

Memorandum

ED M&C Gas GT Supervisors Only
- include Area Supts

ED M&C Gas All Superintendents

Date: March 15, 2010
To: VARIOUS
From: GAS ENGINEERING
Subject: MAOP of Lines Operating at or over

GMC Gas T&R
GT&D GE GDP Pipeline Engineering
GT&D GE GDP Station Engineering
GT&D GE ESTIMATING



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GT&D FACILITY ENGINEERS
GT&D PIPELINE ENGINEERS
GT&D ESTIMATORS

Attached for your use and distribution, if appropriate, is Revision 20 to PG&E Drawing 086868, "Pipeline – Data Sheet, Maximum Allowable Operating Pressure (MAOP) of Lines Operating at or Over 20% SMYS."

PG&E Drawing 086868 lists the Maximum Operating Pressure (MOP), MAOP, and Future Design Pressure (FDP) of backbone and local transmission pipelines, Distribution Feeder Mains (DFM), and pipe-type high pressure gas underground holders operating at or over 20% SMYS. Revisions to the pipeline and operating pressure data are noted by the shaded cells of the document.

PG&E Drawing 086868 is available on-line through the "UO Technical Information Library" intranet website located under the following drill-down menus: Gas, Transmission (or Distribution), and other documents; or through the Gas Engineering website (<http://uo/EO/GTD/GE/TechInfo/maop.htm>). The on-line version contains the most up-to-date version of the document.

If you have any questions or updates regarding this document, please contact Todd Arnett by email (lan id: tla3) or by phone (co. 583-4322).

Todd Hogen
TODD HOGENSON

TLA(583-4322)

cc: Glen Carter, Bob Fassett, [Redacted], [Redacted] T&D Records

Attachment

PURPOSE

This drawing lists the operating limitations and design pressure requirements of backbone and local transmission pipelines, distribution feeder mains (DFMs), and pipe-type high pressure gas underground holders operating at or above 20% of the Specified Minimum Yield Strength (SMYS) of the pipe.

This drawing is intended to assist Gas System Operations, Gas Engineering and M&C organizations in their pipeline operations, planning, maintenance, repairs, and upgrades.

REFERENCE

See UO Standard S4125 for requirements for establishing and revising the MAOP and MOP of pipeline facilities listed in this drawing.

CHANGES AND CORRECTIONS

Changes and corrections to the information contained in this drawing should be sent to:

Manager, Pipeline Engineering
Gas Design and Planning Department
375 N. Wiget Lane, Walnut Creek, CA 94598

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Sheet 2	General Notes
Sheets 3 through 14	MAOP of Numbered Transmission Lines
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Sheet 24	MAOP of Pipe Type High Pressure Underground Holders Operating At Or Over 20% SMYS
Sheet 25	MAOP of Standard Pacific Gas Lines, Inc.

Appvd	By	19	8/18/08	Updated data.		TLA		TRH
JKY		18	12/31/07	Updated data		RTA		TRH
		17	3/10/05	Updated data		RTA	CMW	DFT
	CJT	20	3/15/10	Updated data.		TLA	EAS	TRH
		Rev	Date	Description	Dwn	Chkd	Supv	Appvd
GM	PIPELINE - DATA SHEET MAOP OF LINES OPERATING AT OR OVER 20% SMYS TYPICAL PACIFIC GAS AND ELECTRIC COMPANY SAN FRANCISCO, CALIFORNIA				B/M			
Supv					Dwg List			
Dsgn					Supds			
Dwn					Supsd By			
Chkd					Sheet No 1 of 25 Sheets			
OK					Date		Scale	
	4-9-79				086868		20	
					Microfilm			

FD-4125 S (2/2010)

DEFINITIONS

Refer to UO Standard S4125 for definitions of Maximum Operating Pressure (MOP), Maximum Allowable Operating Pressure (MAOP), and Future Design Pressure (FDP).

GENERAL NOTES

1. Beginning and ending milepoints are shown for pipelines and pipeline segments. Milepoints are not listed for DFMs or collection systems, but are available in GIS system.
2. Notes on MOP limitations are provided in cases where additional information is needed to clarify the reasons or operating circumstances for the limitation. The notes do not address all possible pipeline configurations (e.g., at cross-ties). The information in this drawing should be used in conjunction with operating maps and diagrams to determine operating limitations for specific pipeline configurations or operating scenarios.
3. The MAOP shown is the minimum MAOP for that pipeline or pipeline segment. Sections of the pipeline within a particular pipeline system may be qualified for a greater MAOP. Consult the GIS system database to verify MAOPs and FDPs prior to designing modifications.
4. For continuity, a number of transmission lines and DFMs that are operating less than 20% SMYS are included in the table. These transmission lines are designated by an asterisk (*) in column A, and DFMs are designated by an (X) in column B.
5. This database provides summary of piping systems operating over 20% of SMYS. Due diligence should be exercised when using this data for operating or design purposes. GIS data and other company records should be researched prior to making any significant system modifications.

MAOP OF LINES OPERATING AT OR ABOVE 20% SMYS	PG & E CO.	DRAWING NO.	REV
	SHEET 2 OF 25 SHEETS	086868	20
		Microfilm	

MAOP OF NUMBERED TRANSMISSION LINES

Line Number	MP	to	MP	Description	Pipe Diameter (inches)	MOP (psig)	Min MAOP for Segment (psig)	Future Design Pressure (psig)
2	39.81		129.10	MP 39.81 (north of Panoche Station) to Vernalis Tap	26,36	890	890	890
2	129.10		142.50	Vernalis Tap to Tracy Station	26	890	890	890
2	142.50		158.00	Tracy Station to Brentwood Terminal	26	890	890	890
21A	12.05		31.84	Napa "Y" Meter Station to V31 84	8,12,24,26	450	450	675
21B	0.00		18.64	Napa "Y" Meter Station to Adobe Meter Station	12,16	450	450	720
21C	31.84		53.12	Adobe Meter Station to Santa Rosa Compressor Sta	12,16,20	450	450	675
21C-1	35.22		36.26	McDowell Rd Tap to Petaluma Reg Sta	12	450	450	675
21D	18.64		31.81	Adobe Meter Sta to Laguna de Santa Rosa (Tap 44 90-21C)	16	450	500	675
21D-1	0.00		1.15	Hearn (Tap 49 05) to Sebastopol Rds (Tap 50 19)	12,16	450	675	675
21E	53.12		137.38	Santa Rosa Compressor Station to Willits	8,10,12,16	610 (32)	720	720
21F	0.00		21.11	Adobe Meter Station to San Rafael Underground Holder	12,16,20	450	500	500
21G	0.00		20.82	Adobe Meter Station to San Rafael Underground Holder	12,16,20	450	500	500
21H	0.00		1.07	Crockett Station to MP 1 07	24,26	400	473	675
21H	1.07		1.52	MP 1 07 to Herrmann Station	24	400	675	675
21H	1.52		2.65	Herrmann Station to MP 2 65	12,16	250	375	585
21H	2.65		2.71	MP 2 65 to Vallojo Station	16	250	258	585
21H	2.71		12.05	Vallojo Station to Napa "Y"	12,16	250	275	585
*50A-1	0.00		2.87	MP 0.00 (near Marysville Service Center) to Yuba City UG Holder	8, 12	400	400	720
*50A	2.87		16.93	Yuba City UG Holder to Grndley Junction Station	8	250	250	720
*50A	16.93		28.94	Grndley Junction Station to Richvale "Y"	6,8	250	250	720
*50A	28.94		45.05	Richvale "Y" to Butte Station	6,8,10,12	400	400	720
50B	0.00		7.81	MP 0 00 to Paradise	8	400	720	720
56				Pleasant Creek Storage Field	4	1300	1300	1440
56				Pleasant Creek Storage Field	4,8	1300	1440	1440
57				McDonald Island Field UG Storage System	4-12	2160	2160	2160
57A	6.34		16.64	Old River PLS to Brentwood Term	14,16,18	722	722	867
57B	0.00		16.46	Brentwood Terminal to McDonald Is Field UG Storage	22	2160	2160	2160
57C	0.00		6.44	McDonald Island Compr Sta to Palm Tract Sta	24	2160	2160	2160
65				SP3 (TI 76 70) to Los Medanos Compr Sta	12,20,22	600	720	720
65				Los Medanos Field Storage System	4,20,22	1800	1800	1800
100	138.43		150.13	MP 138 43 to Milpitas Terminal	20	375 (8)	400	400
101	0.00		32.17	Milpitas Terminal to SFO tap	20,24,30,34,36	375 (8)	400	400
101	32.17		33.68	SFO tap to Lomita Park Reg Sta	20	375 (8)	396	400
*101	33.68		44.55	Lomita Park Reg Sta to San Francisco Gas Load Center	20,24	145 (1)	275	275

