- §199.223, §199.225(a,b,d&e), §199.237(a), §40.23(c), §40.285)

Alcohol Violations. The following provides a listing of DOT alcohol violations prohibited of covered employees:

a) A test result of 0.04 or higher alcohol concentration;
b) A refusal to be tested, determined by:
   1. Failing to appear for any alcohol test (except a pre-employment test) within a reasonable time, as determined by the Company, after being directed to do so by the Company;
   2. Failing to remain at the alcohol testing site until the testing process is complete;
   3. Failing to provide an adequate amount of saliva or breath for an alcohol test;
   4. Failing to provide a sufficient amount of breath for an alcohol test when directed, and it has been determined, through a required medical evaluation, that there was no adequate medical explanation for the failure;
   5. Failing to undergo a medical examination or evaluation, as directed by the DER;
   6. Failing to sign the certification statement on the Alcohol Testing Form; or,
   7. Failing to cooperate with any part of the testing process.
c) On-duty use of alcohol while performing covered functions.
d) Pre-duty use of alcohol within four (4) hours prior to performing covered functions, or if the employee is called to duty to respond to an emergency, within the time period after the employee has been notified to report for duty.
e) Use of alcohol within eight (8) hours following an accident in which the performance of

covered functions has not been discounted by the Company as a contributing factor to the accident, unless the employee has already been given a post-accident alcohol test.

Alcohol Prohibited Conduct. The following is prohibited conduct of DOT covered employees:

a) A test result of 0.02 or greater alcohol concentration, but less than 0.04.

7. Violation Consequences and Company Actions (§199.225(e), §199.237(a), §199.7, §199.103(a), §40.23, §40.285(b), §40.287)

After DOT Rule Violations. The Company will not allow any covered employee who has a DOT drug or alcohol violation to perform safety-sensitive duties for the Company. Immediately upon learning of the violation, the DER shall assure the removal of the employee from all safety-sensitive duties. That employee will be ineligible to work in any DOT safety-sensitive function for the Company until the employee has successfully completed the DOT return-to-duty process. The Company will refer the employee to a Substance Abuse Professional (SAP) as soon as practicable after the verified violation report.

After DOT Alcohol Prohibited Conduct. The Company will not allow any covered employee to perform, or continue to perform, any function covered by Part 199 when the employee is found to have an alcohol concentration of 0.02, or higher, but less than 0.04. The Company may continue testing the employee until the alcohol concentration is less than 0.02, or the Company may not use the employee in a safety-sensitive function until the start of the employee's next regularly scheduled shift, which must be not less than eight hours following the test that indicated "prohibited conduct."

V. ANTI-DRUG PROGRAM

1. DOT-Required Drug Tests

Compliance. The Company will ensure that each employee who performs a DOT-covered function will be drug tested for the following reasons when called for by Part 199: All drug tests will be conducted following the procedures of Part 40.

Pre-Employment (§199.105(a) & §§40.67(a,b&d)) A pre-employment drug test will be conducted before an individual is hired or contracted into a covered position and when an individual is transferred or promoted from a non- covered to a covered position. This includes when an individual switches back and forth from a covered position to a non-covered position and back again. This also applies to employees returning from a leave of absence greater than 30 days who have not been participating in the PHMSA DOT random testing program and subsequently not subject to the random selection process. A negative DOT urine drug test result is required prior to performing covered functions. DOT does not allow the use of a "quick test" (e.g., a urine test that produces an immediate test result) or any other methodology other than urine. Pre-employment tests are normally unobserved by the collector. However, provisions will be available at the collection site for a directly observed collection to take place should circumstances require such action.

Post-Accident Testing (§191.3, §195.50, §199.105(b), §§40.67(a,b&d)) The Company will conduct both a drug test and an alcohol test after an accident, or incident on each surviving covered employee whose performance of a covered function either contributed to the accident or cannot be completely discounted as a contributing factor to the accident. The decision whether to test or not to test any employee shall be based on the Company's determination, using available information, that the covered employee's performance had no role in the cause(s) or severity of the accident. The Company will explain to each employee to be tested there is reason to believe their performance either contributed to the accident or cannot be completely discounted as a contributing factor to the accident. The Company will document the decisions that support the determination to conduct a post-accident test. Refer to the *Post Accident Validation Form and/or Supervisor Written Record.*

A post-accident drug test shall be conducted on each employee as soon as possible but no later than 32 hours after the accident. If a test is not administered within 32 hours following the Accident, attempts

must cease and the Supervisor must prepare and submit to the DER a Post-Accident Drug/Alcohol Testing Supervisor Written Record indicating why the drug test was not conducted. **This form located on MySource>Policy Center> Corporate Policies> Drug & Alcohol Prevention> "Supervisor Written Record" it must be prepared by the Supervisor and submitted to the DER/Substance Abuse Program Administrator within 48 hours.**

The Company must take all reasonable steps to obtain a urine specimen from an employee after an accident, but any injury should be treated first. Nothing in this section shall be construed to require the delay of necessary medical attention for injured people following an accident, to prohibit a covered employee from leaving the scene of an accident for the period necessary to obtain assistance in responding to the accident, or to obtain necessary emergency medical care.

a. In the case of a conscious but hospitalized employee, management should request that the hospital or medical facility obtain the sample from the employee under DOT drug testing requirements as set forth in 49 CFR Part 40.

b. If an employee is injured, unconscious (employee is unable to communicate), or otherwise unable to evidence consent (employee is unable to sign custody and control form) to the drug test, all reasonable steps must be taken to obtain a urine sample from the employee.

c. If an employee is conscious (employee can communicate) and he/she is able to evidence consent (employee able to sign custody and control form) to the drug test and is able to void normally (without aid of catheters) the specimen shall be collected.

d. If an employee who is subject to post-accident testing is conscious, able to urinate normally (in the opinion of a medical professional), and refuses to be tested, then the employee shall be removed from safety-sensitive functions **and, if applicable, be subject to specific company discipline determined by the policies and practices of the employee's business unit and applicable collective bargaining agreements. A refusal to test shall be treated the same as a positive test.**

An employee who is subject to post-accident testing who fails to remain readily available for such testing, including notifying the Company or Company's representative of their location if they leave the scene of the accident prior to submission to such test, may be deemed by the Company to have refused to submit to testing, a **refusal to test shall be treated the same as a positive test.**

Post-accident tests are normally unobserved by the collector. However, provisions will be available at the collection site for a directly observed collection to take place should circumstances require such action.

Random Drug Testing. (§199.105(c(1-7)), §199.119(c)) The Company will conduct a number of random tests each calendar year that meets or exceeds the current minimum annual percentage random testing rate. The minimum rate for random drug testing, set by the PHMSA regulation, is 50 percent of the Company's covered employees. If the industry random drug testing positive rate drops below 1 percent, PHMSA will lower the annual percentage rate for random drug testing to 25 percent of the Company's covered employees. The Company may use the services of the C/TPA to manage all aspects of the Company's random testing program. If the Company conducts random testing through a C/TPA, the number of employees to be tested may be calculated for each individual Company or may be based on the total number of covered employees covered by the C/TPA who are subject to random testing (e.g., consortium random testing pool).

All covered employees will be immediately placed in the random pool after obtaining a negative result on their pre-employment test. Covered employees will remain in the random selection pool at all times, regardless of whether or not they have been previously selected for testing. The selection of employees shall be made by using a computer-based, scientifically valid method (e.g., random number generator or equivalent random selection method) that is matched with an employee's social security number or employee ID number. The DER will assure the pool contains employee social security numbers or employee identification numbers that are current, complete, and correct.
Employees will have an equal chance of being selected for testing.

Random testing will occur on a regular basis. Prior to selection, the DER shall ensure that the random testing pool has been updated to include all current covered employees in the Company's workforce. The number of tests to be conducted will be based on the number of covered employees at the beginning of each month test cycle. The DER, or C/TPA, shall use the random selection procedures to compile a list of covered employees selected for testing in each testing cycle. The number of employees selected shall be sufficient to assure that the minimum number of required tests can be achieved. The list of employees selected will be retained by the DER in a secure location until the time of testing when the list will then be provided to the appropriate division manager, department head, or supervisor who will, in turn, notify the employee(s) to report for testing.

Random testing is unannounced, with employees being notified that they have been selected for testing after they have reported for duty on the day of collection. Specimen collection will be conducted on different days of the week throughout each test cycle to prevent employees from matching their drug use patterns to the schedule for collection. Random tests are normally unobserved by the collector. However, provisions will be available at the collection site for a directly observed collection to take place should circumstances require such action.

Once notified by the appropriate Company official, employees will be instructed to report immediately to the collection site.

Reasonable Suspicion/Cause Testing. **(§199.05(d))** The Company will conduct reasonable suspicion testing, also known as reasonable cause testing, based on the Company's observation of "signs and symptoms" of specific, contemporaneous, articulable observations concerning the appearance, behavior, speech, or body odors of the employee. At least two Company supervisors, one of whom is trained in detection of the possible signs and symptoms of drug use, shall substantiate and concur in the decision to test an employee. The concurrence between the two supervisors may be by telephone. If the Company has 50 or fewer employees subject to testing under PHMSA regulations, only one supervisor, trained in detecting possible drug use signs and symptoms, is needed to make the decision to test.

The supervisor making the determination to test shall document, in writing, the behavioral signs and symptoms that support the determination to conduct a reasonable suspicion/cause test. This documentation of the employee's conduct shall be prepared and signed within 24 hours of the observed behavior or before the results of the tests are released, whichever is earlier. **Refer to the Supervisor's reasonable cause checklist located on MySource> Policy Center> Corporate Policies> Drug & Alcohol Prevention> "Reasonable Cause Checklist".** The potentially affected employee should not be allowed to proceed alone to or from the collection site. In addition to the safety concerns for the employee, accompanying the employee also assures that there is no opportunity in route to the collection site for the employee to compromise the test through any method of tampering that could affect the outcome of the test result. Reasonable suspicion/cause tests are normally unobserved by the collector. However, provisions will be available at the collection site for a directly observed collection to take place should circumstances require such action.

The employee shall not perform a covered function pending the receipt of the drug test results. **The employee should make arrangements to be transported home. The employee should be instructed not to drive any motor vehicle due to the reasonable belief that the employee may be under the influence of a drug. If the employee insists on driving, a supervisor should notify the proper local law enforcement authority that an employee believed to be under the influence of a drug is leaving the Company premises driving a motor vehicle.**

Return-to-Duty Testing. **(§199.105(e),§40.285(a),§40.289(b),§40.305(a) & §40.67(b))**

The Company will conduct a return-to-duty test prior to an employee returning to safety-sensitive duty following a DOT violation. When an employee has a DOT violation the employee cannot work again in any DOT safety-sensitive function until successfully completing the Substance Abuse Professional (SAP) return-to-duty requirements. Only after the SAP has reported to the Company that the employee is eligible to return to safety-sensitive duties is the Company authorized to return the employee to a covered function. When the Company

makes the decision to return the employee to safety-sensitive duty, the Company will initiate the order for the return-to-duty test. All return-to-duty tests will be conducted using direct-observation collection procedures.

A return-to-duty test, as a minimum, will be for the substance associated with the violation. A return- to-duty test may, however, be for both drugs and alcohol. The decision belongs solely to the SAP from information gained during the SAP-evaluation/treatment processes. The results of a return-to- duty drug test must be negative in order "to count" and allow the employee to return to work. A cancelled test must be recollected; a positive test or refusal-to-test will be considered as a new, separate violation. When the employee "passes" his return-to-duty test, their name is immediately placed into the Company's random testing pool.

Refusal to cooperate will be viewed as insubordination and the Employee will be subject to specific discipline determined by the policies and practices of the Employee's business unit as well as applicable collective bargaining agreements.

Follow-up Testing. **(§199.105(f), §40.307, §40.309, §40.67(b))** The Company will conduct follow-up testing, as a series of tests that occur after an employee returns to safety-sensitive work, following a negative result on the return-to-duty drug and/or alcohol tests. Follow-up testing, as a minimum, will be for the substance associated with the violation. In addition, follow-up testing may be for both drugs and alcohol, as directed by the SAP's written follow-up testing plan.

Follow-up testing is the Company's responsibility to conduct. Follow-up testing will run concurrently with random testing. All follow-up tests will be conducted using direct-observation collection procedures.

The number and frequency of the follow-up tests will be determined by the SAP, but shall consist of at least six tests in the first 12 months following the covered employee's return to duty. The follow-up plan will give both the number of tests and their frequency; the Company will select the actual day and time of the test and the tests are unannounced. Follow-up testing shall not exceed 60 months from the date of the covered employee's return to duty. The SAP may terminate the requirement for follow-up testing at any time after the first six tests have been administered, if the SAP determines that such testing is no longer necessary.

Company Stand Down Procedures (§40.21 & 199.7).
The Company will not stand down an Employee before the MRO has completed the verification process.

2. Drug Tests That Require Direct Observation Procedures (§§40.67(a,b&d))

Compliance. The Company will conduct all return-to-duty and follow-up drug tests using the direct observation collection procedures specified by Part 40. Pre-employment, post-accident, reasonable suspicion/cause and random drug tests are normally conducted by giving the employee the privilege of privacy when providing the urine specimen. However, should it become required that these collections be conducted under direct observation procedures, the Company will convey instructions to the collector to ensure that this is done. Direct observation procedures will also be used for collections when a specimen is provided and the temperature is out of range, when the specimen appears to have been tampered with or when a previous specimen has been reported as invalid, adulterated, substituted or negative-dilute with a creatinine concentration greater than or equal to 2 mg/dL but less than or equal to 5 mg/dL, as defined in Part 40.

3. Specimen Collection Procedures

Compliance. The Company will follow the requirements of Part 40 for its DOT collections. A full description of DOT collection requirements that collectors will follow can be found in Part 40, Subpart C ("Urine Collection Personnel"), Subpart D ("Collection Sites, Forms, Equipment and Supplies Used in a DOT Urine Collection"), and Subpart E ("Urine Specimen Collections").

Collection Site Personnel (§40.33,§40.31(c)) The Company will ensure that collection sites, utilized by its employees, are aware of their responsibilities with regard to the DOT specimen collection process. These responsibilities are to collect urine specimens using Part 40 procedures, ship the specimens to a Department of Health and Human Services (HHS) certified laboratory for analysis, and distribute copies of the Federal Drug Testing Custody and Control Form (CCF) to the laboratory, Medical Review Officer, employer or employer's C/TPA, and employee in a confidential manner. All attempts are made to use collectors who have been trained in accordance with Part 40. The Company, or the Company's C/TPA, will ask the collection sites conducting DOT collections to attest to the fact that they comply with DOT standards of practice. The direct supervisor of a covered employee shall not serve as a collector in conducting any required drug test unless it is otherwise impracticable.

Collection Site, Forms, and Specimen. The Company will provide the employee with the specific location of the collection site where the drug test will take place. The only specimen that will be collected for any DOT collection is urine; the only form that will be used is the Federal CCF.

Collections. The Company will inform every employee that they are required to carry and present a current valid photo ID, such as a driver's license, passport, or employer-issued picture ID to the collection site. The employee will be advised that the collector will ask them to empty their pockets, remove any unnecessary garments (the employee may retain their wallet), and wash and dry their hands prior to the collection. The employee will be instructed to follow the collector's instructions throughout the collection process. Normally, the employee will be afforded privacy to provide a urine specimen. Exceptions to the rule generally surround issues of attempted adulteration or substitution of a specimen or any situation where questions of specimen validity arise, like an unusual specimen temperature.

After the employee has provided the specimen (a minimum of 45 mL) of their urine into a collection container, the collector will check the temperature and color of the urine. All DOT collections are "split specimen collections." The collector will pour the urine into two separate bottles (bottle "A" as the primary specimen and bottle "B" as split specimen), seal them with tamper-evident tape, and then ask the employee to initial the seals after they have been placed on the bottles. (Remember: Neither the employee nor the collector should let the specimen out of their sight until it has been poured into two separate bottles and sealed.) Next, the employee will write their name, date of birth, and daytime and evening phone numbers on the MRO Copy (Copy 2) of the CCF. This is so the MRO can contact the employee directly if any questions arise about their test.

Lastly, the collector will complete the necessary documentation on Copy 1 of the CCF and package the CCF and the two specimen bottles in the plastic bag and seal the bag for shipment to the laboratory. Copies of the CCF will be distributed: Copy 2 to the MRO and Copy 4 to the employer or the employer's C/TPA; the collector keeps Copy 3; and, the employee gets Copy 5. The employee may list any prescription and over-the-counter medications they may be taking on the back of their copy of the CCF (this may serve as a reminder for the employee in the event the MRO calls to discuss their test results).

Possible collection issues. If the employee is unable to provide 45 mL of urine on the first attempt, the time will be noted, and they will be required to remain in the testing area under the supervision of the collection site personnel, their supervisor, or a representative from their Company (e.g., supervisor accompanying the employee). Leaving the testing area without authorization may be considered a refusal to test. The employee will be urged to drink up to 40 oz. of fluid, distributed reasonably over a period of up to three hours, and asked to provide a new specimen (into a new collection container). If the DER is contacted, the DER should instruct the employee to remain at the collection site to complete the collection process. If the employee does not provide a sufficient specimen within three hours, the DER, in consultation with the MRO, will direct the employee to obtain a medical evaluation within five days to determine if there is an acceptable medical reason for not being able to provide a specimen. If it is determined that there is no acceptable physiological or pre-existing psychological reason for not providing a urine specimen, it will be considered a refusal to test.

Directly observed collections. If a direct observation collection is required of the employee, the Company will ensure that the DOT requirements (i.e., direct observation by same-sex collector, observation of body-to-bottle urination, and use of full turn-around observation) procedures are followed.

4. PHMSA Inspection Protocol for Specimen Collection Sites

Compliance. PHMSA's Substance Abuse Program: Comprehensive Audit and Inspection Protocol Form, Combined Anti-Drug and Alcohol Misuse Prevention Programs, Form No.: 3.1.11, dated January 29, 2010, provides a separate inspection protocol for Specimen Collection Sites. The Company provides this protocol to correspond with the detail found in the PHMSA Inspection Form. As previously stated, the Company will ensure that all DOT drug tests comply with Part 40 requirements.

Collection Personnel (**§40.33)** The Company will ensure that only qualified collectors are used to conduct Company DOT tests. An immediate supervisor of an employee may be used in cases where there are no qualified collectors available, and where their use is the only way to get the test conducted. Collectors will maintain documentation to verify they meet training requirements and will make that documentation available to the Company on request. If an error occurs causing a test to be canceled and the error is directly attributed to the collector, the collector will undergo error-correction training within 30 days of the date of notification of the error that led to the need for training.

Collection Sites, Forms and Supplies. **(§40.41, §§40.43(c,d&e), §40.45, §40.49)** The Company will use designated collection sites that meet DOT requirements. If the collection site uses a facility normally used for other purposes, the collector will ensure that it meets DOT standards before continuing the collection. Access to collection materials and specimens will be restricted, and the facility will be secured against access during the procedure to ensure privacy to the employee and prevent distraction of the collector.
Limited-access signs will be posted as necessary. The collector will maintain personal control over each specimen and CCF throughout the collection process and will prevent unauthorized personnel from entering any part of the site in which urine specimens are collected or stored. The current CCF and a collection kit, that meets the requirements of Appendix A to Part 40, will be used for DOT collections.

Specimen Collections . **(§40.61(e), §40.63(b,c&e), §40.43(b)(1&2), §40.61(a,c&f), §40.43(d)(2), §40.65, §40.67(b&c), §40.69(g), §40.73(a))** Collectors will explain the basic collection procedure to the employee, including showing the employee the instructions on the back of the CCF. In most all collections, the Company will provide the employee with a kit and CCF to carry to the collection site. In other
collections, collectors will provide the employee with an individually wrapped or sealed collection container from the collection kit materials. Precautions will be taken to ensure that unadulterated specimens are obtained and correctly identified. Specimen integrity will be maintained by: bluing agents being added in the toilet tank and all water sources secured; positive photo identification of the employee for collection; notification of the DER if employee fails to arrive at the assigned time; having the employee remove any unnecessary outer garments (purses or briefcases will remain with outer garments); having employees wash and dry their hands; and, to the greatest extent possible, the collector will keep an employee's collection container within view of both the collector and the
employee between the time the employee has urinated and the specimen is sealed. Any unusual behavior will be noted on the CCF.

Following the collection, the specimen will be checked for sufficient volume (i.e., 45 mL), acceptable temperature range (i.e., between 90-100 degrees F), and shows no signs of tampering (e.g., color, odor). Having problematic issues with specimen volume, the collector will follow DOT's "shy bladder" procedures; problems with temperature or tampering will result in the collector conducting a second collection under direct observation (see Section V.2, "Drug Tests That Require Direct Observation Procedures"). Direct observation procedures will be used for all collections where the reason-for-test is either return-to-duty or follow-up. Direct observation procedures will also be used for collections when a specimen is provided and the temperature is out of range, when the specimen appears to have been tampered with or when a previous specimen has been reported as invalid, adulterated, substituted or negative-dilute with a creatinine concentration greater than or equal to 2 mg/dL but less than or equal to 5 mg/dL, as defined in Part 40. If the collector does a monitored collection, same gender monitors will be used if the monitors are non-medical personnel. All collections are completed by the specimens being sealed and labeled, the CCF being properly executed, and the specimens and the CCF being sealed in a plastic bag for shipment to the laboratory.

5. Drug Testing Laboratory

Compliance. The Company will employ a laboratory that will follow the requirements of Part 40 for the Company's DOT drug tests. A full explanation of DOT drug testing requirements that the laboratory will follow is found in Part 40, Subpart F ("Drug Testing Laboratories").

Laboratory. (§199.97(b), §40.81(a), §40.97(b)) The Company shall ensure that all DOT testing is conducted only by a laboratory that is certified by the Department of Health and Human Services (HHS) under the National Laboratory Certification Program (NLCP). Doing so ensures that the Company complies with the requirements of Part 40 and with all applicable requirements of HHS in testing DOT specimens, whether or not those requirements are explicitly stated in the Plan. The laboratory used by this Company is specified in Appendix B. The laboratory will report the certified results to the MRO and only to the MRO, at the address provided on the Federal CCF. Results will not be reported directly to the Company or to or through another service agent, such as the C/TPA.

Specimen. Urine is the only specimen that is authorized for DOT drug testing. The Company will not use any other specimen (e.g., hair or saliva) for a DOT-required drug test. A "quick test" (e.g., a urine test that produces an immediate test result) is also prohibited by DOT.