MAOP OF NUMBERED TRANSMISSION LINES

Line Number	MP	to	MP	Description	Pipe Diameter (inches)	MOP (psig)	Min MAOP for Segment (psig)	Future Design Pressure (psig)
*103	0 00		23 55	Bolsa Meter & Reg Sta to California St Reg Sta	12	350	350	500
*103	23 55		27 74	California St Reg Sta to Harkins Rd Mtr & Reg Sta	8,10,12	313	313	500
*105A	37 00		52 01	V-2 03 (L-105C) to San Pablo Station	20,24,30	150	198	275
105B	0 00		11 80	Crockett Station to San Pablo Station	24	400	473	675
105B	0 00		0 67	Crockett Station to Crockett Cogeneration Meter Station	16	400	675	675
105C	0 00		2 03	End of L-105N (5th St) to beginning L-105A (V-0 00) at Peralta	20,22,24	150	198	275
105N	0 00		0 18	Baine Avenue Crossover to Line 153 (GIS X6379)	20	250	250	500
105N-2	0 00		1 29	West Winton Ave Crossover to Line 153	16,22,24	250	250	500
105N	6 88		23 03	Irvington Sta to San Lorenzo Reg Sta	20-34	250	250	500
*105N	23 03		36 48	San Lorenzo Reg Sta to Oakland Gas Load Center	16,20,24-34	150	198	275
107	13 11		31 22	Livermore Junction to Irvington Station	22,24,36	477	477	720
107S	31 22		33 20	Irvington Station to MP 33 2	22,24	477	477	720
107S	33 20		38 12	MP 33 2 to Milpitas Station	36	477	720	720
108	0 00		4 59	Vernalis Tap & Meter Sta to Vernalis Field Valve Lot	24	720	1040	1040
108	4 59		11 70	Vernalis Field Valve Lot to Ripon-Modesto Meter Sta	24	720	720	720
				Ripon-Modesto Meter Sta to Airport Way & French Camp Rd Station				
108	11 70		22 31	Airport Way & French Camp Rd Station to Las Vinas Station	16, 24	408	408	720
108	22 31		43 50	Las Vinas Station to Thornton Meter Sta	16	412	490	720
108	43 50		50 70	Thornton Reg Sta to Elk Grove-Clarksburg Primary Reg Sta	24"	412	720	720
108	50 70		61 67	Elk Grove-Clarkson Primary Sta to Sacramento Gas Load Center	16,20,24	412	412	720
108	61 67		75 10	Milpitas Terminal to Sullivan Ave Reg Sta	22,24,30,34	375	375	400
109	0 00		43 47	Sullivan Ave Reg Sta to San Francisco Gas Load Center	24,26,30,34	145 (1)	150	275
111-A	0 00		21 64	Helm Jct Meter & Regulator Station to Fresno Junction	12,16	650	650	720
111-A	21 65		28 05	Fresno Junction to Fresno Gas Load Center	8	400	400	720
111B	2 63		6 99	Sim Cal Chemical Tap to V-6 99	16	650	650	720
112				Vernalis Field Collection System	3-8	720	720	890
114	0 00		9 01	Rio Vista Field West Side to Antioch Terminal	12,16	510	510	600
				San Joaquin River X-ing Block Valve 7.46 on SP4 to Block Valve 8.31 on Line 114				
114	7 33		8 31	Antioch Terminal to Brentwood Terminal	12	720 (3)	800	800
114	9 01		16 59	Brentwood Terminal to MVL-26 84	20,22,24	497 (4)	497	720
114	16 59		26 84	MVL-26 84 to Dalton Ave Crossover	22,24,36	497 (5)	595	720
114	26 84		28 97	Dalton Ave Crossover to Livermore Junction	20, 22	497(5)	595	720
114	28 97		33 85		36	497	595	720

MAOP OF NUMBERED TRANSMISSION LINES

Line Number	MP	to	MP	Description	Pipe Diameter (inches)	MOP (psig)	Min MAOP Segment (psig)	Future Design Pressure (psig)
115				Petaluma Gas Field	2	450	675	675
116	0 00		0 02	West Sacramento Crosstie to Line 172	12	720	720	720
*116	0 00		3 86	Davis Mtr and Reg Sta to Swingle Jct Mtr and Reg Sta	8	200 (31)	500	720
116	3 86		6 18	Swingle Junction Meter and Reg Sta to MP 6 18	16	720	720	720
116	6 18		9 60	MP 6 18 to MLV-9 60	16	720	720	720
116	9 60		12 89	MLV-9 60 to Sacramento Gas Load Center	16, 24	720	720	720
*118A	0 00		6 09	Fresno Gas Load Center to Fresno Junction	8	400	400	500
*118A	5 86		12 57	Fresno Junction to MP 12 57	12	400	400	720
*118A	12 57		73 26	MP 12 57 to Livingston Reg Station	8, 12	400	400	500
118A	73 26		74 89	Livingston Reg Station to Collier Road	6, 12	400	720	720
118A	74 89		83 74	Collier Road to Bradbury Road Reg Station	6, 8, 10	400	400	720
118A/E	83 74		84 69	Bradbury Road Reg Sta to MP 84 69 (Line 215 Tap) <i>parallel lines</i>	6, 8	890	890	890
118B	0 00		38 39	Tap 12.55 to Athlone - 12" Parallel	12	400	400	720
118D	78 08		83 79	MP 78 08 to Bradbury Road Reg Station	8	400	720	720
119A	0 00		3 85	Davis Mtr Sta to Swingle Junction Reg and Mtr Sta	12	792	792	800
119A	3 85		4 85	Swingle Junction Reg and Meter Sta to MP 4 85	12, 16	720	720	720
119A	4 85		16 46	MP 4 85 to North Sacramento UG Holder	10, 12, 20	720	720	720
119B	0 00		10 17	N Sacramento UG Holder to Antelope Meter Station	12, 16	500	500	720
119C	0 00		6 69	N Sacramento UG Holder to Roseville Rd Reg Station	16	500	500	720
119D	0 00		5 25	Sonoma Ave and Del Paso Blvd Reg to Roseville Rd Reg Sta	6	180	500	720
120				Sutter Creek Field Collection System	4, 6	485 (6)	492	720
120				Sutter Buttes Field Collection System	4, 6	485	485	720
121	0 00		6 97	Marysville Buttes Mtr Sta to Township and Almendra	6	485	485	975
121	6 97		9 06	Township and Almendra to Butte House w/o Elmer	8	485	975	975
121	9 06		11 73	Butte House w/o Elmer To Yuba City UG Holder Sta	8	485	720	720
121-1	9 05		10 61	Butte House w/o Elmer (T-9 05) to W Onstoft Rd	8	485	720	720
123	0 00		13 57	Antelope Mtr Sta to Lincoln Junction Reg Sta	12, 16	500	500	720
124A	0 00		26 03	Lincoln Jct Reg Sta to Yuba City UG Holder	12, 16	600	600	720
124B	0 00		23 46	Lincoln Jct Reg Sta to MP 23 46 (near Marysville Service Center)	8, 10	400	400	720
124C	0 00		2 87	Beale AFB Tap (Tap 13 31) to Camp Far West Mtr Sta (Tap 2 87)	6	600	600	720
*124C-1	2 87		3 76	Camp Far West Mtr Sta to Beale AFB Reg Sta	4, 6	305	400	720
125				Edwards Vicenus to Tompkins Hill Mtr and Reg Sta	4	350	448	720

MAOP OF NUMBERED TRANSMISSION LINES

Line Number	MP	to	MP	Description	Pipe Diameter (inches)	MOP (psig)	Min. MAOP for Segment (psig)	Future Design Pressure (psig)
125				Tompkins Hill Field Collection System	2-6	448	448	720
126A	0 00		10 89	Tompkins Hill Mtr & Reg Sta to Union St Reg Sta	6	350	425	425
126A	10 89		12 61	Union St Reg Station to Line 137	6	167	167	275
126B	0 00		10 57	Tompkins Hill Mtr & Reg Sta to Union St Reg Sta	4	350	425	425
126C	0 00		3 60	Elk River Road Reg Sta to Tap 12 38, Line 126D	10	167	167	600
*126D	12 22		12 57	Tap 12.22 on Line 126A to Eureka Meter & Reg Sta	10	167	167	600
128	0 00		13 65	Perch Slough (V-1 65) to Willows Reg Sta	3,4,6	479	479	720
130A	0 00		0 50	HP Rio Vista Sacramento River Crossing	10	800 (16)	800	800
130B	0 00		0 50	LP Rio Vista Sacramento River Crossing	10	99	99	720
131Y	0 01		0 75	Brannan Is To L-195Y (just S/O 3 Mile Slough	10,12	510 (7)	720	720
131Z	0 00		0 74	Brannan Is (V-84) to L-195Z (just S/O 3 Mile Slough)	10,12	510 (7)	685	720
131	5 81		9 19	Sherman Is (V-102&104) to Antioch Terminal	10,12	685 (7)	720	720
131	13 33		16 87	MP 13 33 to Brentwood Terminal	24	495	495	720
131	16 87		20 88	V-16 87 (Brentwood Terminal) to V-20 88 (at Vasco Rd)	24	500	525	720
131	24 88		50 57	Tap 24 88 on Line 114 to Irvington Station	24	500	525	720
131	50 57		57 45	Irvington Station to Milpitas Terminal	30,34	590	595	650
132	0 00		46 59	Milpitas Terminal to Martin Station Reg Station	24,30,34,36	375 (8)	400	400
132	46 59		51 50	Martin Sta Reg Sta to San Francisco Div Gas Load Ctr	24	145	145	275
132A	0 00		1 50	Sierra Vista Ave Crossover to Rengstorff Ave Sta	16,24	375 (8)	400	400
132B	0 00		0 35	Martin Sta Reg Sta to Geneva Ave	20,24	145 (9)	275	275
134	0 00		34 14	Herndon Junction to Firebaugh Reg Sta	3,4,6,8	500	500	720
134	T-21 62			Tap 21 62 to Moffat-Dixon Meter Station	4	500	500	720
136	5 14		12 89	Fell Reg and Odorizer Station to Butte Station	6,8	550	550	720
*137A	0 00		3 74	14th and Albee Street, Eureka, to Ryan Slough Reg Station	6,8	167	167	275
137B	0 00		7 37	Ryan Slough Reg Station to Arcata Reg Station	8	350	350	600
*137C	0 00		9 42	Reade and Pennsylvania Ave, Eureka, to Arcata Reg Station	4	167	167	275
137D	0 00		3 11	Arcata Reg Station to Guintoli Lane Reg Station	10	250	350	600
138	14 71		20 50	Helm Junction to Elkhorn Station	18	800 (10)	865	890
138	20 50		22 04	Elkhorn Station to Burrel Meter Station	18	650	650	720
138	22 04		38 69	Burrel Meter Station to Adams & Elm Meter and Reg Sta	16	650	650	720
138	38 59		49 42	Adams & Elm Mtr & Reg Sta to Fresno Gas Load Center	10,12,16	650	650	720
138	43 58		50 02	Tap 43 58 to Chestnut & Clay Reg Station	16	650	650	720
138	45 10		46 64	MP 45 10 to Peach Avenue	10	650	720	720
138A	0 00		14 94	Helm Tap Station to Helm Junction	16	800 (10)	862	862
138B	0 00		14 71	Helm Tap Station to Helm Junction	20	800 (10)	945	945

MAOP OF NUMBERED TRANSMISSION LINES

Line Number	MP	to	MP	Description	Pipe Diameter (inches)	MOP (psig)	Min. MAOP for Segment (psig)	Future Design Pressure (psig)
142N	0 00		14 05	Bakersfield Tap to Bakersfield Reg Station	12,16,20,24	475	475	720
142S	0 00		9 00	Gosford Road Mtr Sta to Brundage Lane & "V" St Reg	10	478	600	720
*142S	9 00		11 47	Brundage Lane & "V" St Reg to Bakersfield Reg Sta	10	300	300	720
*143				Millar Field Collection System	3,4	792	800	800
144	0 00		3 50	Millar Field to Millar Meter Station	10,12	792	796	800
146	0 00		6 00	Maine Prairie Field to Maine Prairie Meter Station	8	510	796	800
147	0 00		3 57	Edgewood Rd Crossover to V-3 57	20,24	375	400	400
148	0 00		17 63	McMullin Ranch Mixer Station to Morgan Rd Reg Sta	8	408	408	720
150	4 70		15 53	Winters Meter Station to V-15 53	6	125 (31)	750	800
150	15 53		18 09	V-15 53 to Davis Meter Station	6	200 (31)	750	800
151	0 53		14 05	MP 0 53 to Affon Reg Station	6	250	250	720
153	0 00		18 03	Irvington Station to Manna Blvd Station	24,30,32,34	420	420	500
*153	18 03		27 83	Manna Blvd Station to Oakland Gas Load Center	16,20,24,30	246	246	275
153	9 20			Alvarado Crossover & Reg Station to Line 105 (GIS X6458)	16	420	420	500
*153	17 63			Fairway Ave Crossover Station to Line 105 (GIS X6460)	20,24,30	150	198	500
156	1.13		5 72	Granland Road DRS to Durham Field Valve Lot	6	550	680	800
158	4.80		11 06	V-4 80 to L-172 (MP 11 06)	6	800	800	800
158	11 06		13 65	MP 11 06 to Dunnigan Spreckels Reg Station	6	500	564	800
159	0 65		3 91	V-0.65 to Pleasant Creek Line 159 Reg Station	4	975	975	975
159	3 91		4 70	Pleasant Creek Line 159 Reg Sta to Winters Meter Sta	4,8	125 (31)	750	975
*162	0 00		9 03	Tracy Station to Banta Road Reg Station	4, 6, 8, 10	365	365	720
164	0 00		6 14	Coalinga Tap to MP 6 14	8,10,16	498	498	890
167	0 00		34 50	Beehive Bend Field to Yuba City UG Holder	12,16	800	800	800
167	0 00		4 60	Wild Goose Field Meter Sta to Wild Goose Mixer Station	10	800	800	800
167	4 60		6 54	Wild Goose Mixer Sta to Grndley Jct Sta	8	800	800	800
167	4 12		7 60	Princeton Field Collection System	3	800	800	800
168				River Island Field Collection System	2-8	800 (11)	800	800
169 A/B/C				Beehive Bend, Willows, Liano Seco & Perkins Lake Field Collection System	3-20	800	800	800
172A	40 07		69 81	West Beehive Bend Meter & Odorizer Sta to Swingle Junction Reg & Mtr Station	18,20	800	800	800
172A	69 81		79 12	Swingle Junction Reg & Mtr Station to Sacramento Gas Load Center	12,16,18	500	520	720
172B	0 00		0 60	Crosste between Line 172 (V-3 54) and Line 167 (V-4 12) Collection System	6,10	800	800	800