Drug Testing. (§199.3, §40.3, §40.85) The laboratory will ensure that, on each DOT test, each specimen is tested for **marijuana, cocaine, amphetamines, opioids, and phencyclidine (PCP**). (See Table 1, pg 25) The testing is a "two step" process: all presumptive positive results on the initial test must be confirmed by a confirmation test. The initial and the confirmation tests use different chemical principles, and separate portions of the original specimen, for testing. DOT specimens will not be tested for any other drugs. DOT specimens will not be subjected to DNA testing.

Validity Testing. The laboratory will ensure that, on each DOT test, each specimen is also subjected to "validity testing." The purpose of validity testing is to determine if the employee tampered with their specimen during the collection process. Validity testing measures the creatinine concentration and specific gravity to detect a diluted or substituted specimen; pH is measured as one criterion established to detect an adulterated specimen. Validity testing also incorporates HHS criteria (used by DOT) in testing for specific adulterants such as nitrites, chromates, surfactants, and other active chemical compounds.

Laboratory specimen handling and reporting. When the laboratory receives a DOT specimen they will unpack and enter it into the testing process. Part of that process is to examine the condition of the specimen bottles and accompanying CCF. The laboratory will look closely for any specific reason to stop the testing process (i.e., "fatal flaws"). If the laboratory determines a fatal flaw exists, the specimen is rejected for testing. If a fatal flaw does not exist, the specimen will be tested. DOT specimens are limited to four fatal flaws. They are:

a) Specimen ID numbers on the CCF and the bottles do not match.
b) Not enough urine and the bottles cannot be re-designated.
c) Signs of tampering and the bottles cannot be re-designated.
d) Collector's printed name and signature are missing.

The laboratory will open only the primary specimen (Bottle "A") to conduct the two tests (initial and confirmatory). If the specimen tests negative in either test and does not have any specimen validity issues, the result will be reported to the MRO as a negative. Only if the specimen test results are positive, adulterated, substituted, and/or invalid under both tests will the specimen be reported to the MRO as a positive, adulterated, substituted, and/or invalid, respectively. These results are also referred to as non-negative results.

Required DOT Drug Tests & Cutoffs **TYPE OF DRUG** **Initial Test Analyte**	**INITIAL TEST Cutoff Concentration**	**CONFIRMATORY TEST Analyte**	**CONFIRMATORY TEST Cutoff Concentration**
Marijuana metabolites	50 ng/mL	THCA[6]	15 ng/mL
Cocaine metabolites	150 ng/mL	Benzoylecgonine	100 ng/mL
Codeine/Morphine	2000 ng/mL	Codeine/Morphine	2000 ng/mL 2000 ng/mL
6-acetylmorphine (6-AM)	10 ng/mL	6-acetylmorphine (6-AM)	10 ng/mL
Hydrocodone/ Hydromorphone	300 ng/ml 300 ng/ML	**Hydrocodone/ Hydromorphone**	100 ng/mL 100 ng/mL
Oxycodone/Oxymorphone	100 ng/mL	**Oxycodone/ Oxymorphone**	100 ng/mL 100 ng/mL
Phencyclidine (PCP)	25 ng/mL		
Amphetamine/ Methamphetamine	500 ng/mL		
MDMA/MDA	500 ng/mL	Phencyclidine	25 ng/mL
		Amphetamine Methamphetamine	250 ng/mL 250 ng/mL[10] 250 ng/mL 250 ng/ml
		MDMA[7] MDA[8]	

Table 1

[9] Delta-9-tetrahydrocannabinol-9-carboxylic acid.

[10] Methylenedioxymethamphetamine (MDMA).

[11] Methylenedioxyamphetamine (MDA.

[12]

[13] Specimen must also contain amphetamine at a concentration of greater than or equal to 100 ng/mL.

6. Laboratory Retention Periods and Reports

Specimen retention .(§199.111(a), §40.99) Specimens that are confirmed by the laboratory to be positive, adulterated, substituted, or invalid will be retained by the laboratory in properly secured, long-term, frozen storage for at least 365 days. Within this 365 day period, the MRO, the employee, the Company, PHMSA or other state agencies with jurisdiction, may request in writing that the specimens be retained for an additional period. If the laboratory does not receive the request to retain the specimen within the 365- day period, the specimen will be discarded.

Record retention .(§40.111, §40.109) All laboratory records pertaining to any test for this Company on its covered employees will be retained for two years. The employer-specific data that is created by the laboratory for the laboratory statistical summary will be retained for two years.

Semi-annual reports. The laboratory will prepare and send to the Company the aggregate employer-specific summary on a semi-annual basis. The format for this report is found in Part 40, Appendix B.

7. Laboratory Quality Control

Inspections. The laboratory shall permit inspections by the Company, the PHMSA Administrator, or if the Company is subject to the jurisdiction of a state agency, a representative of the state agency. **Additionally, if the Company uses a C/TPA, that C/TPA may conduct a periodic inspection of the laboratory on behalf of the companies that are clients of the C/TPA.**

Reporting discrepancies. The MRO will inform the Company or its C/TPA of any discrepancy in the expected result of any blind specimen. The MRO and C/TPA will resolve any discrepancies in the expected outcomes with this testing. If the unexpected outcome is positive, adulterated, or substituted where the expected outcome was to be negative, the MRO will report this result directly to DOT/ODAPC, in accordance with Part 40.

8. MRO Review of Drug Test Results

Compliance.(§199.109(a)) The Company will have, on staff or contract for the services of, an MRO who is a licensed physician with knowledge of drug abuse and is qualified under Part 40. The MRO will follow the requirements of Part 40 in carrying out the functions of the "independent and impartial gatekeeper of the drug testing process." A full description of DOT MRO requirements can be found in Part 40, Subpart G ("Medical Review Officers and the Verification Process"), and Subpart H (Split Specimen Testing).

Duties (§40.123(b)) All confirmed drug test results for the Company are received by the MRO directly from the laboratory. The MRO is responsible for the review of both negative and non-negative test results, review of the CCFs associated with each test, and to conduct quality control reviews of the MRO staff. The MRO will review and interpret confirmed positive, adulterated, substituted, and invalid test results. In carrying out this responsibility, the MRO shall examine alternate medical explanations for any positive, adulterated, substituted, or invalid test result. This action would include conducting a medical interview with the employee and review of the employee's medical history, or review of any other relevant biomedical factors, such as the results of a physical examination following an opiate positive. The MRO shall review medical records made available by the tested employee when the source of the confirmed result could have been from legally prescribed medication. The MRO shall not, however, consider the results of urine or other specimens that are not obtained or processed in accordance with DOT regulations.

Results.(§40.127, §40.129, §40.123(c)) The MRO will use staff under his direct supervision to handle administrative processes for negative test results including receiving the result from the laboratory, reviewing the paperwork for accuracy, and reporting of the result to the DER.

The MRO staff may make the initial contact with employees having confirmed positive, adulterated, substituted, and invalid test results, for the purposes of setting up an interview for the MRO. The MRO will personally conduct the interview with the employee to determine whether there is a legitimate medical

explanation for these results. This interview will be conducted, in most cases, before the Company is notified. If the result is confirmed positive by the laboratory, and a legitimate medical explanation is established, the MRO will report the result to the DER as negative. If not, the MRO will report the result to the DER as positive. If the confirmed result is adulterated or substituted, and a legitimate medical explanation is established, the MRO will report the result to the DER as cancelled and notify ODAPC, in accordance with Part 40 procedures. If not, the MRO will report the result to the DER as a refusal to test. If the result is invalid, and an acceptable reason is established, the MRO will report the result to the DER as cancelled and the process will stop, unless a negative test result is needed (e.g., pre-employment, return-to-duty and follow-up). If an acceptable reason is not established, the MRO will report the result to the DER as cancelled and order an immediate recollection under direct observation.

Reports (§199.109(d), §40.163, §40.165, §40.167, §40.345) All drug test results will be reported to the Company DER in a confidential and timely manner. Before reporting any results, the MRO will have received a copy of the CCF showing where the employee has signed the form. The time period from collecting the specimen to reporting the verified test result is generally shorter for negatives than for non-negatives. Non-negatives will not be reported to the DER until all information required for the employee interview is received and approved by the MRO. The Company may use a C/TPA as its intermediary in receiving drug test results. If so, those reports will be handled in accordance with Part 40 requirements. If the MRO does not use Copy 2 of the CCF for reporting results, the MRO will maintain a copy of the signed or stamped report in addition to the signed or stamped and dated Copy 2. If the MRO uses an electronic data file to report negatives, the MRO will maintain a retrievable copy of that report in a format suitable for inspection and auditing by a DOT representative.

9. Split Specimen Testing

Split Specimen (§40.153) When the MRO has verified a result as positive, adulterated, or substituted, the MRO will notify the employee of their right to have the split specimen tested. The employee must notify the MRO within 72 hours of the result being verified in order to have this testing conducted. If the employee requests that the split specimen be tested within the 72-hour period, the MRO will ensure that the split specimen is tested. Testing of the split specimen is only conducted at the request of the employee, and then only after using the MRO as the requesting agent for the employee.

The Company is responsible for making sure that the MRO, first laboratory, and second laboratory perform the functions noted in Part 40 in a timely manner, once the employee has made a timely request for a test of the split specimen (e.g., by establishing appropriate accounts with laboratories for testing split specimens).

The Company must not condition compliance with these requirements on the employee's direct payment to the MRO or laboratory or the employee's agreement for reimbursement of the costs of testing. For example, if the Company's asks the employee to pay for some or all of the cost of testing the split specimen, and the employee is unwilling or unable to do so, the Company must ensure that the test takes place in a timely manner, which means that the Company will pay for the split testing. The Company may seek payment or reimbursement of all or part of the cost of the split specimen from the employee. Part 40 takes no position on who ultimately pays the cost of the test, so long as the Company ensures that the testing is conducted as required and the results released appropriately.

Laboratory (§§199.111(b&c) The testing of the split specimen will be conducted at another HHS-certified laboratory, different from the original laboratory. The Company will select the second laboratory. The split specimen will tested for the same substance or condition that was found in the primary specimen. The MRO will report back to the DER and the employee whether the split reconfirms the primary. If the test of the split does not reconfirm the primary, both tests will be cancelled as if they never occurred.

10. Medical Marijuana

The DOT and the Company do not accommodate the use of medical marijuana by DOT-covered employees, and the use of medical marijuana will not provide ligament medical explanation for a positive drug test.

VI. ALCOHOL MISUSE PREVENTION PROGRAM

1. DOT-Required Alcohol Tests

Compliance. The Company will ensure that each employee who performs a DOT-covered function will be alcohol tested for the following reasons when called for by Part 199. All alcohol tests will be conducted following the procedures of Part 40.

Pre-Employment. **(§§199.209(b)(1,2&3)**, PHMSA does not mandate a pre-employment alcohol test for covered employees in the pipeline industry. PHMSA does give operators and contractors who wish to conduct a pre-employment alcohol test the authority to do so. If the Company decides to conduct pre- employment alcohol testing, all applicants will be advised of the test prior to the test occurring, and all tests will be conducted before the first performance of covered functions by every covered employee (whether a new employee or someone who has transferred to a position involving the performance of covered functions). The Company will treat all covered employees the same for the purpose of pre- employment alcohol testing; the Company will not test some covered employees and not others. **The Company will not conduct pre-employment alcohol testing.**

Post-Accident Testing .(§195.50, §191.3, §§199.225(a)(1&2) The Company will conduct both a drug test and an alcohol test, after an accident, or incident, on each employee whose performance either contributed to the accident or cannot be completely discounted as a contributing factor to the accident. The decision whether to test or not to test any employee shall be based on the Company's determination, using the best available information immediately following the accident, that the covered employee's performance could or could not have contributed to the accident. The Company will explain to each employee to be tested there is reason to believe their performance contributed to the accident or cannot be completely discounted as a contributing factor to the accident. The Company will document the decisions that support the determination to conduct a post-accident test. Refer to the *Post Accident Validation From and/or Supervisor Written Record.*

A post-accident alcohol test shall be conducted on each employee as soon as possible but no later than 8 hours after the accident. . **If a test is not administered within 8 hours following the Accident, attempts must cease and the Supervisor must prepare and submit to the DER a Post-Accident Drug/Alcohol Testing Supervisor Written Record indicating why the drug test was not conducted. This form is located on MySource>Policy Center> Corporate Policies> Drug & Alcohol Prevention> "Supervisor Written Record" it must be prepared by the Supervisor and submitted to the DER/Substance Abuse Program Administrator within 48 hours.**

If the test is not completed within 2 hours the Company will prepare and maintain a written statement documenting the reason the test was not conducted. If the test is not completed within 8 hours the Company shall cease attempts to do so. The Company will take all reasonable steps to obtain a breath test from an employee after an accident, but any injury should be treated first. Nothing in this section shall be construed to require the delay of necessary medical attention for injured people following an accident, to prohibit a covered employee from leaving the scene of an accident for the period necessary to obtain assistance in responding to the accident, or to obtain necessary emergency medical care.

A covered employee who is subject to post-accident testing who fails to remain readily available for such testing, including notifying the Company or Company's representative of their location if they leave the scene of the accident prior to submission to such test, may be deemed by the Company to have refused to submit to testing.

Random Testing. PHMSA does not authorize random alcohol testing of covered employees within the natural gas and hazardous liquids pipeline industry. The Company will not conduct DOT random alcohol testing of their PHMSA-regulated employees.

Reasonable Suspicion/Cause Testing .(§§199.225(b)(2,3&4(i)), The Company will conduct reasonable suspicion testing, also known as reasonable cause testing, based on the Company's observation of "signs and symptoms" of specific, contemporaneous, articulable observations concerning the appearance, behavior, speech, or body odors of the employee. A supervisor trained in detection of the possible signs and symptoms of alcohol use shall make the decision to test an employee. The decision to test will only be made on an employee during, just before, or just after his performance of DOT functions. The supervisor making the determination to test shall document, in writing, the behavioral signs and symptoms that support the determination to conduct a reasonable suspicion/cause test. This documentation of the employee's conduct should be prepared and signed within 24 hours of the observed behavior or before the results of the tests are released, whichever is earlier. **Refer to the *Reasonable Cause Checklist* located on MySource>Policy Center> Corporate Policies> Drug & Alcohol Prevention > "Reasonable Cause Checklist".** The potentially affected employee should not be allowed to proceed alone to or from the test site.

If the reasonable suspicion test is not administered within 2 hours following the determination, the Company will prepare and maintain on file a record stating the reasons the test was not promptly administered. If a test is not administered within 8 hours, the Company will cease attempts to administer an alcohol test and record the reasons for not testing.

If the test results are 0.02 or greater, the employee should make arrangements to be transported home. The employee should be instructed not to drive any motor vehicle due to the reasonable belief that he may be under the influence of alcohol. If the employee insists on driving, a supervisor should notify the proper local law enforcement authority that an employee believed to be under the influence of alcohol is leaving the Company premises driving a motor vehicle.

Return-to-Duty Testing (§§199.215-199.223, §199.235, §199.243(b), §199.225(c), §199.243(c), §40.305(a), § §40.285(a), §40.289(b)), The Company will conduct a return-to-duty test prior to an employee returning to safety-sensitive duty following a DOT violation. When an employee has a DOT violation the employee cannot work again in any DOT safety-sensitive function until successfully completing the SAP/return-to-duty requirements. Only after the SAP has reported to the Company that the employee is eligible to return to safety-sensitive duties is the Company authorized to return the employee to a covered function. When the Company makes the decision to return the employee to safety- sensitive duty, the Company will initiate the order for the return-to-duty test.

A return-to-duty test, as a minimum, will be for the substance associated with the violation. A return- to-duty test may, however, be for both drugs and alcohol. The decision belongs solely to the SAP from information gained during the SAP-evaluation/treatment processes. The results of a return-to- duty alcohol test must be less than 0.02 in order "to count" and allow the employee to return to work. A cancelled test does not meet this criterion and requires a retest; a result greater than 0.02 but less than 0.04 must be retested until the result is less than 0.02; a result of 0.04 or greater is a new, separate violation.

Follow-up Testing (§§199.215-199.223, §199.225(d), §199.243(c)(2)(i), §40.307, §40.309)

The Company will conduct follow-up testing, as a series of tests that occur after an employee returns to safety-sensitive work, following a negative result on the return-to-duty drug and/or alcohol tests. Follow-up testing, as a minimum, will be for the substance associated with the violation. In addition, follow-up testing may be for both drugs and alcohol, as directed by the SAP's written follow-up testing plan.

Follow-up testing is the Company's responsibility to conduct. The number and frequency of the follow-up tests will be determined by the SAP, but shall consist of at least six tests in the first 12 months following the covered employee's return to duty. The follow-up plan will give both the number of tests and their frequency; the Company will select the actual day and time of the test and the tests are unannounced. Follow-up testing shall not exceed 60 months from the date of the covered employee's return to duty. The SAP may terminate the requirement for follow-up testing at any time after the first six tests have been administered, if the SAP determines that such testing is no longer necessary.

2. Alcohol Test

Compliance. The Company will follow Part 40 procedures for alcohol testing. A full description of DOT alcohol testing requirements can be found in Part 40, Subpart J ("Alcohol Testing Personnel");

Subpart K ("Testing Sites, Forms, Equipment and Supplies Used in Alcohol Testing"); Subpart L ("Alcohol Screening Tests"); Subpart M ("Alcohol Confirmation Tests"); and, Subpart N ("Problems in Alcohol Testing"). These procedures apply to all DOT alcohol tests regardless of the reason for the test.

Personnel and Testing Devices (§40.25(a&b), §40.229, §40.231, §40.233) The Company will only use qualified Screening Test Technicians (STT) or Breath Alcohol Technicians (BAT) for DOT alcohol tests. These technicians will only conduct the test using DOT-approved devices. Devices are approved by the National Highway Traffic Safety Administration (NHTSA), an agency of DOT, and placed on the Conforming Products List (CPL). The devices used by the Company will be maintained according to the particular manufacturer's specifications in the Quality Assurance Plan (QAP). External calibration checks will be performed at the intervals specified in the manufacturer's instructions for any EBT used for DOT- required alcohol confirmation testing.

Testing Site, Forms, and Specimen. The Company will provide the employee with the specific location where the test will take place. Tests will be conducted in an area to prevent unauthorized people from hearing or seeing the employee's test result. The Company will remind the employee that failure to sign the DOT Alcohol Testing Form (ATF) at the instruction of the testing technician will be viewed as a refusal to test. The alcohol screening test may be conducted with breath or saliva, as applicable for the device used by the testing technician. Only breath will be used for the confirmation test, which is conducted by a BAT using an EBT.

Test. The Company will inform the employee that they are required to carry and present a current valid picture ID, such as a driver's license, passport, or employer-issued picture ID to the testing site. The testing technician will perform a screening test and show the employee the test result. If the screening test result is an alcohol concentration of less than 0.02, no further testing is authorized, and there is no DOT action to be taken. The technician will document the result on the ATF, provide the employee a copy and also provide the Company and/or the Company's C/TPA a copy. If the screening test result is 0.02 or greater, the employee will be required to take a confirmation test, which can only be administered by a BAT using an EBT. The BAT will wait at least 15-minutes, but not more than 30 minutes, before conducting the confirmation test. During that time, the employee will not be allowed to eat, drink, smoke, belch, put anything in their mouth or leave the testing area. Leaving the testing area without authorization may be considered a refusal to test. The BAT will perform an "air blank" (which must read 0.00) on the EBT device to ensure that there is no residual alcohol in the EBT or in the air around it. The confirmation test result is the final result of the test, and the will be shown to the employee and on the printout from the EBT. If the result is less than 0.02, no action is taken under Part 199. Any result of 0.02 or greater will be immediately reported to the Company.

3. PHMSA Inspection Protocol for Alcohol Testing Sites

Compliance. PHMSA's Substance Abuse Program: Comprehensive Audit and Inspection Protocol Form, Combined Anti-Drug and Alcohol Misuse Prevention Programs, Form No.: 3.1.11, dated June 1st , 2012, provides a separate inspection protocol for Alcohol Testing Sites. The Company provides this protocol to correspond with the detail found in the PHMSA Inspection Form. As previously stated, the Company will ensure that all DOT alcohol tests comply with Part 40 requirements.

Alcohol Testing Personnel (§199.225(b)(2), §40.213, §40.211(c)). The Company will ensure that only qualified STTs and BATs are used to conduct Company DOT tests. STTs and BATs are responsible to maintain their own verification documentation and will make it available to the Company on request. A supervisor of an employee may not be used to conduct a reasonable suspicion/cause test if that supervisor was the one who made the determination to test.

[14] National Highway Traffic Safety Administration, Conforming Products List for Evidential Breath Measurement Devices, March 11, 2010, and addendums.

Alcohol Testing Sites, Forms and Supplies (§40.221, §40.223, §40.229, §40.231(a), §40.235). The testing site will ensure visual and aural privacy to the employee being tested to prevent unauthorized persons from seeing or hearing test results. The site will have the needed personnel, materials, equipment, and facilities to provide for the collection and analysis of breath and/or saliva samples, and a suitable clean surface for writing. The site will be able to prevent unauthorized personnel from entering the testing site, and ensure no unauthorized employee has access to an unsecured EBT, and that when an EBT or ASD is not being used for testing, it is stored in a secure place. Tests will be conducted on only one employee at a time.

Only EBTs and ASDs listed on the NHTSA CPL will be used for DOT alcohol testing, and only an EBT will must be used for conducting the confirmation tests. The QAP and associated manufacturer's instructions will be followed for all EBTs and ASDs used by the Company. It is the responsibility of the testing sites used by the Company to carry out this responsibility for the Company.

Alcohol Screening Tests (§40.225(a), §40.241, §40.243) Only the DOT-approved ATF will be used for all Company alcohol tests. The employee will provide a positive identification through the use of photo ID or by employer representative prior to the test. The BAT or STT shall explain the testing process to the employee, including showing the employee the instructions on the back of the ATF. If the employee has a designated testing time and does not appear, the BAT or STT will notify the DER. Testing will begin without undue delay. An alcohol test will be given prior to a drug test and medical attention, if it is required, will not be delayed in order to conduct a test. The testing technician will explain the testing procedure to the employee, including showing the employee the instructions on the back of the ATF. The ATF will be completed and the employee will be asked to sign the ATF. Failure to sign is a refusal to test. The BAT or STT will select, or allow the employee to select, an individually wrapped or sealed mouthpiece from the testing materials and insert it into the device in accordance with the manufacturer's instructions. The employee will be instructed to blow steadily and forcefully into the mouthpiece for at least six seconds or until the device indicates that an adequate amount of breath has been obtained. The employee will be shown the displayed test result. The device will print a label with, or the technician will write, the result and pertinent information on the ATF.