MAOP OF NUMBERED TRANSMISSION LINES

Line Number	MP	to	MP	Description	Pipe Diameter (inches)	MOP (psig)	Min MAOP Segment (psig)	Future Design Pressure (psig)
172C	75.45		9.68	Cross tie between Line 172 (V-75.45) and Line 119 (V-9.68)	12	720	720	720
172D	0.00		2.84	Tap off of L-172A (at milepoint 24.41)	6"	800	800	800
*173	0.00		17.56	Turkey Ranch Meter Station to Auburn Reg Station	4,6,8,12	500	500	720
*174				Arbuckle Field Collection System	2-10	800	800	800
176	11.50		18.85	Old River to Tracy Station	6.8	365	555	365
177	V-37.80		V-149.18	Cross tie between Lines 177 and Line 400 (within Gerber Compressor Station)	12	819	819	960
177A	0.00		4.75	Fell Reg & Odorizer to Sacramento Ave Junction	16	819	819	960
177A	4.75		29.09	Sacramento Ave Junction to Corning N Dome Station	10	819	819	960
177L	0.00		2.19	Tap 27.60 to Tap 29.87 Parallel Section Near Corning N Dome	6.8	819	819	960
177A	29.09		37.84	Corning N Dome Station to Gerber Compressor	12	819	819	960
177A	37.84		163.04	Gerber Compressor Sta to Cummings Creek PL Station	12	819	819	960
177A	163.04		178.18	Cummings Creek PL Station to Tompkins Hill Mtr & Reg Sta	12	430	430	720
177A	178.18		192.29	Tompkins Hill Mtr & Reg Sta to Ryan Slough Reg Sta	12	350 (12)	425	600
177B	0.00		0.86	Sacramento Ave Junction to Grape Way Reg Station	10	819	819	960
177B	0.86		7.51	Grape Way Reg Station to Butte Station	6,10	469	469	720
177E	43.87		1.24	Red Bluff Tap to Red Bluff and Diamond Nat'l Corp	6	819	819	960
181A-10	0.00		5.69	L-301/L-181A Valve Lot to San Juan Rd Reg Station	12	500	500	500
181A	15.29		20.01	San Juan Rd Reg Station to Front St Reg Station	10,12	303	303	400
181B	0.00		2.10	Anzar Rd Mtr and Reg to Cole Road Reg Sta	10	500	500	500
181B	2.10		10.85	Cole Road Reg Sta to MP 10.85, Watsonville	10,16,20	400	400	500
*182	0.00		12.86	Serpa "Y" to V-12.86, Suisun Junction	8,10	510	510	800
182				Suisun Field Collection System	2-6	510	510	800
183	0.00		6.35	Moffat Ranch Field Mtr & Reg Sta to Firebaugh Reg Sta	3	175	320	800
185	0.00		0.014	Hollister Gas Field Tie to Line 301 A	4	396	396	500
186	0.00		26.10	Red Top Reg to Dos Palos Meter Station	3,4,6	270 (30)	625	720
186	26.10		29.40	Chowchilla Field to Red Top Reg Station	2,3,4	270 (30)	960	960
*187	0.56		22.58	San Ardo Field to Jolon Road Reg Station	6	313	313	720
*187	22.58		65.70	Jolon Rd Reg Sta to Harkins Rd Mtr & Reg Sta	8	313	313	720
189	0.00		1.72	Humboldt Bay PP Tap to Humboldt Bay PP Primary Reg Sta	10	350 (14)	425	800
190	0.00		16.08	Kettleman Compr Sta to Coalinga Nose Dehydrator Sta	12,16	840	1440	2160
191	0.00		3.87	Antioch Terminal to Antioch Town Meter Station (V-3)	30,34	600	600	600
191	3.86		3.87	Antioch Town Meter Station Cross Tie	16	600	800	600
191	3.86		9.83	Antioch Town Meter Station (V-3) to SP 3 Line 191 Meter Sta	20,24	338 (15)	390	600

MAOP OF NUMBERED TRANSMISSION LINES

Line Number	MP	to	MP	Description	Pipe Diameter (inches)	MOP (psig)	Min MAOP Segment (psig)	Future Design Pressure (psig)
191	9 46		10 60	Pittsburg Power Plant Feeder	24	338(15)	390	600
191	9 93		25 30	SP 3-Line 191 Meter Sta to Reliez Sta Rd Reg Sta	12,16,20	338	338	600
*191	25 30		29 36	Reliez Sta Rd Reg Sta to The Junction	8,10,12	266	283	400
*191	29 36		32 76	The Junction to MP 32 76	10	266	270	400
*191	32 76		35 83	MP 32 76 to Martinez Meter	10	266	268	400
*191A	0 00		6 33	The Junction to Ardilia Reg Sta (MP 6 13) and Ornda Reg Sta (MP 6 33)	3,6,8	266	283	400
*191B	0 00		1 53	The Junction to Reliez Valley Rd, Lafayette	8	266	283	400
193				Rice Creek Field Collection System	2-8	819	960	960
193				Malton Field Collection System	4,6,8	819	960	960
193				Kirkwood & Rice Creek Field, North, Collection System	6	819	819	960
194				McMullin Ranch Field Collection System	2-10	720	720	800
195				Rio Vista Field, East Side Collection System (HP)	2-16	800 (16)	800	800
*195				Rio Vista Field, East Side Collection System (LP)	2-16	110	110	510
195Y	0 00		0 55	Sherman Is , S/O 3 Mile Slough to SP4Y (V-92)	12	510 (7)	720	800
195Z	0 00		0 55	Sherman Is , S/O 3 Mile Slough to SP4Y (V-93)	12	510 (7)	720	800
196				King Island Gas Field Collection System	4,6	800	800	800
196	0 00		13 45	Isleton Meter Station to Las Vinas Station	8,12,16	800 (16)	800	800
197A	0 00		21 41	Las Vinas Station to Brandt Road PLS	10	300 (28)	388	720
197A	21 41		31 23	Brandt Road PLS to MP 31 23	10,12	300 (28)	720	720
197A	31 23		39 98	MP 31 23 to MP 39 98	8,12	300 (28)	320	720
197B	0 00		5 19	Las Vinas Station to V-5 19	6,12	300 (28)	388	720
197C	17 44		23 02	Ione Tap to MP 23 02	4, 6, 10	300 (28)	720	720
199				Bunker Field Collection System	3-8	792	796	800
200				Rio Vista Field, West Side, Collection System (HP)	2-16	800 (17)	800	800
*200				Rio Vista Field, West Side, Collection System (LP)	2-16	110	110	510
200	0 00		6 51	Rio Vista Field, West Side, Collection System (LP), Rio Vista "Y Mixer Sta to Serpa Jct Compr Sta	12	510	800	800
200				Lindsey Slough Field Collection System	3-10	510 (17)	868	960
201				Todhunters Lake Field Collection System	2-12	800	960	960
202	0 00		23 72	Camp Far West Mtr Sta to Grass Valley Reg Sta	6,8	600 (34)	720	720
206	0 00		0 67	Pleasant Creek Tap to Pleasant Creek Field Compr Sta	12	975 (18)	1440	1440
207				Conway Ranch Field Collection System	4,6,8	800	1000	960
208				Union Island Field to Lathrop Dehydrator	12	825 (19)	1000	1000
209	0 00		4 06	Johns Manville Reg Station to 5th and Garden, Willows	4	479 (20)	720	720

MAOP OF NUMBERED TRANSMISSION LINES

Line Number	MP	to	MP	Description	Pipe Diameter (inches)	MOP (psig)	Min MAOP for Segment (psig)	Future Design Pressure (psig)
210A	0 00		1 36	Rio Vista "Y" to Creed Station (V-1 36)	10	650	650	800
210A	1 36		19 47	Creed Station (V1 36) to Cordelia Reg Station	24,32,34,36	650	650	720
210A	19 47		25 62	Cordelia Reg Station to Napa "Y" Meter Station	10,12,24,32	650	650	720
210B	0 00		1 37	Rio Vista "Y" to Creed Station (V1 37)	16	800	800	800
210B	1 37		25 98	Creed Station (V1 37) to Napa "Y" Meter Station	16,18	650	650	720
210C	19 47		32 11	Cordelia Reg Sta to Herrmann Station	24	650	675	720
210C-1	0 00		3 76	Valero Tap to Valero Meter Station	18	650	720	675
213				Orland Field Collection System	3,4	819	960	960
215	0 00		20 05	Oak Flat Road Meter Sta to West Ave. Reg Station	12	890	890	890
220-1	0 00		2 41	Rio Vista "Y" to Maine Prairie Meter and Reg Sta	16	792	800	800
220	2 41		22 01	Maine Prairie Meter & Reg Sta to Davis Meter & Reg Sta	10,16	792	796	800
220	22 01		34 46	Davis Meter & Reg Sta to Dunnigan-Spreckels Reg Sta	6,8	500	500	800
222	0 00		2 28	Tracy Station to Musco Olive	2,3	365	1040	1040
300	0 00		0 47	Panoche Station to Line 2	24	890	890	890
300A	0 00		0 64	Colorado River to Topock Compressor Station	30,34	660 (21)	700	700
300A	0 64		40 87	Topock Compressor Sta to PLS 1 A	34,40	865 (22)	867	890
300A	40 87		103 72	PLS 1 A to PLS 2A	34	779 (22)	815	815
300A	103 72		149 65	PLS 2A to PLS 2AX	34	682 (22)	688	688
300A	149 65		159 33	PLS 2AX to Hinkley Compressor Station	24,26,34	573	573	688
300A	159 33		203 02	Hinkley Compressor Station to PLS 3A	34	860 (22)	861	890
300A	203 02		256 21	PLS 3A to PLS 4A	34	766 (22)	803	817
300A	256 21		299 01	PLS 4A to PLS 5A	34	754 (22)	757	757
300A	299 01		353 85	PLS5A to Kettleman Compressor Station	32,34	668 (22)	669	688
300A	353 85		436 74	Kettleman Compressor Station to PLS 6A	24,34,36	839 (22)	840	890
300A	436 74		490 65	PLS 6A to PLS 7A	34, 36	691 (22)	631	631
300A	490 65		502 34	PLS 7A to Milpitas Terminal	34	555 (22)	558	676
300B	0 00		0 45	Colorado River to Topock Compressor Station	34	660	660	735
300B	0 45		40 49	Topock Compressor Station to PLS 1B	24,34,40	865 (22)	867	894
300B	40 49		103 51	PLS 1 B to PLS 2B	24,34	779 (22)	821	821
300B	103 51		148 91	PLS 2B to PLS 2BX	34	682 (22)	688	688
300B	148 91		161 02	PLS 2BX to Hinkley Compressor Station	34	573 (22)	573	688
300B	161 02		203 07	Hinkley Compressor Station to PLS 3B	24,34,40	860 (22)	861	897
300B	203 07		256 64	PLS 3B to PLS 4B	34	766 (22)	803	816
300B	256 64		299 00	PLS 4B to PLS 5B	34,36	754 (22)	757	757
300B	299 00		154 02	PLS 5B to Kettleman	34	668 (22)	669	688

MAOP OF NUMBERED TRANSMISSION LINES

Line Number	MP	to	MP	Description	Pipe Diameter (inches)	MOP (psig)	Min MAOP Segment (psig)	Future Design Pressure (psig)
300B	354 02		436 85	Kettleman Compressor Station to PLS 6B	34	839 (22)	840	890
300B	436 85		490 92	PLS 6B to PLS 7B	34,36	631 (23)	631	631
300B	490 92		502 84	PLS 7B to Milpitas Terminal	34,36	597 (22)	600	669
301A	0 00		24 84	Hollister Meter Station to Moss Landing PP	20	396	396	500
301B	0 00		13 96	Dolan Road Meter Station to Spreckels D R	12	408	408	408
*301C	13 87		17 20	V-13 87 to Harkins Road Meter & Reg Station	12	408	408	408
301D	0 00		1 72	Anzar Tap Station to Anzar Road Meter & Reg Station	10	500	500	500
*301E	0 00		1 02	Reservation Rd Tap to Davis-Reservation Roads Reg Sta	12	408	408	408
*301F	0 00		7 94	Espinosa Road Tap Sta to 8th St & 1st Avenue Reg Sta (Fort Ord Reg Sta)	16	408	412	412
301G	0 00		24 68	Hollister Meter Station to Moss Landing PP Primary Reg Sta	24,30	500	500	500
301H	0 00		1 72	Anzar Tap Station to Anzar Road Meter & Reg Station	16	500	500	500
302				Gnmes Area Collection	2-20	975	975	975
302W	0 00		5 76	Hershey Junction to Buckeye Creek PLS	20	975	975	975
303	0 00		7 95	Antioch Terminal to Brentwood Terminal	36	720	720	720
303	7 95		11 97	Brentwood Terminal to Vasco Road	36	720 (23)	793	864
303	11 97		20 44	Vasco Road to Dalton Ave	36	720 (23)	776	864
303	20 44		25 54	Dalton Ave to Livermore Junction	36	720 (23)	864	864
303	25 54		36 56	Livermore Junction to Shendan Rd PL Station	36	720	731	877
303	36 56		42 86	Shendan Road PL Station to Irvington Station	36	590	590	877
304	0 00		11 29	Lathrop Dehydrator & Odorizer Sta to Tracy Sta	12	825	825	825
304				Lathrop Field Collection System	3-12	825	825	890
306	0 00		40 30	Kettleman Compressor Station to Estrella PL Station	20	839	840	840
306	40 30		70 02	Estrella PL Station to Morro Bay PP Reg Station	20	636 (26)	650	840
307	0 00		16 37	Spreckels Sugar Meter Sta to Spreckels Sugar Reg Sta	8	500	500	890
307	0 19		2 20	10" parallel line between Tap 0 91 and Tap 2 20	10	500	890	890
307	12 05		16 92	Derrck Avenue Tap to Arbios Reg Station	8	500	890	890
310	0 00		37 57	Tres Pinos Creek Station to BAF Cogen Facility	10,12	840	890	890
311	0 00		54 44	Trona Tap Meter Sta to Westend Primary Reg Sta	10,12	700	700	890
311	31 97		38 49	12" parallel line between Tap 31 97 and Tap 38 49	12	700	810	890
312	0 00		8 00	Paloma to Paloma Field Meter Station	8	757	757	820
313	0 00		34 40	Lucerne Valley Tap Meter Sta to Big Bear Meter Sta	8,10	573	573	573
314	0 00		24 19	Hinkley Compressor Station to Riverside PLS	12	861	861	890
314	24 19		29 12	Riverside PLS to Valve 8 at MP 29 12	10	550	550	720
*314	29 12		43 18	Valve 8 at MP 29 12 to Black Mt Meter and Reg Station	8,10	550	550	720