Alcohol Screening with an ASD (§40.245) It is not the intent of the Company to use an ASD for an alcohol test. However, it is possible that, when necessary, one may have to be used to conduct the test. In those cases the STT or BAT will follow the manufacturer's instructions, and only use a device that has been under their control. The ASD may be either a saliva device or a breath tube. The expiration date will be shown to the employee. A device will not be used after its expiration date. The device will be opened in the presence of the employee, and the employee will be offered the opportunity to use the device, according to instructions. In any case where the technician uses the device, the device will be inserted into the employee's mouth and gather saliva, with the technician wearing single-use examination gloves while doing so and change them following each test. Assurance will be made that the device has properly activated and that the correct amount of time will be allowed to elapse before reading the result. If problems occur (e.g., the device does not activate, it is dropped on the floor), it will be discarded and a new test will be conducted using a new device. The STT or BAT will note on the ATF the reason for the new test. If efforts to get the ASD to work properly fail, the technician will direct the employee to take a new test immediately, using an EBT for the screening test. Devices, swabs, gloves or other materials used in the prior saliva or breath tube testing will not be used in subsequent tests.

Alcohol Screening Results (§40.247) A result with an alcohol concentration of less than 0.02 will be recorded on the ATF; the result will be transmitted to the DER, with the test concluded without consequence. A result with an alcohol concentration of 0.02 or higher requires the employee to take a confirmation test. If the same BAT who conducted the alcohol screening test will also conduct the confirmation test, the test will begin immediately. If a different BAT will conduct the confirmation test, the technician conducting the screening test will direct the employee to the site where the test will take place. The technician will also advise the employee not to eat, drink, put anything (e.g., cigarette, chewing gum) into the employee's mouth, or belch, during the 15-minute waiting period until the test occurs. The employee will be observed by the technician or an employer representative on the way to the confirmation testing site. The employee will be directed not to attempt to drive a motor vehicle to the confirmation testing site.

Alcohol Confirmation Test (§40.251(b), §40.253, §40.255) All alcohol confirmation tests will be conducted by BATs using EBTs. The BAT will ensure that the time since the screening test has been at least 15 minutes, and the employee has been advised not to eat, drink, put anything (e.g., cigarette, chewing gum) into the employee's mouth, or belch. The BAT will conduct an air blank on the EBT in the presence of the employee. The reading must be 0.00 for the test to proceed. If the reading is greater than 0.00, another air blank must be conducted; the EBT must not be used (taken out of service) if the second reading is greater than 0.00. The EBT cannot be used for testing until it is found to be within tolerance limits on an external check of calibration. A new sealed mouthpiece will be opened, in view of the employee, and used for the test. The employee will be instructed to blow steadily and forcefully into the mouthpiece for at least six seconds or until the device indicates that an adequate amount of breath has been obtained. The results will be shown to the employee and printed for application to the ATF.

Alcohol Confirmation Results. If the alcohol confirmation test result is lower than 0.02, nothing further is required of the employee. If the alcohol confirmation test result is 0.02 or higher, the BAT will immediately transmit the result directly to the DER in a confidential manner.

Problems in Alcohol Testing (§40.261(a)(1-7), §40.263, §40.265) The Plan addresses the situations in which an employee has refused to take an alcohol test. See Section IV.6, "DOT Alcohol Violations and Prohibited Conduct." In situations where an employee is unable to provide sufficient saliva to complete a screening test, the Company will ensure that the employee takes a breath test immediately. In situations where an employee is unable to provide sufficient breath to complete a test, the employee will be sent for an evaluation, by a licensed physician who is acceptable to the Company. The physician will have expertise in the medical issues raised by the employee's failure to provide a breath specimen, as well as be apprised of the consequences of the appropriate DOT agency regulation for refusing to take the required alcohol test. The physician will provide the Company with a signed statement of their conclusions. If it is the reasonable medical judgment of the physician, that a medical condition has, or with a high degree of probability could have, precluded the employee from providing a sufficient amount of breath, the test will be canceled by the Company. If there is not an adequate basis for determining that a medical condition has, or with a high degree of probability could have, precluded the employee from providing a sufficient amount of breath, this constitutes a refusal to test.

Canceling an Alcohol Test (§40.267 & §40.269) The Company will ensure that an alcohol test is canceled if a fatal flaw occurs. Fatal flaws are: 1) in the case of a screening test conducted on a saliva ASD or a breath tube ASD, the STT or BAT reads the result either sooner than or later than the time allotted by the manufacturer; the saliva ASD does not activate; the device is used for a test after its expiration date; or, in the case of a screening or confirmation test conducted on an EBT, the sequential test number or alcohol concentration displayed on the EBT is not the same as the sequential test number or alcohol concentration on the printed result; 2) in the case of a confirmation test the BAT conducts the confirmation test before the end of the minimum 15-minute waiting period; the BAT does not conduct an air blank before the confirmation test; there is not a 0.00 result on the air blank conducted before the confirmation test; the EBT does not print the result; or, the next external calibration check of the EBT produces a result that differs by more than the tolerance stated in the QAP from the known value of the test standard. In this case, every result of 0.02 or above obtained on the EBT since the last valid external calibration check is canceled.

The Company will ensure that an alcohol test is canceled if a correctable flaw occurs and is not corrected. Correctable flaws are: the BAT or STT does not sign the ATF; the BAT or STT fails to note on the "Remarks" line of the ATF that the employee has not signed the ATF after the result is obtained; and, the BAT or STT uses a non-DOT form for the test.

Correcting Alcohol Problems (§40.271) The Company will ensure the BATs and STTS will try to successfully complete each alcohol test for an employee. If they become aware of a problem that will cause the test to be canceled, they will try to correct the problem promptly, if practicable. Repeating the test is an acceptable part of this process. If repeating the testing process is necessary, a new test (new ATF, new device) must begin as soon as possible. If repeating the testing process is necessary, the technician is not limited in the number of attempts to complete the test, provided that the employee is making a good faith effort to comply with the testing process. If another testing device is not available for the new test at the testing site, the technician will immediately notify the DER and advise the DER that the test could not be completed. The DER will make all reasonable efforts to ensure that the test is conducted at another testing site as soon as possible. If the Company or its service agent administering the testing process becomes aware of a

correctable flaw that has not been corrected, all practicable action will be taken to correct the problem so that the test is not cancelled. If the problem resulted from the omission of required information, the person responsible for providing the information must supply in writing the missing information and a signed statement that it is true and accurate.

If the problem is the use of a non-DOT form, the technician must, as the person responsible for the use of the incorrect form, certify in writing that the incorrect form contains all the information needed for a valid DOT alcohol test. The technician must also provide a signed statement that the incorrect form was used inadvertently or as the only means of conducting a test, in circumstances beyond the technician's control, and the steps the technician has taken to prevent future use of non-DOT forms for DOT tests. The technician must supply this information on the same business day on which the collector was notified of the problem, transmitting it by fax, e-mail or courier. If the technician cannot correct the problem, the technician must cancel the test.

VII. PROGRAM ELEMENTS COMMON TO DRUG AND ALCOHOL

1. Substance Abuse Professional

Compliance. The Company will follow the requirements of Part 40 for its Substance Abuse Professional (SAP) obligations. A full description of the SAP requirements is in Part 40, Subpart O ("Substance Abuse Professionals and the Return-to-Duty Process").

Qualifications.(§199. & §40.81) The Company will refer employees only to SAP's who have the credentials, basic knowledge, and qualification training, including fulfilling obligations for continuing education courses, for DOT violations. The SAP will not be an advocate for the Company or the employee. The SAP's function is to protect the public interest in safety by professionally evaluating the employee and recommending appropriate education/treatment, follow-up tests, and aftercare.

SAP Referral (§§199.215 – 199.223, §199.243(a), §40.285(b) The Company will provide to each employee who violates a DOT drug and alcohol regulation a listing of SAP's readily available to the employee and acceptable to the Company. The list will include SAP names, addresses, and telephone numbers. There will not be a charge to the employee for compiling or providing this list. The Company may use its C/TPA or other service agent to provide this information. Any covered employee who has violated DOT drug and alcohol regulations cannot again perform any DOT safety-sensitive duties for this Company until and unless the employee successfully completes the SAP evaluation, referral, and education/treatment process.

Payment. The Company is not required to pay for a SAP evaluation or any subsequent recommended education or treatment for an employee who has violated a DOT drug and alcohol regulation.

Company Responsibility. The Company is only bound by DOT to ensure that if the employee is provided an opportunity to return to a DOT safety-sensitive duty following a violation, that the Company ensure that the employee receives an evaluation by a SAP meeting the requirements of Part 40 and that the employee successfully complies with the SAP's evaluation recommendations before returning to the safety-sensitive job. Even if a SAP believes that the employee is ready to return to safety-sensitive work, the Company is under no obligation to return the employee to work. Under the DOT regulations, hiring and reinstatement decisions are left to the employer. The DOT leaves all payment issues for SAP evaluations and services to the Company and the employee to resolve.

SAP Process. The SAP will make a face-to-face clinical assessment and evaluation to determine what assistance is needed by the employee to resolve problems associated with alcohol and/or drug use. The SAP will refer the employee to an appropriate education and/or treatment program. At the completion of the education and/or treatment, the SAP will conduct a face-to-face follow-up evaluation to determine if the employee actively participated in the education and/or treatment program and demonstrated successful compliance with the initial assessment and evaluation recommendations. Reports will be provided to the Company on both the initial requirements and the outcome of the follow-up evaluation. The report will be specific and will include all of the Part 40 requirements of a written SAP report. The SAP will provide the DER with a written follow-up drug and/or alcohol testing plan for the employee and, if deemed necessary, will also provide the employee and the Company

with recommendations for continuing education and/or treatment.

2. Employee Assistance Program (§199.113(b) & §199.239(a)

The Company will provide an Employee Assistance Program (EAP) for its employees and supervisors. The EAP may be established "in house," as part of internal personnel service or may be contracted to an entity that provides EAP services at other locations. The function of the EAP will be to provide employees with informational material on the awareness and danger of drug and alcohol use. General EAP-information material, such as the availability of brochures or videos, and community service "hotline" telephone numbers will be displayed in common areas and distributed to employees. Employees will be encouraged to call the hotline if needed. Additionally, this Plan will be displayed and made available to all employees. The Plan contains the employer's policy regarding the use of prohibited drugs and alcohol misuse. The areas and places in which the above material will be displayed include employee bulletin boards, break rooms, locker rooms, or other areas designated by the Company.

3. Supervisor Training (§199.113(a&c), §199.225(b), §199.241)

Each supervisor who will determine whether an employee must be drug tested and/or alcohol tested based on reasonable suspicion/cause will be trained in the "signs and symptoms" of each substance. Each supervisor will receive one 60-minute period of training on the specific, contemporaneous physical, behavioral, and performance indicators of probable *drug* use and one 60-minute period of training on the specific, contemporaneous physical, behavioral, and performance indicators of probable *alcohol* use. The two 60-minute training periods may run concurrently.

4. Contractor Monitoring (§199.115 & §199.245)

Compliance. Operators are responsible for ensuring that contractors and contractor employees working for, and/or on the properties of, the operator are in compliance with the requirements of Part 40 and 199. With respect to those covered employees who are contractors or employed by a contractor, an operator may provide by contract that all requirements of Part 40 and 199 will carried out by the contractor.

To assure that the contractor is in full compliance, the contractor will allow access to property and records by the operator, the operator designee, the Administrator, any DOT agency with regulatory authority over the operator or covered employee, and, if the operator is subject to the jurisdiction of a state agency, a representative of the state agency for the purposes of monitoring the operator's compliance with the requirements of Part 40 and 199. The operator will ensure that all contractors are qualified prior to commencing, as well as during the performance of, covered functions for the operator.

Qualifying Potential Contractor. Qualifications of the potential contractor as it pertains to drug and alcohol testing policies and procedures are assured by requesting the potential contractor to submit a copy of its Plan for review and compliance with PHMSA regulations. After review of the Plan is completed, written correspondence to the contractor will advise whether or not it is acceptable or in

need of further additions, deletions, revisions or clarifying language. The review of the contractor Plan shall be completed utilizing the criteria established by PHMSA.

Monitoring Contractor's Compliance . The contractor may be required to provide information on their employees who will perform covered functions for the operator. This information will include, as a minimum, the name, type of test and test date of the employees who will perform any work or functions covered by Part 199 under that contract. A list of each contractor's covered employees may be distributed to appropriate Company field management. All contractors will be required to submit drug and alcohol testing statistical information on a periodic basis, which may be based on the duration of the contract. Typically, this requirement will be on a semi-annual basis. The Company may require a more frequent schedule for submission of drug and alcohol testing data should they determine a need for such statistics.

The Company shall maintain a complete file on each contractor's statistical drug and alcohol testing reports. The Company shall make these reports available when requested by a PHMSA agency-designated

representative, or representatives of those state agencies under which jurisdiction the Company operates. The operator will also submit contractor Management Information System (MIS) reports to PHMSA by March 15th each year.

The contractor will cooperate with the operator, or the operator's designee, if additional information is requested to further verify compliance of the regulations.

See Appendix B Designated Personnel and Service Agents, National Compliance Management Service (NCMS)

5. Recordkeeping (§40.333 (a(1,2&3)&c) & §199.227 (a & b (1))

Compliance. The Company will ensure that all records required by the DOT are maintained. The Company is not required to keep records related to a program requirement that does not apply to Part 40 or 199. The Company or its C/TPA will maintain the records in a locked file system and will be accessed only on a strict "need to know" basis. The Company or its C/TPA will not release an employee's drug and alcohol records to third parties without the employee's specific written consent. A "third party" is any person or organization to whom Parts 40 or 199 do not explicitly authorize or require the transmission of information in the course of the drug and alcohol testing process. "Specific written consent" means a statement signed by the employee that he or she agrees to the release of a particular piece of information to a particular, explicitly identified, person or organization at a particular time.

The Company or its C/TPA will release the employee's information without consent to DOT, PHMSA, or other government agency having regulatory authority over the Company or employee without consent. The Company or its C/TPA will release the employee's information without consent as a part of an accident investigation by the National Transportation Safety Board. The Company or its C/TPA will release the employee's information without consent in certain legal proceedings. These proceedings include a lawsuit, grievance, administrative proceeding (e.g., an unemployment compensation hearing brought by or on behalf of an employee resulting from a positive drug or alcohol test or refusal to test), a criminal or civil action resulting from an employee's performance of safety-sensitive duties, in which a court of competent jurisdiction determines that the drug or alcohol test information sought is relevant to the case and issues an order directing the Company to produce the information. In such a proceeding the information will be released to the decision maker in the proceeding with a binding stipulation that the decision maker to whom it is released will make it available only to parties to the proceeding. After releasing the information, the Company or its C/TPA will notify the employee.

If the Company uses a C/TPA to maintain the records, the Company will ensure that the C/TPA can produce these records at the Company's principal place of business in the time required by the DOT agency for an inspection. The records will be provided within two business days after receipt of the request. Most records will be stored electronically, where permitted by Part 40 and 199. The Company will ensure that the records are easily accessible, legible, and formatted and stored in an organized manner. If electronic records do not meet these criteria for the DOT inspector, the Company will convert them to printed documentation in a rapid and readily auditable manner, at the request of DOT agency personnel.

Records and Retention Periods . The Company or its C/TPA will maintain the following records for the noted time periods, as a minimum:

a) Records kept for **five** years:

1. Records of alcohol test results indicating an alcohol concentration of 0.02 or greater;
2. Records of the inspection, maintenance, and calibration of EBTs;
3. Records of verified positive drug test results;
4. Documentation of refusals to take required alcohol and/or drug tests (including substituted or adulterated drug test results);
5. SAP reports;
6. Follow-up tests and schedules for follow-up tests; and,
7. Statistical data related to the Company's testing program, entitled "Management Information System," will be available to a representative of DOT, PHMSA, or a state

agency having regulatory authority over the Company upon request.

b) Records kept for **three** years:

1. Records of information obtained from previous employers under Part 40 concerning drug and alcohol test results of employees;
2. Records that demonstrate the drug-testing collection process; and,
3. Records related to "signs and symptoms" alcohol and drug training for supervisors.
4. Records of decisions not to administer post-accident employee drug and alcohol tests

c) Records kept for **two** years:

1. Records related to the alcohol collection process (i.e., calibration documentation for evidential breath testing devices, documentation of breath alcohol technician training, documents generated in connection with decisions to administer reasonable suspicion alcohol tests, documents generated in connection with decisions on post-accident tests, and documents verifying existence of a medical explanation of the inability of a covered employee to provide adequate breath for testing); and,

d) Records kept for **one** year:

1. Negative drug test results.
2. Alcohol results less than 0.02.

Employee Request for Records . All employees have the right to request and obtain copies of any records pertaining to the employee's use of alcohol and/or drugs, including records of the employee's DOT-mandated drug and/or alcohol tests, and copies of SAP reports. Requests for records must be made in writing to the DER. A laboratory must provide, within 10 business days of receiving a written request from an employee, and made through the MRO, the records relating to the results of the employee's drug test (i.e., laboratory report and data package). Service agents providing records may charge no more than the cost of preparation and reproduction for copies of these records. SAPs must redact follow-up testing information from the report before providing it to the employee.

6. Management Information System (§40.26, §199.119(a & f), §199.229(a &d), §199.3)

Compliance. The Company will prepare and maintain the DOT Management Information System (MIS) report for its drug and alcohol testing program. This report will be submitted to PHMSA in accordance with annual submission requirements. If the Company uses a C/TPA then the C/TPA may prepare and maintain the MIS, reporting the MIS as the Company requires. The DER will certify each report submitted by a C/TPA for accuracy and completeness.

Contractor Reporting for MIS. If the Company is an operator, it will verify and identify all contractors who performed covered functions, as defined under Part 199, for this Company in a given calendar year. If required, by either mandated annual or PHMSA written request, the Company will submit an MIS report for each of these contractors on or before March 15th for previous calendar year (January 1st through December 31st)

VIII. Appendix A - Acknowledgement/Receipt Form

ACKNOWLEDGMENT AND AGREEMENT
WITH RESPECT TO DRUG AND ALCOHOL TESTING

I, the undersigned employee hereby certify that I have been furnished with a copy of the DOT Drug/Alcohol Testing Program, including its Employee Assistance Program, and that I have read and understand that I am responsible for same. I further certify that I have been provided with informational material, education and training on the dangers and problems of drug and alcohol misuse.

I am fully aware, and agree that I may be discharged or otherwise disciplined for any violation by me of said DOT Alcohol and Drug Policy, for any failure or refusal to provide urine and/or breath specimens when requested by the company, for the failure or refusal to identify and certify same, for the failure to cooperate with the forms and other documents, and/or for any other Alcohol and Drug Testing Program.

Executed this the _____ day of _____, 20_____.

_____
Employee Name (Please Print)

_____
Employee Signature

_____
Employee ID Number

_____
Company Name

_____
Company Representative Name (Please Print)

_____
Company Representative Signature

IX. Appendix B - Designated Personnel and Service Agents

CONSORTIUM/THIRD PARTY ADMINISTRATOR (C/TPA)

First Advantage
480 Quadrangle Drive, Suite D
Bolingbrook, IL 60440
(888) 794-6574 (Phone)
1-866-887-8275 (Fax)

DRUG PROGRAM MANAGER (DPM)/DESIGNATED EMPLOYER REPRESENTATIVE (DER)

Paul Markoff, Designated Employer Representative (DER/SAPA)
290 W. Nationwide Blvd.
Columbus, Oh 43215
(614) 460-6013 (phone) – (219) 765-8878 (cell) – (614) 460-5075 (secure fax)

MEDICAL REVIEW OFFICER (MRO)

Dr. Stuart B. Hoffman, M.D., F.A.C.P.
First Advantage
480 Quadrangle Drive, Suite D
Bolingbrook, IL 60440
(888) 794-6574 (phone) – (866) 887-8275 (Fax)

SUBSTANCE ABUSE MENTAL HEALTH LABORATORY (SAMHSA)

LabCorp
1904 Alexander Drive
Research Triangle Park, NC
(800) 833-3984

COLLECTION SITE (S)

Below is a link to a listing of collection sites:
http://my.nisource.net/corporatepolicies/DrugAndAlcoholReference/Clinic%20Directory%20-%20NEW.xlsx

Third Party Administrator / Contractor Monitoring

National Compliance Management Service (NCMS)
9 Compound Dr.
Hutchinson, KS 67502
(620) 669-4428

EMPLOYEE ASSISTANCE PROGRAM (EAP)*

Beacon Health Options
3800 Paramount Parkway Suite #300
Morrisville, NC 27560
(800) 946-5360
www.achievesolution.net /nisource

SUBSTANCE ABUSE PROFESSIONAL (SAP)*

Beacon Health Options
3800 Paramount Parkway Suite #300
Morrisville, NC 27560
(800) 946-5360
www.achievesolution.net/nisource

*Primary contact – a local SAP is assigned based on geographic requirements.

HOT LINE NUMBER FOR HELP

National Hot Line Numbers
SAMHSA 1-800-662-4357

National Assistance Groups

Alcoholics Anonymous
http://www.aa.org

Narcotics Anonymous
http://www.na.org

X.Appendix C - Covered Positions

EMPLOYEE/SUPERVISOR POSITIONS SUBJECT TO ALCOHOL & DRUG TESTING JOB CLASSIFICATIONS/TITLES)

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
103007	Field Performance Analyst	Y	N		
103016	Mgr Operations	Y	N		Y
103017	Area Supv Field Services Gas	Y	N		Y
103018	Area Supv Field Services Line	N	Y		Y
103019	Area Supv Field Services Struc	N	Y		Y
103020	Assistant Chief Controller	Y	N		
103050	Assoc Instr & Control Eng	Y	N		Y
103102	Team Ldr Reg Cust Srvcs	Y	N		
103124	Chief Pilot	Y	N		Y
103455	Dir Corporate Security	Y	N		
103467	Dir Gas Control & Planning	Y	N		Y
103501	Assoc Field Eng 1	Y	N		
103502	Distr Project Engineer 2	Y	N		
103503	Distr Project Engineer 3	Y	N		
103522	Engineer	Y	N		
103524	Storage Engineer	Y	N		
103529	Assoc Field Eng 2	Y	N		
103532	Associate Engineer	Y	N		
103551	Mgr Constr-Electric Line	Y	N		Y
103555	Field Supv	Y	N		Y
103568	Front Line Ldr MtrRdg&Coll	Y	N		Y
103571	Sr Gas Controller	Y	N		
103573	Gas Control Supervisor	Y	N		Y
103574	Gas Controller	Y	N		
103576	Lead Controller	Y	N		
103579	Gas Pipeline Engineer 3	Y	N		
103583	Gas Storage Opers Engineer	Y	N		Y
103584	Assoc Gas Sys Design Eng 1	Y	N		
103586	Assoc Gas Sys Planning Eng 1	Y	N		
103613	Technical Trainer	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
103630	Lead Controller	Y	N		
103642	Lead Engineer	Y	N		
103651	Leader Field Operations	Y	N		Y
103705	Mgr Construction Services	Y	N		
103713	Mgr Customer Contact Center	Y	N		Y
103714	Mgr Customer Field Service	Y	N		Y
103715	Mgr Customer Programs	Y	N		Y
103735	Mgr Engineering	Y	N		Y
103742	Mgr Engineering	Y	N		Y
103746	Dir Fleet & Warehouse	N	Y		Y
103747	Mgr Aviation Services	Y	N		Y
103749	Mgr Gas Control	Y	N		Y
103751	Mgr Gas Storage Operations	Y	N		Y
103752	Mgr Gas Systems Field Ops	Y	N		Y
103770	Mgr Meter Rdg & Collect	Y	N		Y
103778	Mgr Operations Center	Y	N		Y
103794	Mgr Regulatory Compliance	Y	N		
103858	Pilot 1	Y	N		
103859	Pilot 3	Y	N		
103860	Pilot 2	Y	N		
103861	Pilot 4	Y	N		
103862	Pipeline Supervisor	Y	N		
103876	Principal Engineer-Pipeline	Y	N		
103881	Principal Storage Engineer	Y	N		
103914	Reg Maint&High PressrMaint Spv	Y	Y	Y	Y
103917	Regional Fleet Supv	N	Y		Y
103918	Regional Supv	Y	N		Y
103933	Resource Planner	Y	N		Y
103941	Team Ldr CCC	Y	N		Y
103978	Gas Sys Plan Engr 2	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
103992	Sr Storage Engineer	Y	N		
103999	Team Ldr Work Mgmt Center	Y	N		
104010	Principal Gas Turbine Spec	Y	N		
104023	Supv C&M	Y	N		Y
104024	Supv C&M Svc&Mtr Rdg 3	Y	Y	Y	Y
104029	Supv Corrosion Control	Y	N		
104033	Technical Trainer - Work Mgmt	Y	N		
104038	Supv System Operations	Y	N		Y
104042	Supv LNG Plant O&M	Y	N		Y
104044	Supv Mtr Rdg	Y	N		Y
104045	Supv Operations	Y	Y	Y	Y
104046	Supv Service	Y	N		Y
104052	Supv UGS Plant Maint	Y	N		Y
104053	Supv UGS Plant Ops	Y	N		Y
104086	Leader Front Line Constr Serv	Y	N		Y
104088	Leader M&R	Y	N		Y
104094	Leader Damage Prevention	Y	N		Y
104099	Team Ldr Operations	Y	N		Y
104100	Team Ldr Engineering	Y	N		Y
104101	Local Fleet Supv	N	Y		Y
104109	Ldr Meter Shop	Y	N		
104130	Sr Technical Trainer	Y	Y	Y	
104167	Supv Instrumentation & Control	Y	N		
104172	Sr Engineer Pipeline	Y	N		
104192	Project Specialist 2	Y	N		
104199	Leader Front Line Corr & Leak	Y	N		Y
104202	Ldr Meter Shop	Y	N		
104210	Manager Systems Operations	Y	N		Y
104213	Team Ldr CCC	Y	N		Y
104214	Leader Front Line Constr Serv	Y	N		Y

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
104217	Mgr M&R/Corrosion/COH	Y	N		Y
104234	Operations Compliance Mgr	Y	N		
104243	Elec Sys Plan Engr 1	Y	N		
104255	Chief Controller	Y	N		
104256	Chief Gas Controller	Y	N		Y
104257	Construction Superintendent	Y	N		
104267	Compliance Specialist 2	Y	N		N
104315	Sr Instr & Control Eng	Y	N		Y
104348	Construction Supv	Y	N		
104367	Mgr Construction Underground	Y	N		
104376	Engineer 2-Pipeline	Y	N		
104383	Mgr Fleet Maintenance	N	Y		
104467	Trng Ldr Ins Design & Tst Comp	Y	N		
104468	Analyst	Y	N		
104470	Team Ldr Gas Operations	Y	N		
104471	Ldr Gas/Electric Training	Y	N		
104486	Ldr Field Engineering	Y	N		
104513	Scheduling Leader	Y	N		
104516	Sr Gas Sys Design Eng	Y	N		
104517	Assoc Gas Sys Planning Eng 2	Y	N		
104541	Mgr Maintenance	Y	N		Y
104561	Mgr Gas Op Integ Center	Y	N		
104570	Compliance Specialist 1	Y	N		
104575	Technical Support Specialist 2	Y	N		
104576	Technical Support Specialist 1	Y	N		
104581	Leader Project Management	Y	Y	Y	
104586	Relay & Control Field Engr 1	Y	Y	Y	
104592	Starting&Operating Supv	Y	Y	Y	
104593	Metering Engineer I	Y	Y	Y	
104607	Lead Shift Controller	Y	N		Y

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
104624	Mgr Field Engineering	Y	N		Y
104625	Project Leader Field Services	Y	N		Y
104715	Mgr Gas Sys Integrity & Design	Y	N		Y
104745	Mgr Gary Business Office	Y	N		
104755	AMR Project Coordinator	Y	N		
104801	Aerial Analyst	Y	N		
104804	Chief of Aviation Maintenance	Y	N		Y
104841	Tech Trainer-Op & Compliance	N	Y		
104842	Technical Trainer - Gas	Y	N		
104848	Field Engineer	Y	N		
104873	Mgr Work Management Center	Y	N		Y
104877	Group Leader CCC	Y	N		Y
104880	Dir Gas Operations	Y	Y	Y	Y
104884	Customer Care Advisor	Y	N		Y
104886	Dir Energy Trading	Y	Y	Y	
104905	Mgr Integrty Reliablty Program	Y	N		Y
104908	Control Room Mgt Analyst	Y	N		
104913	Mgr Planning & Reg Support	Y	Y	Y	
104916	Mgr Operations Support	Y	N		Y
104922	Commissioning Lead	Y	N		N
104923	Ldr Integ Mgmt & Pipe Safety	Y	N		Y
104945	Ldr Front Line System Ops C&L	Y	N		Y
104976	Gas Pipeline Eng II	Y	N		
104995	Gas Control Specialist - CRM	Y	N		Y
104996	Mgr Project Management	Y	N		Y
105021	Team Ldr North	Y	N		Y
105023	Gas Control Specialist - OQ	Y	N		Y
105029	Lead Meter Reading Supervisor	Y	N		
105031	Associate Project Manager	Y	N		
105038	Leader I & E	Y	Y	Y	Y
105056	Dir Pipeline Safety	Y	N		
105066	Mgr Damage Prevention	Y	N		Y

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
105091	Ldr Damage Prev Screening	Y	N		
105104	Project Engr Specialist 1	Y	N		
105105	Project Engr Specialist 2	Y	N		
105106	Project Engr Specialist 3	Y	N		
106019	Principal Engineer	Y	N		
106051	Instr & Control Spec 1	Y	N		
106056	Plant Manager	Y	N		Y
106065	Lead Aerial Analyst	Y	N		
106066	Sr Aerial Analyst	Y	N		
106150	Sr Integrity Mgt Analyst	N	Y		
106176	Regional Mgr	Y	N		
106178	Team Leader Aerial Program	Y	N		Y
106182	Supt Field Operations	Y	N		
106186	Shift Lead Gas Controller	Y	N		
106187	Team Leader Support	Y	N		
106190	Sr Engineer - Midstream	Y	N		
106191	Sr Mechanical Eng - Midstream	Y	N		
106196	Group Ldr Scheduling	Y	N		
106198	VA DIMP Program Spec 1	Y	N		
106199	VA DIMP Program Spec 2	Y	N		
106206	FLL Tech Supp Spec Const	Y	N		Y
106215	Tech Supp Spec Construction	Y	N		Y
106216	Supt Gas Operations	Y	N		
106235	Subst Superint Field Projects	Y	N		
106377	Dir Pipeline Asset Integ	Y	N		
106391	Sr VP Maj Prjs/Elec Field Ops	Y	N		
106395	Team Ldr South	Y	N		Y
106396	Sr Construction Mgr	Y	N		
106397	Construction Mgr	Y	N		
106398	Assistant Construction Mgr	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
106432	Mgr Customer Exp Ops Support	Y	N		
106435	Joint Facility Project Manager	Y	N		
106437	Mgr Construction Scheduling	Y	N		
106465	Supv Gas C&M	Y	N		Y
106466	Gas Pipeline Project Engr 1	Y	N		
106467	Gas Pipeline Project Engr 2	Y	N		
106468	Gas Pipeline Project Engr 3	Y	N		
106474	Local Area Scheduler	Y	N		
106475	Cycle Scheduler	Y	N		
106476	Mgr Cycle Management	Y	N		Y
106480	Mgr I&E / M&R	Y	N		Y
106482	Field Eng Proj Specialist 1	Y	N		
106483	Field Eng Proj Specialist 2	Y	N		
106484	Field Eng Proj Specialist 3	Y	N		
106501	Commercial Operations Mgr	Y	N		
106511	Mgr Aerial Program	Y	N		Y
106518	Project Manager 1	Y	N		
106519	Project Manager 2	Y	N		
106520	Project Manager 3	Y	N		
106522	DP Improvement & Strategy Ldr	Y	N		
106523	Lead Ops Monitoring Analyst	Y	Y	Y	
106524	Supervisor Damage Prevention	Y	N		Y
106526	Team Ldr Gary CCC	Y	N		
106541	Dir Construction Services	Y	N		Y
106543	Senior Commissioning Lead	Y	N		
106544	Associate Commissioning Lead	Y	N		
106555	GSP Principal Engineer	Y	N		
106559	Sr Field Engineer	Y	N		
106561	Gas Sys Planning Eng	Y	N		
106562	Sr Gas Sys Planning Eng	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
106569	Lead Ops Support Analyst	Y	N		
106620	Construction Services Manager	Y	N		
106623	Team Leader Patrol Pilots	Y	N		
106640	M&R Specialist 1	N	Y		
106641	M&R Specialist 2	N	Y		
106688	Sr HRIS Business Consultant	Y	N		
107084	Mgr Construction QA/QC	Y	N		Y
107085	Mgr Field Ops QA/QC	Y	N		Y
107087	Dir Damage Prev & GPS	Y	N		N
107088	Dir Technical Services	Y	N		
140770	Operations Technician 3	Y	Y	Y	
320009	Meter Reader	Y	N		
320010	Customer Service Sr	Y	N		
320011	Customer Service A	Y	N		
320012	Customer Service B	Y	N		
320013	General Utility A	Y	Y	Y	
320014	General Utility B	Y	Y	Y	
320015	Construct-Regulator Oper	Y	N		
320016	Heavy Equip Operator	Y	Y	Y	
320017	Inspector A	Y	N		
320018	Inspector B	Y	N		
320019	M&R Tech 1	Y	N		
320020	M&R Tech 2	Y	N		
320021	Measure Regulat Inspect B	Y	N		
320022	Meter Reader*	Y	N		
320026	Regulator Inspector A	Y	N		
320027	Regulator Inspector AA	Y	N		
320030	Dispatcher A	Y	N		
320031	Street Service A	Y	Y	Y	
320032	Street Service B	Y	Y	Y	

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
320033	Street Service C	Y	Y	Y	
320034	Truck Driver	Y	Y	Y	
320035	Truck Driver Heavy	Y	Y	Y	
320040	Welder A	Y	Y	Y	
320041	Welder AA	Y	Y	Y	
320042	Welder AAA	Y	Y	Y	
320043	Welder B	Y	Y	Y	
320085	Field Engineering Technician	Y	N		
320098	Utility Representative	Y	Y	Y	
320099	Measurement & Reg Tech II	Y	N		
320102	Corrosion Tech CKY	Y	N		
320103	Construction Specialist	Y	N		
320140	Utility A	Y	Y	Y	
320151	Leakage Technician	Y	N		
320170	Utility B	Y	Y	Y	
321000	Plant/Service Combination	Y	Y	Y	
321001	Construction Coordinator	Y	N		
340003	Construction Coordinator 2	Y	N		
340006	Sr Operations Coordinator	Y	N		
340011	Operations Coordinator	Y	N		
340013	Field Engineering Technician	Y	N		
340073	Representative Utility	Y	N		
340074	Utility Technician	Y	N		
340075	Construction Equip Operator	Y	Y	Y	
340076	Credit Investigator	Y	N		
340078	Fitter	Y	Y	Y	
340079	Fitter In Charge	Y	Y	Y	
340084	Customer Service Sr	Y	N		
340086	Leakage Inspector	Y	N		
340087	Meter Reader - El II	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
340092	Senior Fitter	Y	Y	Y	
340099	Meter Reader EL III	Y	N		
340102	Welder Combination A	Y	Y	Y	
340103	Welder Stoppel Combination	Y	Y	Y	
340106	M & R Tech	Y	N		
340107	Representative Utility	Y	N		
340112	Service Technician B	Y	N		
340120	Credit Investigator	Y	N		
340121	Utility Person	Y	N		
340127	Inspector	Y	N		
340128	Machine Operator	Y	Y	Y	
340129	Map Records Technician	Y	N		
340137	Senior Fitter	Y	Y	Y	
340141	Service Technician A	Y	N		
340144	Truck Driver	Y	Y	Y	
340146	Welder Combination	Y	Y	Y	
340148	Representative Utility	Y	N		
340149	Construction Equip Operator	Y	Y	Y	
340150	Customer Service A	Y	N		
340151	Gang Leader	Y	N		
340153	Gas Plant Inspector	Y	N		
340155	Laborer Regular	Y	Y	Y	
340159	Customer Service B	Y	N		
340162	Street Service	Y	Y	Y	
340163	Street Service A	Y	Y	Y	
340164	Truck Driver	Y	Y	Y	
340165	Utility	N	Y		
340171	Welder Combination	Y	Y	Y	
340175	Construction Equip Operator	Y	Y	Y	
340176	Customer Service A	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
340177	Fitter	Y	Y	Y	
340178	Fitter B	Y	Y	Y	
340179	Fitter In Charge	Y	Y	Y	
340180	Customer Service Sr	Y	N		
340181	General Utility	Y	Y	Y	
340183	Laborer	Y	Y	Y	
340184	Meter Reader	Y	N		
340185	Customer Service B	Y	N		
340186	Plant & Service Clerk	Y	N		
340187	Regulator Inspector	Y	N		
340188	Senior Fitter	Y	Y	Y	
340189	Utility Inspector	Y	N		
340191	Welder A	Y	Y	Y	
340193	Welder Combination	Y	Y	Y	
340194	Welder Comb/Regualtor Inspect	Y	Y	Y	
340196	Meter Reader EL I	Y	N		
340198	Construction Equip Operator	Y	Y	Y	
340200	Meter Reader - EL	Y	N		
340201	Gas Plant Inspector	Y	N		
340202	Gang Foreman	Y	Y	Y	
340203	Customer Service Sr	Y	N		
340204	General Utilityman	Y	Y	Y	
340206	Laborer Regular	Y	Y	Y	
340207	Meter Inspector A	Y	N		
340210	Regulatorman	Y	N		
340212	Customer Service A	Y	N		
340213	Customer Service B	Y	N		
340216	Street Serviceman A	Y	Y	Y	
340217	Truck Driver	Y	Y	Y	
340218	Utilityman	Y	Y	Y	

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
340222	Welder A	Y	Y	Y	
340223	Welder B	Y	Y	Y	
340224	Welder C	Y	Y	Y	
340225	Welder Combination	Y	Y	Y	
340226	Customer Service Sr	Y	N		
340227	Customer Service A	Y	N		
340228	Customer Service B	Y	N		
340229	Dispatcher A	Y	N		
340230	General Utility A	Y	Y	Y	
340231	Inspector A	Y	N		
340232	Heavy Equip Operator	Y	Y	Y	
340233	Meter Reader	Y	N		
340234	Street Service A	Y	Y	Y	
340235	Street Service B	Y	Y	Y	
340238	Street Service C	Y	Y	Y	
340239	Welder AA	Y	Y	Y	
340240	Welder AAA	Y	Y	Y	
340241	Welder A	Y	Y	Y	
340263	M&R Technician 2	Y	N		
340288	M&R Technician 1	Y	N		
340370	Meter Reader/Collector	Y	N		
340377	Field Technician	Y	Y	Y	
340397	Construction Coordinator 1	Y	N		
340403	Plant & Service Combination	Y	Y	Y	
340411	M & R Technician I	Y	N		
340412	M & R Technician II	Y	N		
340413	M & R Technician I	Y	N		
340414	M & R Technician II	Y	N		
340427	Corrosion Technician	Y	N		
340429	Assigner	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
340435	Plant & Service Combination	Y	Y	Y	
340436	Field Service Technician	Y	Y	Y	
340440	Utility A	Y	Y	Y	
340445	P & S Combo	Y	Y	Y	
340460	Utility General	Y	N		
340470	Utility B	Y	Y	Y	
340475	M&R Tech 1	Y	N		
340481	M&R Technician I	Y	N		
340482	M&R Technician II	Y	N		
340484	Field Technician	Y	Y	Y	
340486	Field/Service Technician	Y	Y	Y	
340488	Service Technician	Y	N		
340489	Plant & Service Combination	Y	Y	Y	
340493	Leakage Technician	Y	N		
340494	Construction Coord - Ironton	Y	N		
340495	Stoppel Technician	Y	Y	Y	
340496	Plant/Service Combination	Y	Y	Y	
340498	Construction Specialist	Y	N		
340499	Construction Coordinator	Y	N		
340500	Plant Technician	Y	Y	Y	
350001	Construction Equip Operator	Y	Y	Y	
350002	Corrosion Technician	Y	N		
350003	Service Tech A	Y	N		
350004	Service Tech Sr	Y	N		
350005	Corrosion Tester B	Y	N		
350006	Corrosion Tester A	Y	N		
350008	Street Service B - EL	Y	N		
350009	Street Service C - EL	Y	N		
350011	Gang Leader	Y	Y	Y	
350013	Heavy Duty Truck Driver	Y	Y	Y	