MAOP OF NUMBERED TRANSMISSION LINES

Line Number	MP	to	MP	Description	Pipe Diameter (inches)	MOP (psig)	Min MAOP for Segment (psig)	Future Design Pressure (psig)
*314A	0 00		0 24	Tap 24 31 to Riverside Cement Mtr & Reg Sta	8	550	550	720
*314B	0 00		0 08	Tap 27 46 to Airbase Road Meter Station	8	550	550	720
*316				Dutch Slough Area Collection System	2-12	720	720	720
316	0 00		V-13 07	Brentwood Dehydrator Sta to V 13 07 on L-114	16	497 (4)	720	720
318				Black Butte Field Collection System	3,4,6	907(24)	911	960
319	0 00		9 01	"Gosford Intertie" Kern River Sta (PG&E) to Coles Levee Reg Sta (SoCal Gas)	34	754(27)	1440	1440
319A	0 00		2 17	Tap 3 58 to Renfro Reg Sta	4	754(27)	1440	1440
331A	0 00		8 40	Bayview Road Station to Ingomar Packing (Tap 8 40)	4,6	890	890	890
331B	0 00		5 31	Bayview Road Station to Morning Star, 6" Parallel	6	890	890	890
339	0 00		0 87	Rancho Capay Field Collection System	4	819	819	960
351	0 00		14 88	V-6 99 L-111B to T-35 92 L-138	16", 30"	650	1040	1040
352	0 00		5 50	T-8 54 L-351 to T-18 71 L-111A	12", 24"	650	890	890
372	0 00		3 70	Ridgecrest Tap to Ridgecrest Primary Reg Station	6	700	700	960
375	0 00		6 60	L- 1 42 Tap to V-6 6 (So. Calif. Gas L-7039 Tap)	16	475	833	780
375	6 60		17 41	V-6.6 to PSE, Mt. Poso Cogeneration Plant	8,12,16	475	833	780
375A	0 00		2 05	Tap 9 20 to Destec Live Oak EOR Cogen	8	475	833	780
375B	0 00			Tap 10 38 to Destec Double "C" EOR Cogen	6	475	833	780
375C	0 00			Tap 10 91 to Destec High Sierra EOR Cogen	6	475	833	780
375D	0 00			Tap 11 39 to Destec Kern Front EOR Cogen	6	475	833	780
376	0 00		1 67	SoCal Gas L-7039 to Arco Cork Lease	6,8,10	780	780	780
377	0 00		0 58	So. Calif. Gas Co L-7039 to Dexzel Energy Corp Mtr & Reg Sta	6	771	720	780
379	0 00		3 50	Harris Ranch Feeder	2	890	890	890
400	0 00		24 60	California-Oregon Border to Tionesta Compressor Station	36	911	911	911
400	24 60		48 64	Tionesta Compressor Station to Indian Springs PLS	36	905(24)	911	911
400	48 64		82 33	Indian Springs PLS to Burney Compressor Station	36	881(24)	911	911
400	82 33		104 20	Burney Compressor Station to MP 104 20	36	884(29)	911	911
400	104 20		115 26	MP 104 20 to Shingletown PL Station	36	884(29)	915	942
400	115 26		149 18	Shingletown PL Station to Gerber Compressor Station	26,36	865(24)	911	911
400	149 18		197 83	Gerber Compressor Station to Delevan Compressor Station	36	907(24)	911	911
400	197 83		233 87	Delevan Compressor Station to Buckeye Creek PL Sta	36	1040	1040	1040
400	233 87		298 84	Buckeye Creek PL Station to Antioch Terminal	26,36	965(24)	975	975
401	0 00		24 88	California-Oregon Border to MP 24 88	42	911	911	911
401	30 62		48 65	MP 30 62 to Indian Springs PLS	36,42	911	911	911
401	48 65		82 34	Indian Springs PLS to Burney Compressor Station	42	887(24)	911	911

MAOP OF NUMBERED TRANSMISSION LINES

Line Number	MP	to	MP	Description	Pipe Diameter (inches)	MOP (psig)	Min MAOP for Segment (psig)	Future Design Pressure (psig)
401	82 34		97 94	Burney Compressor Station to MP 97.94	42	884(29)	911	911
401	97 94		104 00	MP 97.94 to MP 104 00	---	---	---	911
401	104 00		106 30	MP 104 00 to MP 106 30	---	---	---	942
401	106 30		115 28	MP 106 30 to Shingletown PLS	42	884(29)	942	942
401	115 28		149 19	Shingletown PLS to Gerber Compressor Station	42	865(24)	911	911
401	149 19		197 84	Gerber Compressor Station to Delevan Compressor Station	36,42	907(24)	911	911
401	197 84		233 89	Delevan Compressor Station to Buckeye Creek PLS	42	1040	1040	1040
401	233 89		317 23	Buckeye Creek PLS to Bethany Compressor Station	42	965(24)	975	975
401	317 23		427 34	Bethany Compressor Station to Panoche Meter Station	36	1040	1040	1040
402	0 00		38 10	Redding-Calaveras Tap Sta to Calaveras Cement Co	8,10,12	600	600	720
403	0 00		1 38	Rio Vista "Y" to Creed Station	16	800(25)	800	800
404	0 00		1 64	Tap 85 51 on L-400 to Burney Forest Products	2,4	911	911	911
Notes:								
A Astersks (*) indicate that line or sections are under 20% SMYS, but are listed for the purpose of continuity								
B Numbered Notes								
(1) The MOP of this section of L-101 and L-109 is restricted to 145 psig since they are connected to L-132 at a common header at SF Gas Load Center								
(2) This section of L-108 has a 175 psig MOP when operated in conjunction with the Pacific Paperboard Feeder.								
(3) This section of L-114 has a 510 psig MOP when Block Valve 8 31 is open								
(4) This section of L-114 has a 438 psig MOP when run in conjunction with the Antioch header								
(5) This section of L-114 has a 497 psig MOP when run in conjunction of Line 114 north of Brentwood Terminal or Line 131 (500 MOP)								
(6) This section of L-120 is directly tied to Sutter Buttes Field Collection System which has a MOP of 485 psig								
(7) This section of Line 131 (N/O Antioch), 131Y, 131Z, and 195Y have a 510 MOP when operated in conjunction with Line 114 (with V-8 31 is open) and 685 MOP when not								
(8) The MOP of Lines 100, 101, & 132 is reduced because these lines are connected directly to Line 109 (375 psig) at Milpitas Terminal								
(9) The MOP of L-132B is limited due to the MAOP of L-132 between Martin Reg Sta and SF Gas Load Center. However, when operated as a backfeed to L-101 through the crossie at L-101, the MOP is 275 psig								
(10) This section of L-138A & 138B has a 800 psig MOP because of the limitation of the operating pressure Helm Junction Station piping								
(11) The MOP of Line 168 shall be 685 psig when operated in conjunction with L-131Z								
(12) The MOP of this section of L-177 is limited due to the MAOP of the 8" L-137 between Ryan Slough Reg Sta & Arcata Reg Sta								
(13) Not used								
(14) The MOP of this section of L-189 is limited due to the MAOP of L-126 between Tompkins Hill Mtr & Reg & Union St Reg Stations								

MAOP OF NUMBERED TRANSMISSION LINES

Line Number	MP	to	MP	Description	Pipe Diameter (inches)	MOP (psig)	Min MAOP for Segment (psig)	Future Design Pressure (psig)
(15)				The MOP of this section of line is 390 psig when V9 93 at SP3-L-191 Mtr Sta is CLOSED				
(16)				The MOP of this section of L-130A,195 &196 is 685 psig when it is operated in conjunction with L-131Z				
(17)				The MOP of this section of L-200 is 510 psig when it is operated in conjunction with 450 psig system				
(18)				The MOP of this section of L-206 is limited due to the MAOP of L-400 at MP258 34				
(19)				The MOP of this section of L-208 is limited due to the MAOP of L-304 at Lathrop Dehyd & Reg Sta				
(20)				The MOP of this section of L-209 is limited due to the MAOP of L-128				
(21)				When this section of L-300A is tied directly to L-300B, the MOP is limited to 660 psig				
(22)				Maximum operating pressures shown for segments of L-300 A & B are due to elevation differences at the facilities supplying the various line segments		The MOP listed is for MOP		
(23)				The MOP of this section of line is 720 psig if V-7.95 (Brentwood Terminal) is opened. Furthermore, Division regulation, crosstied to both L-114 and L-303, has an MAOP of 595 psig. If it becomes necessary to feed regulation from L-303, the MAOP of L-303 becomes 595 psig				
(24)				Maximum operating pressures shown for segments of L-400/401 are due to elevation differences at the facilities supplying the various line segments		The MOP listed is for MOP		
(25)				The MOP of this section of line is restricted to 650 psig when operating in conjunction with 10" L-210A				
(26)				The MOP listed is the MOP at Estrella PLS. The reduced MOP is to compensate for the hydraulic head effect cause by elevation drop in the pipeline				
(27)				The MOP of Line 319 is 754 psig when operating in conjunction with Line 300A at Kern River Station				
(28)				The MOP of Line 197A/B/C is limited due to the MAOP of Turner Road Feeder				
(29)				The section of L-400/401 downstream of Burney Compressor Station has a MOP of 911 if the flowrate at Burney exceeds 1135 Mmscf/day				
(30)				The MOP of Line 186 is based on the highest operating pressure 5 years prior to 12/17/03. Per 192 917 requirement for ERW pipe				
(31)				The MOP is lowered to reduced pipeline risk. Do not raise the MOP without approval of the Risk Management Group				
(32)				The MOP is lowered due to potential low frequency ERW issues. Do not raise the MOP without approval of the Risk Management Group				
(33)				Maximum operating pressures shown for segments of L-300 A & B are due to elevation differences at the facilities supplying the various line segments. For PLS6, regulation setpoints = 620 due to downstream elevation drop		The MOP listed is for MOP		
(34)				The MOP of this section of L-202 is limited due to the MAOP of the pipeline supply from L-124A and 124C				