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
350015	Heavy Duty Tr Drvr/Cst Eqp Opr	Y	Y	Y	
350016	Laborer Regular	Y	N		
350019	Meter Reader	Y	N		
350020	Service Tech B	Y	N		
350022	Regulator Inspector	Y	N		
350024	Street Service B	Y	N		
350025	Street Service A	Y	N		
350026	Town Service A	Y	Y	Y	
350027	Town Service B	Y	Y	Y	
350028	Street Service C	Y	N		
350029	Utility Inspector	Y	N		
350032	Welder A	Y	N		
350033	Welder B	Y	N		
350034	Welder Combination	Y	N		
350035	Welder Senior	Y	N		
350044	Line Locator/Street Service	Y	N		
350045	M & R Technician	Y	N		
350049	Street Service A	Y	N		
350050	Utility Inspector	Y	N		
350051	Senior Shop Clerk	Y	N		
350052	Welder Senior	Y	N		
350053	M&R Technician 1	Y	N		
350054	Operations Coordinator	Y	N		
350058	Service Technician A	Y	N		
350060	Plant Specialist	Y	Y	Y	
350061	Plant/Service Specialist	Y	Y	Y	
350062	Meter Regulator Sr	Y	N		
350063	Meter Regulator B	Y	N		
350064	Meter Regulator A	Y	N		
350065	Construction Coordinator	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
350066	Utility Representative	Y	N		
350068	Construction Coordinator 1	Y	N		
350069	Construction Coordinator 2	Y	N		
350070	Locator Technician	Y	N		
350071	Plant Service Specialist	Y	Y	Y	
350072	Locator Technician	Y	N		
350074	M&R Technician Sr	Y	N		
350076	Construction Specialist	Y	N		
370017	Customer Service A	Y	N		
370018	Customer Service Sr	Y	N		
370022	Gang Leader	Y	Y	Y	
370028	Welder Senior	Y	N		
370029	Construction Equip Operator	Y	Y	Y	
370030	Mechanic B	N	Y		
370031	Corrosion Tester	Y	N		
370032	Customer Service A	Y	N		
370033	Customer Service Sr	Y	N		
370034	Corrosion A	Y	N		
370035	Corrosion B	Y	N		
370036	Gang Leader	Y	Y	Y	
370037	General Utility	Y	N		
370038	Heavy Duty Truck Driver	Y	Y	Y	
370040	Laborer Regular	Y	N		
370041	Laborer Regular-EL	Y	N		
370042	Meter Reader (Prior 7-1-83)	Y	N		
370043	Mechanic Sr	N	Y		
370044	Mechanic A	N	Y		
370048	Meter Reader	Y	N		
370050	Service Tech B	Y	N		
370053	Street Service-EL	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
370054	Street Service	Y	N		
370055	Street Service A	Y	N		
370058	Truck Driver	Y	Y	Y	
370059	Utility Helper-EL	Y	N		
370060	Utility Helper	Y	N		
370061	Utility Inspector	Y	N		
370063	Welder A	Y	N		
370064	Welder B	Y	N		
370065	Welder C	Y	N		
370066	Welder Combination	Y	N		
370067	Welder Senior	Y	N		
370069	Construction Equip Operator	Y	Y	Y	
370070	Corrosion Tester	Y	N		
370071	Customer Service A	Y	N		
370072	Customer Service Sr	Y	N		
370073	Corrosion Tester A	Y	N		
370074	Corrosion Tester B	Y	N		
370075	Meter Reader	Y	N		
370076	Gang Leader	Y	Y	Y	
370079	Laborer Regular	Y	N		
370080	Mechanic	N	Y		
370081	Meter Inspector Senior	Y	N		
370082	Meter Inspector A	Y	N		
370083	Meter Inspector B	Y	N		
370084	Meter Reader - EL I	Y	N		
370085	Meter Reader - EL	Y	N		
370086	Street Service C - EL	Y	N		
370087	Customer Service B	Y	N		
370088	Street Service B - EL	Y	N		
370089	Regulator Inspector	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
370090	Street Service B	Y	N		
370091	Street Service A	Y	N		
370092	Town Service A	Y	Y	Y	
370093	Town Service B	Y	Y	Y	
370094	Street Service C	Y	N		
370095	Utility Inspector	Y	N		
370098	Welder A	Y	N		
370099	Welder B	Y	N		
370100	Welder C	Y	N		
370101	Welder Combination	Y	N		
370102	Welder Senior	Y	N		
370104	Corrosion Tester	Y	N		
370105	Customer Service A	Y	N		
370106	Customer Service Sr	Y	N		
370109	Construction Coordinator	Y	N		
370110	Corrosion A	Y	N		
370111	Corrosion B	Y	N		
370112	Gang Leader	Y	Y	Y	
370113	General Utility	Y	N		
370114	Senior Meter Reader	Y	N		
370115	Laborer	Y	N		
370116	Meter Reader-EL	Y	N		
370118	Mechanic A	N	Y		
370119	Mechanic B	N	Y		
370120	Meter Reader	Y	N		
370121	Customer Service B	Y	N		
370123	Street Service-EL	Y	N		
370125	Site Specialist	Y	N		
370126	Street Service	Y	N		
370127	Street Service A	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
370129	Utility	Y	N		
370130	Utility Inspector	Y	N		
370131	Meter Regulator Oper B	Y	N		
370132	Meter Regulator Oper A	Y	N		
370133	Meter Regulator Oper Sr	Y	N		
370134	Utility-EL	Y	N		
370136	Welder A	Y	N		
370137	Welder Combination	Y	N		
370138	Welder Senior	Y	N		
370139	Welder B	Y	N		
370140	Construction Equip Operator	Y	Y	Y	
370141	Corrosion Tester	Y	N		
370142	Customer Service A	Y	N		
370143	Customer Service Sr	Y	N		
370144	Corrosion A	Y	N		
370145	Corrosion B	Y	N		
370146	Laborer-Regular - EL	Y	N		
370147	Meter Reader-Domestic-EL	Y	N		
370149	Gang Leader	Y	Y	Y	
370150	Meter Reader-Domestic	Y	N		
370152	Street Service - EL	Y	N		
370153	Utility Helper - EL	Y	N		
370154	Meter Inspector Sr	Y	N		
370155	Customer Service-Utility-EL	Y	N		
370156	Plant/Service Specialist	Y	Y	Y	
370157	Customer Service-Utility	Y	N		
370158	Plant Specialist	Y	Y	Y	
370160	Service Technician	Y	N		
370161	Service Technician Sr	Y	N		
370162	M & R Technician	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
370163	M & R Technician Sr	Y	N		
370164	Operations Administrator	Y	N		
370165	Meter Reader	Y	N		
370166	Laborer Regular	Y	N		
370168	Meter Inspector A	Y	N		
370169	Meter Inspector B	Y	N		
370170	Meter Reader Domestic- EL II	Y	N		
370172	Customer Service B	Y	N		
370174	Regulator Inspector	Y	N		
370175	Meter Inspector Sr	Y	N		
370178	Street Service	Y	N		
370179	Street Service A	Y	N		
370180	Street Serv/Facil Locat	Y	N		
370181	Town Service A	Y	Y	Y	
370182	Town Service B	Y	Y	Y	
370183	Truck Driver	Y	Y	Y	
370184	Utility Helper	Y	N		
370185	Utility Inspector	Y	N		
370188	Welder A	Y	N		
370189	Welder B	Y	N		
370190	Welder Combination	Y	N		
370191	Welder Senior	Y	N		
370193	Construction Equip Operator	Y	Y	Y	
370195	Service Tech A	Y	N		
370196	Service Tech Sr	Y	N		
370197	Utility Helper - EL	Y	N		
370199	Line Locator	Y	N		
370200	Equipment Operator	Y	Y	Y	
370201	Gang Leader	Y	Y	Y	
370202	General Utility	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
370204	Corrosion Tester A	Y	N		
370205	Laborer Regular	Y	N		
370206	Corrosion Tester B	Y	N		
370208	M & R Tech Sr	Y	N		
370209	Meter Reader	Y	N		
370211	Street Service - EL	Y	N		
370212	Service Tech B	Y	N		
370214	Street Service	Y	N		
370215	Street Service A	Y	N		
370216	Town Service A	Y	Y	Y	
370217	Town Service B	Y	Y	Y	
370219	Utility Helper	Y	N		
370220	Utility Inspector	Y	N		
370223	Welder A	Y	N		
370224	Welder B	Y	N		
370225	Welder C	Y	N		
370226	Welder Combination	Y	N		
370227	Welder Senior	Y	N		
370243	M&R Technician 1	Y	N		
370245	Operations Coordinator	Y	N		
370246	CSR 3	Y	N		
370320	M & R Technician	Y	N		
370321	Facility Locator	Y	N		
370327	M & R Technician	Y	N		
370328	Plant/Service Specialist	Y	Y	Y	
370329	Plant Specialist	Y	Y	Y	
370330	Meter Reader-EL	Y	N		
370335	Service Technician Sr	Y	N		
370336	Service Technician A	Y	N		
370337	Service Technician B	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
370338	M & R Technician	Y	N		
370339	M & R Technician Sr	Y	N		
370340	Plant/Service Specialist	Y	Y	Y	
370341	Street Service/Facility Locato	Y	N		
370346	M & R Technician	Y	N		
370347	Field Engineering Technician	Y	N		
370356	Plant Specialist	Y	Y	Y	
370357	Plant/Service Specialist	Y	Y	Y	
370360	Construction Specialist	Y	N		
370395	Construction Coordinator	Y	N		
370396	Construction Coordinator	Y	N		
370397	Construction Coordinator	Y	N		
370398	Construction Coordinator	Y	N		
370402	Equipment Operator	Y	N		
370440	Locator Technician	Y	N		
370450	Locator Technician	Y	N		
370460	Locator Technician	Y	N		
370474	Construction Coordinator 1	Y	N		
370476	Construction Coordinator 2	Y	N		
370478	Plant/Service Specialist	Y	Y	Y	
370479	Locator Technician	Y	N		
370501	Locator Technician	Y	N		
370502	Plant/Service Technician	Y	Y	Y	
370503	Locator Technician	Y	N		
370505	Utility Representative	Y	Y	Y	
370512	M & R Technician Sr	Y	N		
380007	Field Engineering Technician	Y	N		
380008	Operations Coordinator	Y	N		
380045	M & R Technician	Y	N		
380047	Welder	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
380049	Leak Inspector	Y	N		
380053	M & R Tech II	Y	N		
380055	Service Technician A	Y	N		
380056	Senior Fitter	Y	Y	Y	
380059	Welder B	Y	N		
380061	Leak Inspector B	Y	N		
380063	Welder A	Y	N		
380064	Welder C	Y	N		
380069	M & R Tech I	Y	N		
380083	Distribution Mechanic I	Y	Y	Y	
380084	Distribution Mechanic II	Y	Y	Y	
380085	Distribution Mechanic IV	Y	Y	Y	
380086	Operations Technician I	Y	N		
380087	Operations Technician II	Y	N		
380089	M & R Technician II	Y	N		
380093	Distribution Tech I	Y	Y	Y	
380094	Distribution Tech II	Y	Y	Y	
380095	M & R Tech I	Y	N		
380111	Utility A	Y	N		
380114	Welder A	Y	N		
380115	Welder AA	Y	N		
380116	Welder B	Y	N		
380158	Plant Specialist	Y	Y	Y	
380159	Plant/Service Combination	Y	Y	Y	
380165	Welder AAA	Y	N		
380173	Construction Coordinator 2	Y	Y	Y	
380186	M & R Tech Sr	Y	N		
380190	Construction Coordinator 1	Y	Y	Y	Y
380195	Construction Coordinator	Y	Y	Y	
380196	Plant Technician	Y	Y	Y	

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
380197	Distribution Mechanic III	Y	Y	Y	
380199	M & R Senior	Y	N		
380201	Technician Corrosion CGV	Y	N		
380206	Utility Clerk	Y	N		
380207	Plant/Service Specialist	Y	Y	Y	
380208	Service Technician B	Y	N		
380209	Service Technician A	Y	N		
380210	Plant Technician	Y	Y	Y	
380213	Distribution Technician II- VH	Y	N		
380214	M & R Technician II - VH	Y	N		
380215	Operations Technician I - VH	Y	N		
380216	Operations Technician II - VH	Y	N		
380217	Welder AAA - VH	Y	N		
380218	Construction Coordinator - VH	Y	N		
380219	Utility Representative - VH	Y	N		
380220	Distribution Mechanic IV - VH	Y	N		
380221	M&R Tech I - VH	Y	N		
380222	Welder Stoppel Combination	Y	N		
380223	Construction Coordinator II-VH	Y	N		
380224	Distribution Mechanic I - VH	Y	N		
380225	Distribution Mechanic II - VH	Y	Y	Y	
380226	Distribution Mechanic III - VH	Y	Y	Y	
380227	Distribution Tech I - VH	Y	Y	Y	
380228	Welder B - VH	Y	N		
380229	Welder A - VH	Y	N		
380230	Welder AA - VH	Y	N		
380231	Plant Technician - VH	Y	Y	Y	
380232	Utility Clerk - VH	Y	N		
380234	Corrosion Technician	Y	N		
380250	Utility Representative	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
380252	Construction Specialist	Y	N		
380253	Construction Coordinator II	Y	Y	Y	
380254	Construction Coordinator II-VH	Y	Y	Y	
BG0199	Locate/Leakage Technician	Y	N		
BG0481	Construction Operations Coord	Y	N		
BG0482	Damage Prev Coord Field	Y	N		
BG0483	Leakage Technician	Y	N		
BG0484	Corrosion Technician	Y	N		
BG0502	Administrative Assistant	Y	N		
BG0520	GIS Engineering Tech	Y	N		
BG0550	Construction Specialist	Y	N		
BG0583	Corrosion Leak Specialist	Y	N		
BG0584	Logistics Coordinator	Y	N		Y
BG0587	Resource Planner Construction	Y	N		
BG0588	Field Engineering Technician	Y	N		
BG0590	Sr Logistics Coordinator	Y	N		
BG0594	Meter Technician	Y	N		
BG0597	Maintenance Mechanic M&R	Y	N		
BG0598	System Operations Coordinator	Y	N		
BG0599	Field Operations Specialist	Y	N		
BG0600	QA/QC Coordinator	Y	N		
BR1002	Laborer	Y	Y	Y	
BR1008	Utility Worker-3	Y	Y	Y	
BR1012	Plant Mechanic C	Y	N		
BR1021	Meter Changer/Metscan Installe	Y	N		
BR1022	Meter Technician	Y	N		
BR1023	Plant Mechanic B	Y	N		
BR1024	Locate Technician	Y	N		
BR1027	Utility Worker-7	Y	Y	Y	
BR1028	Distribution Mechanic A	Y	Y	Y	

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
BR1029	Drafting Technician A	Y	N		
BR1030	Meter Repair	Y	N		
BR1031	Mtr Changer/Metscan Install Le	Y	N		
BR1032	Plant Mechanic A	Y	N		
BR1035	Instrument Technician	Y	N		
BR1038	Automotive Mechanic A	N	Y		
BR1039	Distribution Equipment Operato	Y	Y	Y	
BR1041	Drafting Technician Special	Y	N		
BR1042	Fitter	Y	N		
BR1043	Installer/Fitter/Serv Tech A	Y	N		
BR1044	Journeyman Plumber	Y	N		
BR1045	Leader-Fitter	Y	Y	Y	Y
BR1050	Installer/Electrician	Y	N		
BR1052	Compressor Mechanic	Y	N		
BR1053	Inspector	Y	Y	Y	
BR1054	Lead Automotive Mechanic	N	Y		
BR1055	Lead Fitter Operator	Y	Y	Y	
BR1056	Lead Plant Mechanic	Y	N		
BR1058	Tie-In Crew Leader	Y	Y	Y	
BR1059	Welder/Fitter	Y	Y	Y	
BR1060	Welder/Operator	Y	Y	Y	
BR1062	Training Technician	Y	Y	Y	
BR1063	Lead Fitter	Y	Y	Y	
BR1065	AMR Meter Reader Technician	Y	N		
BR1070	Collector	Y	N		
BR1074	Distribution Operator A	Y	Y	Y	
BR1075	Distribution Operator B	Y	Y	Y	
BR1076	Distribution Operator C	Y	Y	Y	
BR1077	Distribution Operator Lead	Y	Y	Y	
BR1082	Lead Service Technician	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
BR1086	Meter Reader	Y	N		
BR1087	Meter Reader/Collector	Y	N		
BR1088	Regulator Technician	Y	N		
BR1089	Lead Locator	Y	N		
BR1094	Service Technician A	Y	N		
BR1095	Service Technician B	Y	N		
BR1096	Service Technician C	Y	N		
BR1103	Welder	Y	Y	Y	
BR1104	Utility Worker B	Y	N		
BR1105	Utility Worker A	Y	N		
BR1106	Plant Mechanic/Electrician	Y	N		
BR1107	Plant Mechanic Electrician	Y	N		
BR1108	Welder/Mechanic	Y	Y	Y	
BR1109	Leak Survey Technician	Y	N		
BR1110	Dist Lead Equipment Operator	Y	Y	Y	
BR1111	Fitter Service Tech	Y	N		
BR2008	Admin Clerk-8	Y	N		
BR2009	Data Entry Clerk(Customer Bill	Y	N		
BR2013	Dispatch Assistant	Y	N		
BR2014	Maps & Records Clerk	Y	N		
BR2016	Resource Deploy Admin Clerk	Y	N		
BR2023	Workforce Planning Admin	Y	N		
BR2024	Customer Billing Rep(Cust Serv	Y	N		
BR2063	Admin Clerk-Rev Rec	Y	N		
BR2088	Metscan Clerk	Y	N		
BR2092	Sr Resource Deployment Admin	Y	N		
BR2093	Meter & Regulators Mechanic	Y	Y	Y	
BR2094	Sr Timekeeping Administrator	Y	N		
INT008	Intern Operations	Y	N		
INT012	Intern Engineering NIPSCO	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
INT014	Intern Gas Engineering NIPSCO	Y	N		
LA1022	Production Operator Mechanic A	Y	Y	Y	
LA1024	Installer/Servic Tech	Y	N		
LA1026	Production Op Mech A/Electrici	Y	Y	Y	
LA1028	Working Foreman-Distribution	Y	Y	Y	
LA1029	Working Foreman-Gas Operations	Y	Y	Y	
LA1030	Fitter Welder	Y	N		
LA1032	Sr Metscan Clerk	Y	N		
LA1033	Collector/Scheduler B	Y	N		
LA1046	Service Clerk-15	Y	N		
LA1047	Pipe Fitter-Service	Y	N		
LA1070	Collector	Y	N		
LA1074	Distribution Operator A	Y	Y	Y	
LA1075	Distribution Operator B	N	Y		
LA1076	Distribution Operator C	Y	Y	Y	
LA1077	Distribution Operator Lead	Y	Y	Y	
LA1078	Distribution Operator/Fitter	Y	Y	Y	
LA1087	AMR Mtr Reader Field Collector	Y	N		
LA1089	Metscan Installer	Y	N		
LA1090	Metscan Scheduler	Y	N		
LA1094	Service Technician A	Y	N		
LA1095	Service Technician B	Y	N		
LA1096	Service Technician C	Y	N		
LA1097	Service Technician, Lead	Y	N		
LA1103	Electrician-Service Technician	Y	N		
LA1105	AMR Technician	Y	N		
LA1106	Construction Foreman	Y	Y	Y	
LA1107	Construction Coordinator	Y	N		
LA1108	Meter Distribution Combination	Y	Y	Y	
LA1109	Meter Fitter Technician	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
ME1077	Distribution Operator Lead	Y	Y	Y	
MS0651	Meter Technician 2	Y	N		
MS0652	Meter Technician 1	Y	N		
MS0653	Welder Structural	Y	Y	Y	
MS0656	Welder B Bangs	Y	N		
MS0670	Technology Coordinator	Y	N		
MS3850	Aviation Technician	Y	N		
MS5936	Chief Inspector/Aviation	Y	N		
MS5937	Flight Coordinator	Y	N		
MS5945	Operations Coordinator	Y	N		
MS5946	Damage Prevention Screener	Y	N		
MS5962	Pilot 2	Y	N		
MS5969	Integrity Management Analyst	Y	Y	Y	
MS5984	Assigner	Y	N		
MS5985	Sr Operations Coordinator	Y	N		
MS5992	Construction Support Coord	Y	N		
NH1085	Meter Equipment Servicer	Y	N		
NP2222	Customer Service Representativ	Y	N		
NP2224	Operating Service Rep	Y	N		
NP2228	Meter Processing Rep	Y	N		
NP2328	Internal Sales Representative	Y	N		
NP2330	Customer Transaction Serv Rep	Y	N		
NP2332	At Home Agent	Y	N		
NP2400	Senior Customer Service Rep	Y	N		
NP2404	Field Accounts Representative	Y	N		
NP2432	Senior Meter Processing. Rep.	Y	N		
NP2499	Commercial Accounts Srv Rep	Y	N		
NP2500	Sr Operating Service Rep	Y	N		
NP3007	Corrosion Control Eng 1	Y	N		
NP3431	Corrosion Tech 3	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
NP3432	Corrosion Tech 2	Y	N		
NP3433	Corrosion Tech 1	Y	N		
NP3450	Assigner	Y	N		
NP358	Substation Electrician	N	Y		
NP359	Apprentice Substation Electric	N	Y		
NP362	Servicenter Electrician	N	Y		
NP363	Apprentice Servicenter Elec	N	Y		
NP404	Electric Serviceman	N	Y		
NP408	Lineman	Y	Y	Y	
NP412	Apprentice Lineman	Y	Y	Y	
NP412R	Apprentice Lineman	N	Y		
NP420	Groundman Operator	N	Y		
NP424	Groundman	N	Y		
NP434	Cable Electrician, Class A	N	Y		
NP438	Cable Electrician, Class B	N	Y		
NP442	Cable Electrician, Class C	N	Y		
NP5111	Corrosion Control Engr 2	Y	N		
NP5112	Corrosion Control Engr 3	Y	N		
NP515	Lng Plant Attendant	Y	N		
NP525	Transm Regulator Man, Class A	Y	N		
NP527	Transm Regulator Man, Class B	Y	N		
NP529	Transm Regulator Man, Class C	Y	N		
NP535	Gas Meterman, Class A	Y	N		
NP537	Gas Meterman, Class B	Y	N		
NP539	Gas Meterman, Class C	Y	N		
NP540	Gas Measurement Technician	Y	N		
NP547	Gas Controller	Y	N		
NP581	Field Operator	Y	N		
NP584	Underground Storage Plt Att	Y	N		
NP590	Transmission Maintenance Man	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
NP600	Certified Welder	Y	Y	Y	
NP601	Certified Welder, Class A	Y	Y	Y	
NP602	Welder	Y	Y	Y	
NP603	Certified Welder, Class B	Y	Y	Y	
NP605	Mechanic Welder, Class A	Y	Y	Y	
NP609	Mechanic Welder, Class Ab	Y	Y	Y	
NP613	Mechanic Welder, Class A	Y	Y	Y	
NP617	Mechanic Welder, Class B	Y	Y	Y	
NP621	Mechanic Welder, Class B	Y	Y	Y	
NP626	Mechanic Eq Oper, Class A	Y	Y	Y	
NP627	Mechanic Eq Oper, Class B	Y	Y	Y	
NP629	Mechanic Eq Oper	Y	Y	Y	
NP630	Mechanic Eq Oper	Y	Y	Y	
NP631	Pipe Mechanic	Y	Y	Y	
NP635	Apprentice Pipe Mechanic	Y	Y	Y	
NP635R	Apprentice Pipe Mechanic	Y	Y	Y	
NP640	Mechanic Equipment Operator AA	Y	Y	Y	
NP659	High Press Meter Maint Man	Y	Y	Y	
NP680	Gas Serviceman	Y	N		
NP681	Serviceman	Y	N		
NP685	Apprentice Serviceman	Y	N		
NP686	Apprentice Serviceman	Y	N		
NP697	Serviceman Helper	Y	N		
NP700	Operating Dispatcher	Y	N		
NP708	Structure Mechanic	N	Y		
NP709	Construction Electrician	Y	Y	Y	
NP710	Apprentice Constr Electrn	Y	Y	Y	
NP710R	Apprentice Constr Electrn	Y	Y	Y	
NP717	Soil Test Operator	N	Y		
NP718	Pipe Bending Machine Operator	N	Y		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
NP719	Vibro Hammer Operator	N	Y		
NP724	Construction Mechanic, Class A	Y	Y	Y	
NP728	Construction Mechanic, Class B	Y	Y	Y	
NP732	Construction Mechanic, Class C	Y	Y	Y	
NP736	Construction Mechanic, Class D	Y	Y	Y	
NP738	Machinist Class A	Y	Y	Y	
NP810	Meter Reader	Y	N		
NP811	Meter Reader	Y	N		
NP8210	Field Engineering Technician	Y	N		
NP841	Material Hauler	N	Y		
NP870	Fleet Equipment Mechanic	N	Y		
NP871	Apprentice Fleet Eq Mechanic	N	Y		
NP872	Garage Mechanic, Class A	N	Y		
NP876	Garage Mechanic, Class B	N	Y		
NP880	Garage Mechanic, Class C	N	Y		
NP912	Heavy Crane Operator	N	Y		
NP914	Mobile Crane Operator	N	Y		
NP916	Crawler Crane Operator	Y	Y	Y	
NP917	Crane Operator	N	Y		
NP918	Highway Tractor Trailer Oper	N	Y		
NP919	Heavy Eq Operator, Class A	Y	Y	Y	
NP920	Heavy Eq Operator, Class B	Y	Y	Y	
NP940	Heavy Equipment Operator AA	Y	Y	Y	
NP950	Helper, Class A	Y	Y	Y	
NP954	Helper	Y	Y	Y	
NP955	Vacation Helper	Y	Y	Y	
SP1001	Gas Utility Worker	Y	Y	Y	
SP1004	Service Technician A A/C	Y	N		
SP1005	Lead Fitter	Y	N		
SP1006	Utility Worker/Pipefitter	Y	N		

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
SP1007	Construction Coordinator	Y	Y	Y	
SP1008	Lead Distribution Operator	Y	Y	Y	
SP1009	Distribution Operator/Locator	Y	Y	Y	
SP1010	Meter/Distribution Combination	Y	Y	Y	
SP1079	Equipment Operator A	Y	Y	Y	
SP1082	Lead Service Technician	Y	Y	Y	
SP1083	Lead Fitter/Service Technican	Y	Y	Y	
SP1094	Service Technician A	Y	Y	Y	
SP1095	Operator/Driver	Y	Y	Y	
SP1102	Maintenance Mechanic M&R	Y	N		
SP2005	Meter Repair Helper	Y	N		
SP2006	Utility Worker, Maintenance	Y	N		
SP2008	Dist Operator (Special Circum)	Y	Y	Y	
SP2012	Distribution Operator B	Y	Y	Y	
SP2013	Distribution Operator B/Storek	Y	Y	Y	
SP2014	Gas Utility Worker	Y	Y	Y	
SP2018	Governor Maintenance A	Y	N		
SP2021	Meter Repair A	Y	N		
SP2024	Auto Mechanic	N	Y		
SP2028	Electrician	Y	N		
SP2029	Lead Fitter	Y	N		
SP2030	Lead Maintenance Mechanic	Y	N		
SP2033	LNG Plant Operator	Y	N		
SP2034	Lead Auto Mechanic	N	Y		
SP2035	Lead Distribution Operator	Y	Y	Y	
SP2036	Lead Governor Maintenance Mech	Y	N		
SP2037	Lead Production Mechanic	Y	N		
SP2039	Lead Pipefitter	Y	N		
SP2040	Welder	Y	N		
SP2042	Opr/Driver/Corrosion Mnt A	Y	Y	Y	

Job Code	Job Title	PHMSA Testing	FMCSA Testing	Bi-Modal	Supervisor Positions that require 60/60 Training
SP2070	Collector	Y	N		
SP2079	Equipment Operator A	Y	Y	Y	
SP2082	Lead Service Technician	Y	N		
SP2084	Maintenance Assistant	Y	N		
SP2085	Meter Equipment Servicer	Y	N		
SP2086	Meter Reader	Y	N		
SP2089	Metscan Installer	Y	N		
SP2094	Service Technician A	Y	N		
SP2103	Welder - Entry	Y	N		
SP2112	AMR Technician	Y	N		
SP2113	ERT Meter Equipment Servicer	Y	N		
SP2115	Utility Worker Meter Collect	Y	N		
SP2116	Utility Worker General	Y	N		
SP2117	Lead Electrician	Y	N		
SP2118	Instrumentation-Service Tech	Y	N		
SP2119	Meter Reader/Collector	Y	N		
SP2120	Plant Ops Maintenance Asst	Y	Y	Y	
SP4008	Engineering Clerk	Y	N		
SP4009	Workforce Planning Rep	Y	N		
SP4011	Service/Metering Administrator	Y	N		
SP4013	Admin Assistant Distribution	Y	N		
SP4017	Revenue Recovery Rep	Y	N		
SP4020	Draftsperson	Y	N		
SP4083	Inspector	Y	N		
SP4090	Metscan Scheduler	Y	N		
SP4091	Universal Customer Service Rep	Y	N		
SP4092	Senior Universal Cust Serv Rep	Y	N		
SP4093	Universal Service Rep-EL	Y	N		
SP4094	Governor Maintenance B	Y	N		
SP4095	Governor Maintenance B - Entry	Y	N		
SP4096	Governor Maintenance C	Y	N		
SP4097	Governor Maintenance C - Entry	Y	N		
SP4098	Admin Assist Inacessible Mtrs	Y	N		
SP4099	Field Operations Administrator	Y	N		

XI.Appendix D - Company Disciplinary Actions and Additional Procedures

A. Disciplinary Policies

Full- and part-time employees covered by the Federal Motor Carrier Safety Administration (FMCSA) regulated by 49 CFR, Part 382 and 40, and full- and part-time employees covered by the Pipeline and Hazardous Materials Safety Administration (PHMSA) who perform covered (safety-sensitive) functions (operations, maintenance, or emergency response), regulated by 49 CFR, Parts 192, 193, or 195, on a pipeline or on an LNG facility (collectively "Covered Employees") who violate Company Policy relating to Substance Abuse and/or Alcohol Misuse will be subject to discipline set forth below for the following violations. Safety-sensitive/covered functions include, but are not limited to, pipeline operations, maintenance, and emergency response and operating motor vehicles covered by FMCSA ("Safety-Sensitive/Covered Functions").

1. **Refusal to Test:** Covered Employees who refuse a PHMSA or FMCSA mandated alcohol and/or drug test will be removed from safety-sensitive/ Covered Functions and subject to specific Company discipline determined by the policies and practices of the Covered Employee's business unit and applicable collective bargaining agreements. Probationary or temporary Covered Employees who refuse a PHMSA or FMCSA mandated alcohol or drug test will be terminated.

2. **Confirmed Positive Drug Test –** First Violation: Covered Employees who are confirmed positive by an MRO for prohibited substances or who engage in substance abuse will be immediately removed from Safety-Sensitive/Covered Functions, referred to a Substance Abuse Professional (SAP), and subject to specific discipline determined by the policies and practices of the, Covered Employee's business unit and applicable collective bargaining agreements. Probationary or temporary Covered Employees will be terminated.

3. **Confirmed Positive Drug Test –** Second and Subsequent Violations: Covered Employees who are confirmed positive by an MRO for prohibited substances or who engage in substance abuse for a second or subsequent time at any time after testing positive and referral to an SAP for treatment will be immediately removed from safety-sensitive/ covered functions, referred to a Substance Abuse Professional (SAP), and subject to specific discipline determined by the policies and practices of the Covered Employee's business unit and applicable collective bargaining agreements, up to and including termination. The consequences for second and subsequent violations apply at any time during the Covered Employee's employment and regardless of the amount of time passed since the first violation, subject to the provisions of any applicable collective bargaining agreements.

4. **Referral to SAP Upon Termination:** Covered Employees who are terminated for failure to comply with the Company's alcohol or substance abuse policy will be provided a list of a Substance Abuse Professionals (SAP)s with which they may seek treatment. Payment for the SAP's services will be at the Employee's personal expense.

5. **Alcohol Levels of Disciplinary Actions - Disciplinary action as set forth below will be taken under each of the described circumstances:**

   a. **First Violation: Alcohol Misuse of 0.02 - 0.039 Consequences.**

   When the results of an Alcohol (screen/confirmation) test indicate an Alcohol concentration of 0.02 or greater, but less than 0.04, Covered Employees will be removed immediately from performing Safety –Sensitive/Covered Functions for the remainder of their shift, but not less than 24 hours following administration of the test, subject to loss of pay for that period of time and to specific Company discipline determined by the policies and practices of the Covered Employee's business unit

and applicable collective bargaining agreements. Covered Employees who register an Alcohol concentration of 0.02-0.039 on a PHMSA mandated test will be removed immediately from performing Safety-Sensitive/ Covered Functions for eight hours or until a retest with a result under 0.02 is performed if the Company chooses to have them perform Safety-Sensitive/Covered Functions within eight hours, subject to loss of pay for that period of time and to specific Company discipline determined by the policies and practices of any Covered Employee's business unit and applicable collective bargaining agreements. Probationary or temporary Covered Employees will be terminated.

b. **Second Violation: Alcohol Misuse of 0.02 – 0.039 Consequences.**

When the results of an Alcohol (screen / confirmation) test indicate an Alcohol concentration of 0.02 or greater, but less than 0.04, on a second test, Covered Employees will be removed immediately from performing the Safety –Sensitive/Covered Functions for at least 8 hours, subject to loss of pay for that period of time, and will be subject to specific Company discipline determined by the policies and practices of the Employee's business unit and applicable collective bargaining agreements. The consequence for second violations apply to any time during the Covered Employee's employment and regardless of the amount of time passed since the first violation, subject to the provisions of any applicable collective bargaining agreement. Probationary or temporary Covered Employees will be terminated.

c. **Third Violation: Alcohol Misuse of 0.02 – 0.039 Consequences**

The consequences for third violations apply at any time during the Covered Employee's employment and regardless of the amount of time passed since the first violation, subject to the provisions of any applicable collective bargaining agreements.

d. **First Violation: Alcohol Misuse of 0.04 or Greater Consequences.**

When the results of an Alcohol (Screen/confirmation) test indicate an Alcohol concentration of 0.04 or greater, Covered Employee will be removed immediately from performing the Safety Sensitive/Covered Function and referred to a Substance Abuse Professional. The SAP shall determine what assistance the Employee needs in resolving problems associated with alcohol misuse. Covered Employees may be subject to loss of pay for that period of time, and will be subject to specific Company discipline determined by the policies and practices of any Covered Employee's business unit and applicable collective bargaining agreements. Probationary or temporary Covered Employees will be terminated.

e. **Second and Subsequent Violations: Alcohol Misuse of 0.04 or Greater Consequences.**

When the results of an Alcohol (screen/confirmation) test indicate an Alcohol concentration of 0.04 or greater, at any time after testing positive and referral to an SAP, Covered Employees will be removed from performing Safety-Sensitive/ Covered Functions. Additionally, Covered Employees will be subject to loss of pay for that period of time and will be subject to specific Company discipline determined by the policies and practices of any Covered Employee's business unit and applicable collective bargaining agreements. The consequences for subsequent violations apply at any time during any Covered Employee's employment and regardless of the amount of time passed since the first violation. Probationary or temporary Covered Employees will be terminated.

6. **Other Consequences:**

a. On-duty use or possession of prohibited substances and/or alcohol on Company time, on Company premises, or in Company vehicles and any other violations of the Company's alcohol or substance abuse policy will result in immediate removal from performing Safety-Sensitive/Covered Functions and referral to a SAP who shall determine what assistance any Covered Employee needs in resolving problems associated with substance abuse and/or alcohol misuse. Additionally, Covered Employees will be subject to specific Company discipline determined by the policies and practices of any Covered Employee's business unit and applicable collective bargaining agreements.

b. When Covered Employees haves been referred to a Substance Abuse Professional and refuse to report for assessment, evaluation, or referral for treatment with a Substance Abuse Professional, the Company will not permit the Covered Employees to return to duty until they haves met the requirements set forth below and they will be subject to specific Company discipline determined by the policies and practices of the any Covered Employee's business unit and applicable collective bargaining agreements.

c. When Covered Employees, after assessment, are referred for rehabilitation and/or treatment and refuses to enter or successfully complete such a rehabilitation and/or treatment, they will be subject to specific Company discipline determined by the policies and practices of the Covered Employee's business unit and applicable collective bargaining agreements.

d. Covered Employees who refuses to provide an adequate breath or other sample for alcohol testing and/or urine specimen for drug testing without a valid medical explanation after they haves received notice of the requirement to be tested in accordance with the requirements of the Plan or who engages in conduct that clearly obstructs the testing procedure will be removed immediately from performing the Safety-Sensitive/Covered Functions and will be subject to specific Company discipline determined by the policies and practices of any Covered Employee's business unit and applicable collective bargaining agreements.

B. Required Referrals and Evaluations

1. **The Company shall ensure that Covered Employees who engage in prohibited conduct are made aware of potential resources to assist in the evaluation of their problems and to help resolve any problems associated with substance abuse and/or alcohol misuse. Covered Employees who engage in prohibited conduct will be referred to a Substance Abuse Professional for evaluation and/or treatment.**

2. **No Covered Employee who has violated the rules on substance abuse and/or alcohol misuse or refuses to submit to testing can perform any Safety Sensitive/Covered Function unless and until that Covered Employee has:**

a. Except as specified in A.5.a-c been evaluated by a SAP to determine whether the Covered Employee is in need of assistance in resolving problems related to substance abuse and/or alcohol misuse.

b. Completed any treatment recommended by the SAP.

c. Been evaluated by a SAP to ensure that the Covered Employee has properly followed the treatment program where a treatment program is recommended by the SAP.

d. Entered into a Company contracted evaluation and/or treatment and/or rehabilitation program and successfully completed the treatment and/or program where recommended by the SAP .

e. Undergone a return-to-duty drug and/or alcohol test with resulting alcohol concentration of less than 0.02 and/or a negative drug result following any SAP referral.

f. Been advised of the follow-up testing provisions of this Plan following any SAP referral.

The Company reserves the right to re-assign any Covered Employee who is involved in an education, counseling, or treatment program upon the Employee's return to work on the recommendation from the Company's SAP as necessary for the needs of the business.

C. Evaluation, Treatment And Rehabilitation

A Substance Abuse Professional (SAP) is a licensed physician (medical doctor or doctor of osteopathy) or a licensed or certified psychologist, social worker, employee assistance professional, state-licensed or certified marriage and family therapist, or addiction counselor (certified by the National Association of Alcoholism and Drug Abuse Counselors Commission) with knowledge of, and clinical experience in, the diagnosis and treatment of substance abuse and alcohol-related disorders.

The Company shall not permit Covered Employees to return to duty requiring the performance of a Safety-Sensitive/Covered Functions after engaging in prohibited conduct under this Plan except as provided for in A.5.a-c., -until the Covered Employees haves undergone a return-to-duty alcohol test with a result indicating an alcohol concentration of less than 0.02 and/or a negative drug test.

The Company shall ensure that a SAP who determines that a Covered Employee requires assistance in resolving problems associated with substance abuse and/or alcohol misuse does not refer any Covered Employee to the SAP's private practice or to a person or organization from which the SAP receives remuneration or has a financial interest. This does not prohibit a SAP from referring any Covered Employee for assistance to a public agency (State, county, or municipality); a person under contract with the Company to provide treatment for alcohol on behalf of the Company; the sole source of therapeutic treatment under the Covered Employee's health insurance policy; or the sole source of therapeutic treatment reasonably accessible to the Covered Employee.

D. Discretionary Policies

1. The Company authorizes its Third Party Administrator to act as an intermediary in the transmission of testing information in connection with our Controlled Substances and Alcohol Testing Program.

2. The Company authorizes its testing laboratory to conduct Validity Testing, as it deems appropriate.

3. In the event of a substituted specimen laboratory report, all subsequent procedures set forth in 49 CFR Part 40 will be followed.

4. Split Sample Testing will be done in all situations authorized by 49 CFR Part 40 in accordance with all procedures established for such testing.

5. Financial responsibility for the costs involved in Split Sample Testing will be the responsibility of the Employee/donor.

6. The Company will pay for any Company required SAP evaluations.

7. The Company will make available to any Covered Employee with a Substance Abuse/Alcohol Misuse problem the services of its Employee Assistance Program (EAP) in accordance with the policies and practices of the Covered Employee's business unit and applicable collective bargaining agreements.

8. Payment for the assistance, education and/or treatment required by the SAP upon evaluation will be in accordance with the policies and practices of the Covered Employee's business unit and applicable collective bargaining agreements.

9. The Company requires Covered Employees to consult with their doctors about whether prescribed or over-the-counter therapeutic drug use or medication will affect their ability to work safely. Furthermore, the Company requires Covered Employees to promptly disclose any work restrictions to their supervisors.

XII.Appendix E – PHMSA Inspection Plan Cross-Reference Endnotes

1 A.01.a. Verify that the operator maintains and follows a written Anti-Drug Plan that conforms to Part 199 and Part 40 and that the plan contains the following [§199.101]: 1) Methods and procedures for compliance with all the requirements of Part 199, including the employee assistance program; 2) The name and address of each laboratory that analyzes the specimens collected for drug testing; 3) The name and address of the operator's Medical Review Officer, and Substance Abuse Professional; and Procedures for notifying employees of the coverage and provisions of the plan.

2 H.01.a. Verify that the operator maintains and follows a written Alcohol Misuse Plan that conforms to Part 199 and Part 40 and that the plan contains methods and procedures for compliance with required testing, recordkeeping, reporting, education and training elements [§199.202].

3 A.02.a. Verify that "stand-down" is prohibited before the MRO has completed the drug test verification process or that an approved waiver is granted per the requirements of [§40.21] and [§199.7].

4 H.02.e. Verify that the educational materials made available to covered employees includes detailed discussion of at least the following [§199.239(b)]: 1)The identity of the person designated by the operator to answer covered employee questions about the materials; 2) The categories of employees who are subject to the provisions of this subpart; 3) Sufficient information about the covered functions performed by those employees to make clear what period of the work day the covered employee is required to be in compliance with this subpart; 4)Specific information concerning covered employee conduct that is prohibited by this subpart; 5) The circumstances under which a covered employee will be tested for alcohol under this subpart; 6) The procedures that will be used to test for the presence of alcohol, protect the covered employee and the integrity of the breath testing process, safeguard the validity of the test results, and ensure that those results are attributed to the correct employee; 7) The requirement that a covered employee submit to alcohol tests administered in accordance with this subpart; 8) An explanation of what constitutes a refusal to submit to an alcohol test and the attendant consequences; 9) The consequences for covered employees found to have violated the prohibitions under this subpart, including the requirement that the employee be removed immediately from covered functions, and the procedures under §199.243; 10) The consequences for covered employees found to have an alcohol concentration of 0.02 or greater but less than 0.04; and 11) Information concerning the effects of alcohol misuse on an individual's health, work, and personal life; signs and symptoms of an alcohol problem (the employee's or a coworker's); and including intervening evaluating and resolving problems associated with the misuse of alcohol including intervening when an alcohol problem is suspected, confrontation, referral to any available EAP, and/or referral to management.

5 B.01.b. Verify that a service agent is not used to fulfill the function of a DER [§40.15(d)].

6 N.01.a. Verify that an employer who is using a service agent concerning whom a PIE is issued stops using the services of the service agent no later than 90 days after the Department has published the decision in the Federal Register or posted it on its web site. The employer may apply to the ODAPC Director for an extension of 30 days if it is demonstrated that a substitute service agent cannot be found within 90 days [§40.409(b)].

7 B.01.a. Verify that critical positions meet the applicable qualifications of Part 40 and 199; 1) Medical Review Officer (MRO), (§40.121 and §199.109(b)); 2) Substance Abuse Professionals (SAP), (§40.81) 3); 3) Urine Specimen Collectors (§40.33).

8 I.01.a. Verify that Alcohol Misuse Prevention Program positions meet the applicable qualification requirements of Part 40 and Part 199 as follows: 1)Screening Test Technician (§40.213); 2) Breath Alcohol Technician (§40.213); and, 3) Substance Abuse Professional (SAP) (§40.281).

9 A.01.d. Verify that DOT tests are completely separate from non-DOT tests in all respects [§40.13].

10 H.01.d. Verify that the Alcohol Misuse Prevention Program ensures that the DOT tests are completely separate from non-DOT tests in all respects [§40.13].

11 A.01.b. Verify that the Plan identifies covered employees (as defined in §199.3), required to be tested for drugs, are identified [§199.1].

12 H.01.b. Verify that the Alcohol Misuse Prevention Program identifies the covered employees (as defined in §199.3) that are required to be tested for the presence of alcohol [§199.1].

13 C.01.a. Verify drug testing information [§40.25(b)] is requested from previous DOT-regulated employers for any employee seeking to begin covered functions for the first time (i.e., a new hire or an employee transfer) [§40.25(a)]. Covered employee must not perform their functions after 30 days from the date on which the employee first performed safety-sensitive functions, unless a good faith effort to obtain the information has been made and documented.

14 J.01.a. Verify that alcohol testing information [§40.25(b)] is requested from previous DOT-regulated employers for any employee seeking to begin covered functions for the first time (i.e., a new hire or an employee transfer) [§40.25(a)]. In addition, verify that a covered employee must not perform their functions after 30 days from the date on which the employee first performed safety- sensitive functions, unless you have obtained or made and documented a good faith effort to obtain alcohol testing information from previous DOT-regulated employers.

15 H.02.a. Verify that the Alcohol Misuse Plan ensures that a covered employee is not permitted to perform covered functions if the employee has engaged in violations of §§199.215 through 199.223 (see below) or an alcohol misuse rule of another DOT agency [§199.233]. 1) Having an alcohol concentration of 0.04 or greater [§40.23(c), §40.285 and §199.215]; 2) Using alcohol while performing covered functions [§199.217, On-duty use]; 3) Using alcohol within 4 hours prior to performing covered functions, or, if an employee is called to duty to respond to an emergency, within the time period after the employee has been notified to report for duty [§199.219, Pre-duty use]; 4) A covered employee, who has actual knowledge of an accident in which his or her performance of

covered functions has not been discounted by the operator as a contributing factor to the accident, is prohibited from using alcohol for 8 hours following the accident, unless he or she has been given a post-accident test under §199.225(a), or the operator has determined that the employee's performance could not have contributed to the accident [§199.221, Use following an accident]; and,
5) Upon refusal of a covered employee to submit to a post-accident alcohol test required under §199.225(a), a reasonable suspicion alcohol test required under §199.225(b), or a follow-up alcohol test required under §199.225(d) [§40.285 and §199.223, Refusal to submit to a required alcohol test].

16 H.02.c. Verify that the Alcohol Misuse Prevention Program assures that a covered employee is prohibited from performing or continuing to perform covered functions when found to have an alcohol concentration of 0.02 or greater but less than 0.04, until: The employee's alcohol concentration measures less than 0.02 in accordance with a test administered under §199.225(e); or The start of the employee's next regularly scheduled duty period, but not less than 8 hours following administration of the test [§40.23(c) and §199.237(a)].

17 A.02.b. Verify that a covered employee that violates DOT drug regulations is removed from performing safety-sensitive functions [§40.23 and §199.7]. A verified positive DOT drug test result or a refusal to test (including by adulterating or substituting a urine specimen) constitutes a violation of DOT drug regulations [§40.285(b) and §199.103(a)]. If a covered employee violates a DOT drug regulation, a listing of SAPs that are readily available is provided to the employee [§40.287].

18 C.01.b. Verify no new personnel (new hire, contracted, or transferred employees) are used to perform covered functions unless that person receives a negative drug test and or is covered by the Plan that conforms to Part 199 [§199.105(a)]. Procedures are in place for direct observation when required under §§40.67(a), (b) and (d).

19 C.02.a. Verify post-accident drug testing is performed, as soon as possible but no later than 32 hours after an accident (§ 195.50) or incident (§ 191.3), for each employee whose performance either contributed to the accident or cannot be completely discounted as a contributing factor to the accident [§199.105(b)]. In addition, procedures are in place for direct observation when required under §§40.67(a), (b) and (d).

20 C.03.a. Verify the minimum annual percentage rate used for random drug testing of covered employees complies with §199.105(c)(1) through (4).

21 C.03.b. Verify the selection of employees for random drug testing is based on a scientifically valid method, such as a random number table or a computer-based random number generator matched with employee identification data [199.105(c)(5)].