Shaded area identifies change from previous revision

MAOP OF DFMS OPERATING AT OR OVER 20% SMYS					Mn MAOP	Future
Route #	Operating less than 20%	Description	Pipe Diameter (inches)	MOP (psig)	Segment (psig)	Design Pressure (psig)
Area 1 (Peninsula)						
0210-01		Half Moon Bay Feeder Line	8,10,12	375	400	400
0215-01		Harbor Blvd Feeder	8	375	400	400
0211-01		Sanchez Feeder	6,8	375	400	400
0203-01		Stanford Cogeneration Feeder (Cardinal Feeder)	10	375	400	400
0201-01	X	Middlefield Feeder	8	120	124	175
0204-01		Alpine Road Feeder	4,6	375/170	400/175	400/175
0205-01	X	Walsh Road Feeder	2,3,4,6	130	400/230	400/230
0206-01	X	Haciendas Drive Feeder	3,6	110	400	400
0207-01	X	Todo Mundo Feeder	4,6,8	375/125	400/140	400/175
0208-01		Ralston Ave Feeder	4,6,8	150	150	400
0209-01		Polhemus Road Feeder	6	150	150	400/175
0214-01	X	Foster City Feeder	6,8,10	375/170	400/180	400/175
0217-01	X	SRI Co-Gen Feeder	6,8	375/175	400/175	400/175
0203-05	X	Charter St	4	375		
0210-03	X	San Mateo Rd	2	375		
0223-03		Millbrae Ave and Bayshore Hwy	2	275	400	
0213-02		Oddstad Blvd , Pacifica (Pacifica Feeder MP D-0.91)	6,8	375	400	
0213-02		Oddstad Blvd , Pacifica (Pacifica Feeder MP0 91)	6,8	90	90	
0220-01		John Daly Blvd , Daly City	20	90	150	
0224-01	X	San Bruno Ave (SF Airport)	4,8	145	275	
DREG4200		Marsh Road Feeder	3,8	375	400	400
DREG4207		Hayward Avenue Feeder	8,10,24	375	400	400
DREG4738	X	Wellesley Feeder	4,6	375	400	400
DCUST5760	X	RayChem Feeder	3,4	175	175	175
Area 1 (San Francisco)						
1401-01		Hunters Point Power Plant Feeder	20	145	145	275
1402-01	X	Missouri St, San Francisco	16,24	145	145	275
1403-01	X	Vermont St, San Francisco	8	145	145	275
1404-01	X	Oakdale Ave, San Francisco	2	145	145	275
1405-01	X	Wocley St, San Francisco	3,4	145	145	275
1406-01		Evans Ave / Phelps St, San Francisco	2,4,12	145	145	275

MAOP OF DFMS OPERATING AT OR OVER 20% SMYS				Mn MAOP	Future	
Route #	Operating less than 20%	Description	Pipe Diameter (inches)	MOP (psig)	for Segment (psig)	Design Pressure (psig)
Area 2 (Diablo)						
3008-01		Concord Feeder (Concord Meter Station to Ygnacio Valley Road)	6,8,10,12	170	170	600
3017-01	*	Danville Feeder (La Casa Via to Diablo Road)	6,8,10	338	365	600
3022-03		Discovery Bay Feeder from Bixler Road Reg to Point of Timber Regulator	4,6,8	400	400	400
3022-01		Discovery Bay Feeder from L-57A to Secondary Stage Regulator (Bixler Road)	3,4	722	837	867
3004-01		Foster-Wheeler Feeder (Avon Power Meter Station to Tosco Co-Gen)	8,12	338	338	600
3014-01		Nichols Road Tap (SP3 to Nichols Road Reg Station)	4	338	338	600
3012-01		Pittsburg Town Feeder (L-191 to Pittsburg-Anboch US Steel)	12	338	338	600
3005-01		Tosco Oil Company Feeder (Avon Malby Meter Station to Tosco Oil Co)	12	338	338	600
3010-01		Viera Avenue Feeder (Victory & Viera to Wilbur)	8	338	338	600
Area 2 (East Bay)						
0128-01		Port Costa Feeder	4,6	315	338	600
0126-01		Standard Oil Feeder	22	400	400	400
0122-01		Union Oil Tap (Cross Tie)	12	400	400	400
105N-3		50th Avenue Holder Feeder off Line 105	16, 20	150	198	275
Area 2 (Mission)						
2402-01		Castro Valley Feeder (tap off L-105N to upstream of station at "A" & Yolo)	12	250	250	500
2403-12		Decoto Road Feeder	12	411	411	500
2405-01		Warm Springs Feeder	4	590	650	650
2406-01		West Warren & Kato	4	590	590	650
2408-01		Stanley Boulevard (Isabel Reg. Station to intersection of Stanley & First)	8	160	160	650
2408-05		Dublin Feeder (tap off L-131 to intersection of Altamirano & Arnold)	12,16	500	500	650
2408-17		San Ramon Valley Feeder - downstream of Altamirano & Arnold	8, 12	215	215	275
2408-11		Blackhawk Feeder (downstream of Altamirano & Arnold)	12	500	656	650
Area 3 (DeAnza)						
8806-01						
8807-01						
8807-02		Lawrence/Grant/Homestead DFM	6, 8, 10, 12, 16, 20	180	180	200
8802-01	X	El Monte (Los Altos)	4, 6, 8	201	242	275
8805-03						
8805-23						
8805-04		Grant Rd , Mountain View	10, 12, 16	180	180	
8832-01		Ross Dr , Sunnyvale	2, 4, 6	375	375	400
8809-04	X	Union Ave , San Jose	10, 12	200	200	
8808-02	X	Bascom Ave , Campbell	6	200	200	
GCUST5813	X	Britton Ave , Sunnyvale DFM (NOP 225)	6, 10	400	400	720