22 C.03.c. Verify a sufficient number of covered employees will be selected for random testing during each calendar year to equal an annual rate not less than the required minimum annual percentage rate (see Protocol C.03.a.) [199.105(c)(6)]. The total number of covered employees eligible for random testing throughout the year will be calculated by adding the total number of covered employees eligible for testing during each random testing period for the year and dividing that total by the number of random testing periods [199.119(c)].

23 C.03.d. Verify random drug tests are unannounced and that the dates for administering the tests are spread reasonably throughout the calendar year [199.105(c)(7)].

24 C.04.a. Verify decisions to test are reasonable and articulable, and based on specific contemporaneous physical, behavioral or performance indicators of probable drug use. At least two supervisors, one of whom is trained in detection of the symptoms of drug use, substantiate and concur in the decision to test an employee who is reasonably suspected of drug use [§199.105(d)].

25 C.05.a. Verify a covered employee that violates DOT drug regulations does not return to duty for a covered function until the employee: 1) Completes a SAP evaluation, referral, and education/treatment process [§40.285(a), §40.289(b), and §199.105(e)]; 2) After completion of the SAP process above, successfully completes a return-to-duty drug test [§40.305(a) and §199.105(e)]; and 3) All return-to-duty testing will be performed under direct observation [§40.67(b)].

26 C.06.a. Verify SAP will establish a written follow-up testing plan for a covered employee that violates DOT drug regulations and seeks to return to the performance of a covered function [§40.307(a)]. All follow-up testing will be performed under direct observation [§40.67(b)].

27 C.06.b. Verify follow-up testing is performed on an unannounced basis, at a frequency established by the SAP, for a period of not more than 60 months. At least six tests must be conducted within the first 12 months following the covered employee's return to duty. [§40.307, §40.309, and §199.105(f)].

28 C.07.a. Verify procedures are in place for direct observation when required under §§40.67(a), (b) and (d).

29 B.01.a. Urine Specimen Collector (§40.33) meet the applicable qualification requirements of Part 40 and Part 199.

30 O.01.a. Does the operator ensure that, unless no other collector is available, an immediate supervisor of an employee does not serve as a collection site person [§40.31(c)]?

31 O.01.b. Do collectors meet the training requirements of §40.33 and is documentation available showing that currently all requirements are met [§40.33(g)]?

The Plan herein sets forth the requirements of 49 CFR Parts40, 199 and 382. Those areas of the plan that appear in bold and underlined print reflect this company's independent authority to require additional provisions with regard to the drug and alcohol testing procedures.

32 O.01.c. Does the operator provide error correction training as required by §40.33(f) and does the training occur within 30 days of the date of notification of the error that led to the need for training?

33 O.02.a. Has the employer designated a collection site that meets the requirements of §40.41.

34 O.02.b. If the collection site uses a facility normally used for other purposes, are procedures in place to ensure before the collection that: (1) access to collection materials and specimens is effectively restricted; and (2) the facility is secured against access during the procedure to ensure privacy to the employee and prevent distraction of the collector? Also, are limited-access signs posted [§40.43(c)]?

35 O.02.c. Are procedures in place to assure the collector maintains personal control over each specimen and CCF throughout the collection process and to prevent unauthorized personnel from entering any part of the site in which urine specimens are collected or stored [§40.43(d)(5) and §40.43(e)]?

36 O.02.d. Is the current Federal Drug Testing Custody and Control Form (CCF) or equivalent being used [§40.45]?

37 O.02.e. Is a collection kit used that meets the requirements of Appendix A to Part 40 [§40.49]?

38 O.03.a. Do collection site personnel explain the basic collection procedure to the employee, including showing the employee the instructions on the back of the CCF [§40.61(e)]?

39 O.03.b. Do collection site personnel provide the donor with an individually wrapped or sealed collection container from the collection kit materials [§40.63(c)]?

40 O.03.c. Are precautions taken to ensure that unadulterated specimens are obtained and correctly identified that meet the following requirements: 1) Bluing agents in toilet tank and all water sources secure [§40.43(b)(1) and (2)]; 2) Individual positively identified (photo ID, etc.) [§40.61(c)]; 3) Proper authority contacted if individual fails to arrive at the assigned time [§40.61(a)]; 4) The donor shall remove any unnecessary outer garments. Purses or briefcases shall remain with outer garments [§40.61(f)]; 5) Donor shall wash and dry his/her hands [§40.63(b)]; 6) To the greatest extent possible, the collector must keep an employee's collection container within view of both himself/herself and the employee between the time the employee has urinated and the specimen is sealed [§40.43(d)(2)]; and, 7) Any unusual behavior noted on the CCF [§40.63(e)]

41 O.03.d. Are procedures being followed at the collection site after the specimen has been provided in compliance with the requirements of §40.65

42 O.03.e. Have provisions been made if the donor is unable to provide at least 45 milliliters of urine [§40.65(a)]?

43 O.03.f. Are procedures in place for immediately collecting urine specimens under direct observation for the situations identified in §40.67(c). As of August 31, 2009, verify that all collections for return-to-duty and follow-up testing were performed under DER directed direct observation [§40.67(b)]

44 O.03.g. Are same gender collection personnel used if a collection is monitored under direct observation by non-medical personnel [§40.69(g)]

45 O.03.h. Is the CCF properly executed by authorized collection site personnel upon receipt and transfer of a urine specimen [§40.73(a)]

46 D.01.a. Verify drug testing laboratory used for all testing required by Part 40 and Part 199 is certified by the Department of Health and Human Services (HHS) [§40.81(a) and §199.107(a)].

47 D.01.c. Verify laboratory results are reported directly, and only, to the MRO at his or her place of business. Results must not be reported to or through the DER or a service agent (e.g., C/TPA) [§40.97(b)].

48 D.01.b. Verify drug testing laboratory only tests for the following five drugs or classes of drugs in a DOT drug test. (The laboratories must not test "DOT specimens" for any other drugs): (a) Marijuana metabolites; (b) Cocaine metabolites; (c) Amphetamines; (d) Opiate metabolites; and (e) Phencyclidine (PCP) [§40.3, §40.85 and §199.3].

49 D.01.d. Verify laboratory testing the primary specimen will retain a specimen that was reported with positive, adulterated, substituted, or invalid results for a minimum of one year. The specimen must be kept in secure, long-term, frozen storage in accordance with HHS requirements [§40.99 and §199.111(a)].

50 D.03.a. Verify laboratory retains all records pertaining to each employee urine specimen for a minimum of two years and also keeps for two years employer-specific data required in §40.111 [§40.109].

51 D.03.b. Verify laboratory transmits an aggregate statistical summary to the Company per Part 40, Appendix B, on a semi-annual basis.

52 D.02.a. If the Company or C/TPA, used by the Company, has an aggregate of 2000 or more DOT-covered employees, blind specimens are submitted to the laboratories used. If the Company or C/TPA has an aggregate of fewer than 2000 DOT-covered employees, DOT does not require them to provide blind specimens [§40.103(a)].

53 E.01.a. Verify that an MRO is designated or appointed by the Anti-Drug Plan [§199.109(a)].

The Plan herein sets forth the requirements of 49 CFR Parts40, 199 and 382. Those areas of the plan that appear in bold and underlined print reflect this company's independent authority to require additional provisions with regard to the drug and alcohol testing procedures.

54 E.01.b. Verify that the MRO provides quality assurance reviews of the drug testing process, including ensuring the review of the Custody and Control Form (CCF) on all specimen collections [§40.123(b)].

55 E.01.c. Verify that the MRO performs the review functions required by §40.127 for negative drug test results received from a laboratory, prior to verifying the result and releasing it to the Designated Employer Representative (DER).

56 E.01.d. Verify that the MRO performs the review functions required by §40.129 for confirmed positive, adulterated, substituted, or invalid drug test results received from a laboratory, prior to verifying the result and releasing it to the DER. In addition, the MRO must determine whether there is a legitimate medical explanation for confirmed positive, adulterated, substituted, and invalid drug test results from the laboratory [§40.123(c)].

57 F.02.a. Verify that the MRO reports all drug test results to the operator [§40.163(a) and §199.109(d)] in accordance with the requirements in §40.163, §40.165 and §40.167. These requirements include: Reporting all drug test results to the DER, except in the circumstances provided for in §40.345, when a C/TPA may act as an intermediary [§40.165(a)]; reporting the results in a confidential manner [§40.167(a)]; and reporting the results within the required time constraints [§40.167(b) and (c)].

58 E.01.e. Verify that when the MRO has verified a drug test as positive for a drug or drug metabolite, or as a refusal to test because of adulteration or substitution, and the MRO must notify the employee of his or her right to have the split specimen tested. The MRO must also notify the employee of the procedures for requesting a test of the split specimen, and Inform the employee that he or she has 72 hours from the time of this notification to him or her to request a test of the split specimen [§40.153].

59 E.01.f. If additional testing is requested by the employee, verify that the split specimen is tested. The split testing laboratory must be certified by HHS. (Note: Correction made to inspection language.) [§199.111(b) and (c)].

60 J.01.b. If the operator chooses to conduct pre-employment alcohol testing, verify that the operator: 1) Conducts a pre- employment alcohol test before the first performance of covered functions by every covered employee (whether a new employee or someone who has transferred to a position involving the performance of covered functions) [§199.209(b)(1)]; 2) Treats all covered employees the same for the purpose of pre-employment alcohol testing (i.e., you must not test some covered employees and not others) [§199.209(b)(2)];and, 3) Conducts the pre-employment tests after making a contingent offer of employment or transfer, subject to the employee passing the pre-employment alcohol test [§199.209(b)(3)].

61 J.02.a. Verify that post-accident alcohol testing is performed: 1) As soon as practicable following an accident (§195.50) or incident (§191.3) for each surviving covered employee if that employee's performance of a covered function either contributed to the accident or cannot be completely discounted as a contributing factor to the accident [§199.225(a)(1)]; and, 2) Within two hours following the accident (§195.50) or incident (§191.3), otherwise, the operator shall prepare and maintain on file a record stating the reasons the test was not promptly administered. If a post-accident test is not administered within eight hours following the accident, the operator shall cease attempts to administer an alcohol test and shall state in the record the reasons for not administering the test [§199.225(a)(2)].

62 J.03.a. Verify that decisions to test are based on specific, contemporaneous, articulable observations concerning the appearance, behavior, speech, or body odors of the employee. The required observations shall be made by a supervisor who is trained in detecting the symptoms of alcohol misuse [§199.225(b)(2)].

63 J.03.b. Verify that a covered employee is directed by the operator to undergo reasonable suspicion testing for alcohol only while the employee is performing covered functions; just before the employee is to perform covered functions; or just after the employee has ceased performing covered functions. [§199.225(b)(3)].

64 J.03.c. Verify that if a reasonable suspicion test is required and is not administered within 2 hours following the determination under §199.225(b)(2), the operator shall prepare and maintain on file a record stating the reasons the test was not promptly administered. If a test is not administered within 8 hours, the operator shall cease attempts to administer an alcohol test and shall state in the record the reasons for not administering the test [§199.225(b)(4)(i)].

65 J.04.a. Verify that a covered employee that engages in conduct prohibited by §§199.215 through 199.223 does not return to duty for a covered function until the employee: 1) Completes a SAP evaluation, referral, and education/treatment process [§40.285(a), §40.289(b), §199.235, and §199.243(b)]; and, 2) After completion of the SAP process above, undergoes a return-to-duty alcohol test with a result indicating an alcohol concentration of less than 0.02 [§40.305(a), §199.225(c), and §199.243(c)].

66 J.05.a. Verify that the SAP establishes a written follow-up testing plan for a covered employee that engages in conduct prohibited by §§199.215 through 199.223 and seeks to return to the performance of a covered function [§40.307(a)].

67 J.05.b. Verify that follow-up testing is performed on an unannounced basis, at a frequency established by the SAP, for a period of not more than 60 months. At least six tests must be conducted within the first 12 months following the covered employee's return to duty [§40.307, §40.309, §199.225(d) and §199.243(c)(2)(ii)].

68 K.01.a. Verify that any Evidential Breath Testing Device (EBT) or Alcohol Screening Device (ASD) used for DOT required alcohol testing is approved by the National Highway Traffic Safety Administration (NHTSA) and placed on a Conforming Products List (CPL) [§40.229 and §40.231]

69 K.01.b. Verify that external calibration checks are performed at the intervals specified in the manufacturer's instructions for any EBT used for DOT required alcohol confirmation testing [§40.231 and §40.233].

70 P.01.a. Does the operator's plan specify training for BATs and STTs that is in compliance with §40.213 and does the documentation certify that all requirements are met [§40.213(g)]

71 P.01.b. Does the plan specify that a supervisor shall not serve as the BAT or STT if that supervisor makes the reasonable cause determination [§40.211(c) and §199.225(b)(2)].

72 P.02.a. Does the alcohol testing site comply with the applicable physical and security requirements of §40.221 and §40.223?

73 P.02.b. Does the plan specify that only EBTs and ASDs listed on the NHTSA CPL will be used for DOT alcohol testing [§40.229]? Also, does the plan specify that an EBT must be used for conducting the confirmation tests [§40.231(a)]?

74 P.02.c. Does the operator follow the Quality Assurance Plan (QAP) for the EBT that is used [§40.233(c)(1)]? If this service is contracted out does the operator ensure that the QAP is being followed [§40.233(c)]?

75 P.02.d. Does the plan specify that the operator or its agents shall comply with the QAP and manufacturer's instructions and does the operator follow the QAP for the ASD that is used [§40.235 and §40.235(c)]?

76 P.03.a. Does the plan prescribe that only the DOT-approved Alcohol Testing Form (ATF) shall be utilized [§40.225(a)]?

77 P.03.b. Does the plan specify that the employee shall provide a positive identification through use of photo ID or by employer representative [§40.241(c)]?

78 P.03.c. Does the plan indicate that the BAT or STT shall explain the testing process to the employee [§40.241(e)]?

79 P.03.d. Does the plan contain specific instructions for conducting alcohol screening tests in compliance with §40.241 and §40.243 requirements?

80 P.03.e. Does the plan contain specific instructions for conducting alcohol screening tests using a saliva ASD in compliance with §40.245 requirements?

81 P.03.f. Does the plan specify actions that are taken after receipt of alcohol screening test results that are in compliance with §40.247?

82 P.04.a. Does the plan provide guidance for the actions a new BAT must complete to conduct a confirmation test in compliance with §40.251(b)?

83 P.04.b. Does the plan specify procedures to be followed in conducting a confirmation test that are in compliance with §40.253 and §40.255?

84 P.05.a. Does the plan address the situations for which the employee is considered to have refused to take an alcohol test [§40.261(a)(1) to (7)]?

85 P.05.b. Does the plan specify procedures concerning an employee's inability to provide an adequate amount of saliva for testing and instructions for requiring the employee to attempt again to provide adequate amount of saliva for testing [§40.263]?

86 P.05.c. Does the plan specify procedures concerning an employee's inability to provide an adequate amount of breath for testing in compliance with §40.265?

87 P.05.d. Does the plan specify under what conditions that an alcohol test shall be cancelled [§40.267 and §40.269]?

88 P.05.e. Does the plan specify procedures concerning the potential inability to complete an alcohol test and trying to successfully complete the test [§40.271]?

89 B.01.a. Substance Abuse Professionals (SAP) meet the applicable qualification requirements of Part 40 (§40.81) and Part 199.

90 H.02.b. Verify that the Alcohol Misuse Prevention Program assures that each covered employee who has engaged in conduct prohibited by §§199.215 through 199.223 shall be advised of the resources available to the covered employee in evaluating and resolving problems associated with the misuse of alcohol. This includes the names, addresses, and telephone numbers of substance abuse professionals and counseling and treatment programs [§40.285(b) and §199.243(a)]

91 G.01.b. Verify that education under the EAP includes at least the following elements: display and distribution of informational material; display and distribution of a community service hot-line telephone number for employee assistance; and display and distribution of the employer's policy regarding the use of prohibited drugs [§199.113(b)].

92 H.02.d. Verify that the Alcohol Misuse Prevention Program assures for providing educational materials that explain alcohol misuse requirements and the operator's policies and procedures with respect to meeting those requirements [§199.239(a)]. The operator shall ensure that a copy of these materials is distributed to each covered employee prior to start of alcohol testing under this subpart, and to each person subsequently hired for or transferred to a covered position [§199.239(a)(1)]. Each operator shall provide written notice to representatives of employee organizations of the availability of this information [§199.239(a)(2)].

93 G.01.a. Verify that an EAP is provided for its employees and supervisory personnel who will determine whether an employee must be drug tested based on reasonable cause. Each EAP must include education and training on drug use (see Protocols G.01.b. and G.01.c.) [§199.113(a)].

94 G.01.c. Verify that training under the EAP for supervisory personnel who will determine whether an employee must be drug tested based on reasonable cause must include one 60-minute period of training on the specific, contemporaneous physical, behavioral, and performance indicators of probable drug use [§199.113(c)].

95 I.01.b. Verify that supervisors designated to determine whether reasonable suspicion exists to require a covered employee to undergo alcohol testing under §199.225(b) receive at least 60 minutes of training on the physical, behavioral, speech, and performance indicators of probable alcohol misuse. [§199.241].

96 A.01.c. If an employer contracts drug testing, education and training [§199.115], there is a process in place and implemented to ensure compliance with Part 199 and Part 40. The contractor must allow access to property and records by the operator, the Administrator, and if the operator is subject to the jurisdiction of a state agency, a representative of the state agency for the purpose of monitoring the operator's compliance [§199.115(b)].

97 H.01.c. If an employer contracts alcohol testing, education and training [§199.245], there is a process in place and implemented to ensure compliance with Part 199 and Part 40. The contractor must allow access to property and records by the operator, the Administrator, any DOT agency with regulatory authority over the operator or covered employee, and, if the operator is subject to the jurisdiction of a state agency, a representative of the state agency for the purposes of monitoring the operator's compliance with the requirements of Part 199 and Part 40 [§199.245(c)].

98 L.01.a. Verify that the following records are retained as required by Part 40 and Part 199 and that the records are maintained in a secure location with controlled access [§40.333(c) and §199.227(a)]. 5 years: Records of alcohol test results indicating an alcohol concentration of 0.02 or greater [§40.333(a)(1) and §199.227(b)(1)]; Documentation of refusals to take required alcohol tests [§40.333(a)(1) and §199.227(b)(1)]; SAP reports [§40.333(a)(1) and §199.227(b)(1)]; All follow-up tests and schedules for follow-up tests [§40.333(a)(1)]; MIS annual report data [§199.227(b)(1)]; and, Calibration Documentation [§199.227(b)(1)]. 3 years: Information obtained from previous employers under §40.25 concerning alcohol test results of employees [§40.333(a)(2)]. 2 years: Records of the inspection, maintenance, and calibration of EBTs [§40.333(a)(3)].

99 M.02.a. Verify that upon written request from an employee, records of drug and alcohol use, testing results, and rehabilitation are provided to the employee [§199.117(b) and §199.231(b)].

100 F.01.a. Verify that records are retained as required by Part 40 and Part 199 and that the records are maintained in a location with controlled access [§40.333(c)]

101 M.01.a. Verify if this operator has more than 50 covered employees and submits an annual MIS report in accordance with the form and instruction requirements of §40.26 and Appendix H to Part 40, not later than March 15 of each year for the prior calendar year (January 1 through December 31) [§40.26, §199.119(a) and §199.229(a)]. Beginning with the March 15, 2010 MIS submission date, also verify if this operator identifies all contractors who performed covered functions, as defined under § 199.3, for this operator in a given calendar year; and, if required by either mandated annual or PHMSA written request, is or has submitted an MIS report for each of these contractors?

102 M.01.b. Verify if this operator has 50 or less covered employees and has either a compilation of data or statistical information regarding drug and alcohol testing which, upon written request, could have been used to submit a MIS report in accordance with the form and instruction requirements of §40.26 and Appendix H to Part 40, not later than March 15 of each year for the prior calendar year (January 1 through December 31) [§40.26, §199.119(a) and §199.229(a)]. Beginning with the March 15, 2010 MIS submission date, verify that this operator identifies all contractors who performed covered functions, as defined under § 199.3, for this operator and received a compilation of data or statistical information from these contractors which, upon written request, could be used for submitting an MIS report for each of these contractors.

103 M.01.c. If a service agent (e.g., Consortium/Third Party Administrator) prepares the MIS report on behalf of an operator, verify that each report is certified by the operator's anti-drug manager/alcohol misuse prevention manager or designated representative for accuracy and completeness [§199.119(f) and §199.229(d)].

104 M.01.d Service agents are limited concerning their activities in the DOT drug and alcohol testing program commensurate with DOT rule 49 CFR Part 40 Section 40.355.

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Timestamp	analog.OH-KHL1COH-MP__.curval Kitts Hill Measured Pressure
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10/1/2020 7:05	-1.11

10/1/2020 7:10	-1.05
10/1/2020 7:15	-1.07
10/1/2020 7:20	-1.07
10/1/2020 7:25	-1.04

Daily Historical Weather for ASHLAND ARPT

Calendar: 9/30/2020 Go

ASHLAND ARPT

Print

DAILY HISTORY | HOURLY HISTORY

ASHLAND ARPT (KDWU) for September 30, 2020

Hour	Temperature (°F)	Dew Point (°F)	Relative Humidity (%)	Precipitation (in.)	Wind (mph)	Conditions
12:00 AM EDT	51.1	51.1	100	0.0	WSW at 3	Cloudy
1:00 AM EDT	51.1	50.0	96	0.0	W at 5	Mostly Cloudy
2:00 AM EDT	50.0	48.9	96	0.0	Calm	Partly Cloudy
3:00 AM EDT	48.9	48.0	96	0.0	W at 6	Clear
4:00 AM EDT	48.0	46.9	96	0.0	V at 5	Clear
5:00 AM EDT	48.0	46.9	96	0.0	V at 7	Clear
6:00 AM EDT	48.0	46.9	96	0.0	V at 7	Clear
7:00 AM EDT	46.9	46.0	96	0.0	ENE at 8	Partly Cloudy
8:00 AM EDT	48.0	46.9	96	0.0	ENE at 5 G 18	Cloudy
9:00 AM EDT	51.1	48.0	90	0.0	WSW at 3	Mostly Sunny
10:00 AM EDT	55.0	50.0	83	0.0	SSW at 8	Sunny
11:00 AM EDT	57.9	50.0	75	0.0	V at 6	Sunny
12:00 PM EDT	62.1	51.1	67	0.0	SW at 9	Sunny
1:00 PM EDT	66.0	51.1	59	0.0	WSW at 8	Sunny
2:00 PM EDT	68.0	51.1	55	0.0	SSW at 14 G 17	Sunny
3:00 PM EDT	70.0	51.1	51	0.0	WSW at 15 G 21	Mostly Sunny
4:00 PM EDT	72.0	52.0	49	0.0	SW at 14 G 21	Sunny
5:00 PM EDT	71.1	52.0	51	0.0	SSW at 12 G 20	Sunny
6:00 PM EDT	70.0	52.0	53	0.0	SSW at 10 G 25	Sunny
7:00 PM EDT	68.0	52.0	57	0.0	SW at 7	Sunny
8:00 PM EDT	64.9	53.1	65	0.0	Calm	Clear
9:00 PM EDT	62.1	53.1	73	0.0	Calm	Clear
10:00 PM EDT	63.0	53.1	70	0.0	V at 7	Partly Cloudy
11:00 PM EDT	64.0	54.0	70	0.0	W at 7	Partly Cloudy

Daily Historical Weather for ASHLAND ARPT

Calendar: 10/1/2020 Go

ASHLAND ARPT

Print

DAILY HISTORY | HOURLY HISTORY

ASHLAND ARPT (KDWU) for October 1, 2020

Hour	Temperature (°F)	Dew Point (°F)	Relative Humidity (%)	Precipitation (in.)	Wind (mph)	Conditions
12:00 AM EDT	63.0	55.0	75	0.0	Calm	Cloudy
1:00 AM EDT	62.1	54.0	75	0.0	N at 3	Cloudy
2:00 AM EDT	62.1	51.1	67	0.0	V at 5	Cloudy
3:00 AM EDT	59.0	51.1	75	0.0	N at 5	Cloudy
4:00 AM EDT	57.0	51.1	80	0.0	Calm	Cloudy
5:00 AM EDT	57.0	51.1	80	0.0	Calm	Cloudy
6:00 AM EDT	55.9	52.0	87	0.0	E at 8	Cloudy
7:00 AM EDT	55.0	52.0	90	0.0	S at 17	Cloudy
8:00 AM EDT	53.1	52.0	96	0.0	SSW at 16	Cloudy
9:00 AM EDT	57.0	52.0	83	0.0	Calm	Sunny
10:00 AM EDT	61.0	51.1	70	0.0	Calm	Sunny
11:00 AM EDT	64.0	45.0	50	0.0	WSW at 6	Sunny
12:00 PM EDT	66.0	44.1	45	0.0	V at 3	Sunny
1:00 PM EDT	68.0	43.0	40	0.0	SW at 8 G 16	Mostly Sunny
2:00 PM EDT	68.0	42.1	39	0.0	W at 9	Mostly Sunny
3:00 PM EDT	68.0	45.0	44	0.0	WSW at 8	Mostly Sunny
4:00 PM EDT	66.9	43.0	42	0.0	WSW at 9	Mostly Sunny
5:00 PM EDT	64.9	45.0	49	0.0	WSW at 6	Cloudy
6:00 PM EDT	64.0	46.0	52	0.0	W at 5	Mostly Sunny
7:00 PM EDT	61.0	48.0	62	0.0	V at 5	Mostly Sunny
8:00 PM EDT	59.0	46.9	65	0.0	N at 3	Partly Cloudy
9:00 PM EDT	57.0	46.9	69	0.0	Calm	Cloudy
10:00 PM EDT	55.9	48.0	75	0.0	Calm	Rain
11:00 PM EDT	55.0	45.0	69	0.0	W at 5	Mostly Cloudy

Name	Item ID	Completion Date
Harper, Dustin A	OQ_TASK CDOQM4GDS6.18 (Rev 2/3/2005 03:10 PM ET)	10/6/2020 04:51 PM ET
Harper, Dustin A	OQ_TASK CDOQM7 (Rev 1/1/1981 01:00 AM ET)	10/6/2020 04:51 PM ET
Harper, Dustin A	OQ_TASK CDOQM4A (Rev 1/1/1981 01:00 AM ET)	10/6/2020 04:50 PM ET
Harper, Dustin A	OQ_TASK CDOQM4GDS6.11 (Rev 1/1/1981 01:00 AM ET)	10/6/2020 04:50 PM ET
Harper, Dustin A	OQ_TASK CDOQM1A (Rev 1/1/1981 01:00 AM ET)	10/6/2020 04:49 PM ET
Harper, Dustin A	OQ_TASK CDOQM2A (Rev 3/3/2014 09:07 AM ET)	10/6/2020 04:49 PM ET
Harper, Dustin A	OQ_TASK CDOQI1C (Rev 12/13/2006 03:38 PM ET)	10/6/2020 04:48 PM ET
Harper, Dustin A	OQ_TASK CDOQL3 (Rev 1/1/1981 01:00 AM ET)	10/6/2020 04:48 PM ET
Harper, Dustin A	OQ_TASK CDOQM1 (Rev 1/1/1981 01:00 AM ET)	10/6/2020 04:48 PM ET
Harper, Dustin A	OQ_TASK CDOQH1 (Rev 1/1/1981 01:00 AM ET)	10/6/2020 04:47 PM ET
Harper, Dustin A	OQ_TASK CDOQM4GDS6.11 (Rev 1/1/1981 01:00 AM ET)	9/11/2020 10:19 AM ET
Harper, Dustin A	OQ_TASK CDOQM4GDS6.7 (Rev 1/1/1981 01:00 AM ET)	1/24/2020 01:56 PM ET
Harper, Dustin A	OQ_TASK CDOQM4A (Rev 1/1/1981 01:00 AM ET)	1/24/2020 01:55 PM ET
Harper, Dustin A	OQ_TASK CDOQM4GDS6.4 (Rev 1/1/1981 01:00 AM ET)	1/24/2020 01:55 PM ET
Harper, Dustin A	OQ_TASK CDOQL3 (Rev 1/1/1981 01:00 AM ET)	1/24/2020 01:52 PM ET
Harper, Dustin A	OQ_TASK CDOQL3A (Rev 1/1/1981 01:00 AM ET)	1/24/2020 01:52 PM ET
Harper, Dustin A	OQ_TASK CDOQL3B (Rev 12/30/2008 08:52 AM ET)	1/24/2020 01:52 PM ET
Harper, Dustin A	OQ_TASK CDOQL3A (Rev 1/1/1981 01:00 AM ET)	3/1/2019 01:55 PM ET
Harper, Dustin A	OQ_TASK CDOQL3B (Rev 12/30/2008 08:52 AM ET)	3/1/2019 01:55 PM ET
Harper, Dustin A	OQ_TASK CDOQI1C (Rev 12/13/2006 03:38 PM ET)	12/4/2018 02:45 PM ET
Harper, Dustin A	OQ_TASK CDOQI1D (Rev 7/29/2011 02:48 PM ET)	12/4/2018 02:45 PM ET
Harper, Dustin A	OQ_TASK CDOQL2A (Rev 1/1/1981 01:00 AM ET)	12/4/2018 02:45 PM ET
Harper, Dustin A	OQ_TASK CDOQL3B (Rev 12/30/2008 08:52 AM ET)	12/4/2018 02:45 PM ET
Harper, Dustin A	OQ_TASK CDOQM1 (Rev 1/1/1981 01:00 AM ET)	12/4/2018 02:45 PM ET
Harper, Dustin A	OQ_TASK CDOQM10A (Rev 1/1/1981 01:00 AM ET)	12/4/2018 02:45 PM ET
Harper, Dustin A	OQ_TASK CDOQM1A (Rev 1/1/1981 01:00 AM ET)	12/4/2018 02:45 PM ET
Harper, Dustin A	OQ_TASK CDOQM1A (Rev 1/1/1981 01:00 AM ET)	12/4/2018 02:45 PM ET
Harper, Dustin A	OQ_TASK CDOQM2A (Rev 3/3/2014 09:07 AM ET)	12/4/2018 02:45 PM ET
Harper, Dustin A	OQ_TASK CDOQM3 (Rev 1/1/1981 01:00 AM ET)	12/4/2018 02:45 PM ET
Harper, Dustin A	OQ_TASK CDOQH1 (Rev 1/1/1981 01:00 AM ET)	12/4/2018 02:44 PM ET
Harper, Dustin A	OQ_TASK CDOQF1A (Rev 1/1/1981 01:00 AM ET)	1/23/2018 01:56 PM ET
Harper, Dustin A	OQ_TASK CDOQF2 (Rev 1/1/1981 01:00 AM ET)	1/23/2018 01:56 PM ET
Harper, Dustin A	OQ_TASK CDOQF1A (Rev 1/1/1981 01:00 AM ET)	2/8/2017 10:25 AM ET
Harper, Dustin A	OQ_TASK CDOQF2 (Rev 1/1/1981 01:00 AM ET)	2/8/2017 10:25 AM ET
Harper, Dustin A	ONLINEC CDOQM7A (Rev 1 - 9/9/2010 03:00 PM ET)	1/31/2017 11:06 AM ET
Harper, Dustin A	OQ_TASK CDOQM7 (Rev 1/1/1981 01:00 AM ET)	1/31/2017 11:06 AM ET
Harper, Dustin A	OQ_TASK CDOQF1A (Rev 1/1/1981 01:00 AM ET)	1/26/2016 02:51 PM ET
Harper, Dustin A	OQ_TASK CDOQF2 (Rev 1/1/1981 01:00 AM ET)	1/26/2016 02:51 PM ET
Harper, Dustin A	OQ_TASK CDOQL1C (Rev 7/8/2011 06:03 PM ET)	1/26/2016 02:51 PM ET

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Maintaining, Inspecting, and Calibrating Instrument Controllers

While in the field working on instrument controllers, it is vital for a gas company employee to know how to maintain, calibrate and inspect the controllers to ensure the safety and functionality. In this section, we will cover the procedures for each device to be placed on by-pass, purging a regulator setting, placing the setting back into service and the testing of the devices. Calibration, leveling and adjusting certain devices will also be addressed.

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- *Placing a Regulator Setting on By-Pass (Instrument Controllers)...*

Be sure you comply with bonding requirements, if necessary.

Use the following steps to perform the procedure of placing a regulator setting on by-pass:

Step 1: Attach a gauge of proper range on the downstream system.

Step 2: Determine the by-pass range (maximum and minimum pressure) by checking station Inventory record card.

Step 3: Check the inlet pressure and move the gauge to the spool piece, centerpiece, or pup. The pressure should be about the same.

Step 4: Slowly open the by-pass valve until the downstream pressure rises above the control regulator setpoint.

Step 5: Slowly close the inlet block valve.

Step 6: Slowly close the outlet block valve.

Step 7: Raise the setpoint adjustment on all instrument controllers 100% of scale.

Step 8: Relieve the pressure in the top works through the purge valves.

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- *Purging a Regulator Setting (Instrument Controllers)...*

Use the following steps to perform the procedure of purging a regulator setting:

Step 1: Make sure the outlet purge valve is open.

Step 2: Make sure that the following valves are closed:

- Inlet block valve
- Outlet block valve
- Inlet purge valve
- Spool piece valve

Step 3: Verify that the pilot supply line is on.

Step 4: Slowly crack open the inlet block valve until a strong odor of gas is present at the outlet purge valve.

Step 5: On the monitor regulator, lower the setpoint adjustment on the instrument controller to 0% of scale.

Step 6: Slowly open the inlet block valve completely and perform an acceptable shut-off test at the outlet purge valve.

Step 7: On the monitor regulator, raise the monitor setpoint adjustment slowly until strong odor is present at the outlet gas valve.

Step 8: On the control regulator, lower the setpoint adjustment on the instrument controller to 0% of scale.

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Step 9: Raise the monitor regulator setpoint adjustment to 100% of scale and perform an acceptable shut-off test at the outlet purge valve.

Step 10: On the monitor regulator, adjust the setpoint adjustment to 0% of scale.

Step 11: Slowly open the outlet block valve to purge the remaining section.

Step 12: Close the outlet purge valve and leave the outlet block valve completely open.

When purging is complete, the setting is ready for setpoint adjustment and placement back into service.

- Placing a Regulator Setting Back into Service (Instrument Controllers)...

Use the following steps to perform the procedure of placing a regulator setting back into service:

Step 1: On the control regulator, raise the setpoint adjustment to 100% of scale.

Step 2: Determine the monitor regulator setpoint.

Step 3: Adjust the bypass valve to achieve an outlet pressure setting LOWER than the desired monitor regulator setpoint.

Step 4: On the monitor regulator, slowly raise the setpoint adjustment to the desired setpoint and have the bypass valve operator start to close the bypass valve as the monitor regulator picks up the load on the system.

Step 5: Verify that the bypass valve is completely closed.

Step 6: On the control regulator, lower the control setpoint adjustment to the desired setpoint.

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- *Procedures for Testing Response of Indicating Type Instrument Pressure Controllers...*

The purpose of this test is to confirm that the instrument controller can control the regulator valve at any desired setpoint with the controller's pressure range. These instructions pertain only to "indicating" type pressure controllers. The following test procedure shall be applied when testing various "indicating" type pressure controllers such as Ametek (U.S. Gauge), Bristol, or Fisher Model 4195. This test procedure requires test equipment as shown in Figure 1. The application of a regulator test gauge will be required on instrument controllers not equipped with a supply pressure gauge.

The following steps shall be followed in sequence:

Step 1: Bypass the regulator set per Gas Standard 1750.010, "Pressure Regulator Station Operation and Maintenance"

Step 2: After closing all test equipment valves, connect test equipment as shown in the figure on the next page.

Step 3: Verify that the instrument test connection valve is closed.

Step 4: Verify that the following valves are closed:

- Pressure source shutoff valve
- Test gear pressure control valve
- Test gear bleed valve

Step 5: Open control line valve. (If it is not already open.)

Step 6: Open the instrument test connection valve and compare the test gauge reading to the instrument controllers' indicated station outlet pressure.

During each step, the instrument's indicated station outlet pressure and the test gear gauge pressure reading should be approximately the same.

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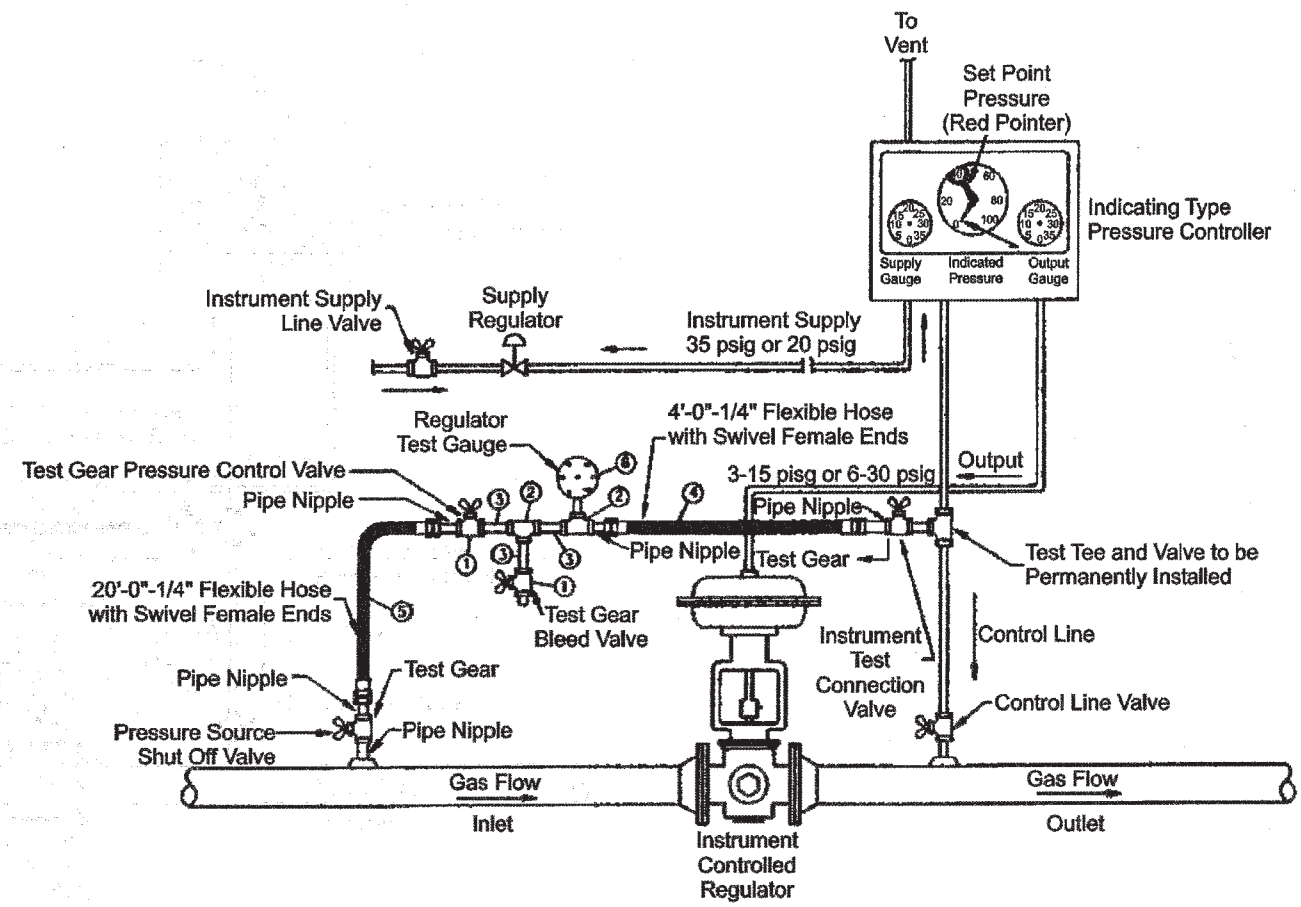

Test Set-Up for Response of Indicating Instrument Controllers

Bill of Material			
Item	**Quantity**	**Size**	**Description**
1	2	¼"	Valve needle. 5,000 or 10,000 W.P.
2	2	¼"	Tee screw, steel. 2,000.
3	3	¼" x 2"	Nipple, pipe, steel, Grade B, Ex. Hvy., T.B.E.
4	1	¼" x 4"-0"	Hose with swivel female ends
5	1	¼" x 20"-0"	Hose with swivel female ends
6	1	¼"	Regulator test gauge (range not less than that of instrument)
7	1	¼"	Regulator Fisher 1301-G

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Hydraulic hose of sufficient pressure rating must be used for all pressure applications.
Inlet pressure may be taken from any convenient source, preferably as high as the maximum range of the controller.

SAFETY!

Step 7: Close control line valve.

Step 8: Open test gear bleed valve ***slowly***, releasing pressure in the control line.

- Both the test gauge and the instrument pressure indicator should read approximately zero.

Step 9: Close the instrument supply line valve.

Step 10: Raise the setpoint of the controller to a maximum setting

- This will bleed the trapped supply gas and all gauges should now read approximately zero.

Step 11: Using the tip of your finger, move the pressure indicating hand of the controller a short distance above zero, then suddenly release it.

- It should spring back to its original position. If it does not, replace the controller.

Step 12: Where possible, on non-covered supply and output gauges, repeat Step 11 above.

Step 13: Adjust setpoint indicator on the controller to 10% of scale.

Step 14: Open instrument supply valve ***slowly***.

Step 15: Close test gear bleed valve.

Step 16: Verify that test gear pressure control valve is closed.

Step 17: ***Slowly*** open pressure source shutoff valve.

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Step 18: Slowly open the test gear pressure control valve while continuously observing the pressure readings on instrument pressure indicator and test gear gauge.

- When indicated pressure pointer approaches the setpoint indicator the following response should occur:
  - A pressure should be indicated on instrument output gauge.
  - The valve actuator should start to close the regulator valve.
  - "Supply" and "Output" gauges should indicate approximately the ***same*** pressure when the regulator valve is fully closed.

Step 19: Close the test gear pressure control valve.

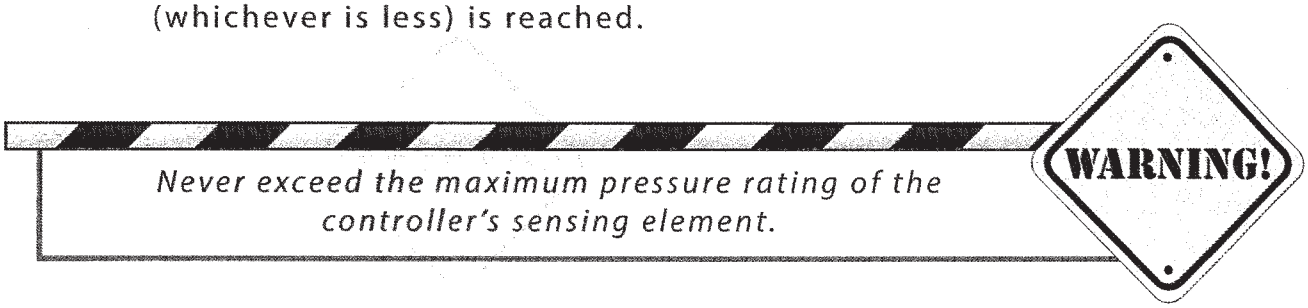
Step 20: Increase the setpoint of instrument an additional 10% of scale (10% on 100% scale).

- If the indicated outlet pressure exceeds the new setpoint, the regulator valve will not open.
- The regulator valve can be opened by slowly opening the test gear bleed.

Step 21: Again, ***slowly*** open the test gear control valve until the indicated pressure reaches the new setpoint of instrument.

Step 22: Close the test gear pressure control valve.

Step 23: Repeat this response test (Steps 20-22) in 10% scale increments until the maximum sensing element range of the controller or the maximum available source pressure (whichever is less) is reached.



Never exceed the maximum pressure rating of the controller's sensing element.

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Step 24: If the instrument controller responds properly at all setpoints, re-establish the desired instrument setpoint. If the instrument controller does not respond properly, it should be removed for repair and recalibration.

Step 25: Close the pressure source shutoff valve.

Step 26: Open the test gear bleed valve.

Step 27: Open the test gear pressure control valve to relieve all pressure in the test gear.

Step 28: Close the instrument test connection valve. Remove test gear hose and adapter. Secure valve with a plug.

Step 29: Remove test gear hose and adapter at pressure source shutoff valve and plug.

Step 30: Open the control line valve and follow normal procedure to place the regulator station back into service. (See Page 70.)

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12/3/2020 3:37:11 PM

in

Case No(s). 20-1759-GA-GPS

Summary: Staff Report of Investigation Exhibit 1 Part 2 electronically filed by Mr. Thomas E Stikeleather on behalf of PUCO Staff.