MAOP OF DFMS OPERATING AT OR OVER 20% SMYS				Mn. MAOP	Future	
Route #	Operating less than 20%	Description	Pipe Diameter (inches)	MOP (psig)	for Segment (psig)	Design Pressure (psig)
Area 3 (Salinas)						
1816-01		DFM-1, Watsonville to Santa Cruz (L-181A)	8,10,12	303	303	400
1817-01		DFM-2; Watsonville to Rob Roy Junction (L-181B)	10,12	400	400	400
1818-01		DFM-3; Santa Cruz to Davenport	3,12,16	303	303	400
1815-15		DFM-4 Monterey V-18 65 to Carmel V-2 13 (Aguajito Rd Regulator Station)	8,10	313	313	408
1822-01		DFM-6 Espinosa Rd Main from 301-B, V-3 40	6	408	500	408
1823-01		DFM-8 Paradise Road to Mendian Road Main	4,6	500	500	500
1816-20		Airport Boulevard Feeder (Airport Blvd Tap to Freedom Blvd)	6	300	400	400
1813-02		Monterey #1-MP 1 59 to Fig-Frank Streets Reg Sta (8th St/1st Ave Reg Station)	8,10,12,16	313	313	408
1815-02		Monterey #2-Ford Ord to Fig-Frank Streets Reg Station (Aguajito Road)	8,10,12	313	313	408
1815-15		Carmel Valley Feeder (D/S of Aguajito Road Reg Station)	8,10	125	125	400
1822-01		Espinosa Road Feeder	6	408	500	500
1823-01		Paradise Road Feeder	4,6	500	500	500
1816-15		Graham Hill Road	8,6	300	303	400
1816-05		La Selva Beech Feeder	3,4	300	303	400
1817-03		Buena Vista / San Andreas Feeder (Watsonville)	4,6	300	303	400
1819-01		Coward / Riverside Road Feeder	3,4,6	300	303	400
1880-02	70	Rogge Road Feeder	4	350	350	500
1881-01		Laurel Drive Feeder	8	350	350	500
1812-13	X	Potter Road Feeder	6	313	313	500
1889-01		Old Stage Feeder	6	350	350	500
1805-01-02		187/310 X-te	3,4,6,8,10	130	130	500
1870-01		San Juan Feeder (Watsonville)	3	300	303	400
1816-50		7th Ave, Santa Cruz	10	300	400	400
1880-08		Chaparral St and Natividad Rd, Salinas	2	350	350	400
DCUST2139		DFM-7 Union Carbide Main from 187, MP 17 42	3	313	313	500
DCUST2139		Oaissa Rd (Union Carbide)	3	313	313	500
DREG4259		Pajaro Reg. Sta Feeder	4	313	313	500
DREG5419		Rustic Road Feeder (Hollister)	4,6	500	500	500
N/A		Quarry Road - Granite Rock Feeder	4	130	145	400
N/A		Mose Landing Feeder	6	135	135	500
N/A		Buena Vista Feeder (Salinas)	6,8	313	313	500
Area 3 (San Jose)						
0801-01	X	Tasman Dr and Cisco Way, San Jose	6	400	400	400
0804-01		Lafayette St, Santa Clara	6, 8, 24	375	375	400
0804-03		Lafayette St, Santa Clara	6, 8, 12	180	180	
0804-14, 05,08,16,10,11,12	X	Lafayette St, Santa Clara	2,6,8,12	180	180	
0806-01	X	N 1st St, San Jose	2,6	200	200	400
0807-01		W Calaveras Blvd, Milpitas	6	400	400	400

MAOP OF DFMS OPERATING AT OR OVER 20% SMYS				Min MAOP	Future	
Route #	Operating less than 20%	Description	Pipe Diameter (inches)	MOP (psig)	for Segment (psig)	Design Pressure (psig)
0809-01		Diana Ave, Morgan Hill DFM	2, 3, 4, 6	250	250	250
0809-02		Milpitas Terminal to PLS #7, King Road Feeder	16,20,24,30	200	200	400
0810-01		Roop Rd., Gilroy	6	120	120	
0812-01	X	N King Rd / Berryessa Rd., San Jose	4,6,12,20,24	200	200	275
0813-01,02,07,0814-04,05		Blossom Hill / Cottle Roads, Almaden Expressway Feeder	6,8,10,12	400	400	400
0813-08,09,13		Blossom Hill / Cottle Roads, Almaden Expressway Feeder (d/s of Cottle & Poughkeepsie Rd Regulator Station)	6,8	242	242	400
0840-01		Almaden Road Feeder (* 200 MOP when tied to 200 MAOP Tully Feeder)	6	200*	242	400
0815-01	X	Emato Ave., San Jose	3	100	100	
0817-01		Stony Rd., San Jose	8	200	200	400
0820-01		Dixon Landing Rd., Milpitas	4,6	175	170	720
0821-01						
0821-02	X	Tully Rd / Curtner Ave / Winchester Blvd	8,10,16,24	200	200	275
0822-01		Cochrane Rd., Morgan Hill	2,4,6	320	320	320
0824-01		Mahury Reg Station Feeder	10	600	600	669
0824-02	X	Mahury Rd. / Taylor St., San Jose	12	200	200	275
0826-01		Coyote Creek Golf Dr., San Jose	2,4	250	400	400
0829-01	X	Zanker Rd., San Jose	3,4	170	175	
0832-01		Church Ave., Santa Clara	3,4,6	335	335	335
0833-01		Pacheco Pass Rd., Bloomfield to Hwy 101 Feeder	6,8,10,16	400	400	400
0833-02		Pacheco Pass Rd., Gilroy	8,10	395	400	400
0833-03	X	Pacheco Pass Rd., Gilroy	2	395	500	
0833-04	X	1st St., Gilroy	6,8	400	400	400
0834-01		Pacheco Pass Rd., Gilroy	6	300	300	
0837-01		King Rd., San Jose	12	200	200	275
0840-01	X	Almaden Expy, San Jose (MOP reduced since tied to 0821-01 & 0821-02)	6	200	242	242
Area 4 (Kern)						
6607-01,03		DFM-B, L-300 A & B to US Borax & Chemical Co. Sec Reg & Mtr Sta (Boron Feeder)	4,6,8	861	897	897
6607-01,02		DFM-B US Borax & Chemical Co. Sec Reg & Mtr Sta to US Borax & Chemical Co (Boron Parallel)	4,6,8	490	490	720
181A79(300A)		Segs III-VII Feeder, Kramer Junction	6	861	897	897
DREG5496		Ridgecrest DFM	8	400	400	450
Area 4 (Fresno)						
1208-01		Adams & Elm Meter & Reg Sta to So Calif Gas Co (Solano-Sanger Feeder)	8	263	263	400
1217-01		Ashlan Avenue Tap to River Rock Products (West Ashlan Feeder)	4,6	400	593	720
1202-17,16		North Clovis Feeder (North Clovis Parallel-17)	6,12	650	650	720

MAOP OF DFMS OPERATING AT OR OVER 20% SMYS				Min MAOP	Future	
Route #	Operating less than 20%	Description	Pipe Diameter (inches)	MOP (psig)	for Segment (psig)	Design Pressure (psig)
1211-01		Coalinga Feeder-Amador Station to Oil City Road Station (To Shell/Chevron, Oil City Rd, Palmer Ave)	10	498	890	890
1211-03		Coalinga Feeder-Oil City Road Sta to 25-D (Chevron Feeder)	8,10	498	720	720
1211-04		Coalinga Feeder - Coalinga Primary to Town Station	6	498	890	890
1202-01-09,12	X	Fresno Belt Main	6,8,10,16	204	204	720
7212-01, 1201-01		Kerman Primary Feeder (Madera Ave Feeder)	4	500	500	720
7212-01						
1201-02		Kerman DFM to Kerman/Biola (d/s of Kerman Primary Station	4	283	283	720
1202-11		Willow Ave from Shepard Ave to the Monte Vista Verde DRS	12	204	720	720
1209-05		Peach and Central Feeder (Sanger Feed-Peach St)	6,8	650	720	720
1204-01		San Joaquin to Tranquility (Tranquility Feeder)	3	650	800	900
1206-01		SIM CAL Chemical Co Feeder	6	650	650	720
		* Fresno Belt Main				
Area 5 (Modesto)						
7218-01		Carpenter Road Feeder (Modesto)	4,12	408	720	720
7227-01		Claus Road Feeder	6,8	408	720	720
7221-15		Dale Road to North Avenue Feeder (Dale Road Feeder)	4,6,8,12	408	408	720
7219-01		Paulina Avenue Feeder	4,6	408	408	720
7221-10		Rpon-Modesto Feeder, Stanislaus River to Modesto	8,12,16	408	408	720
1603-03						
1603-01		Riverbank Feeder (Louise Airport Ave Tap, Louise Airport Feeder)	8,10	408	408	720
7216-01		Turlock Irrigation District Peaking Power Plant (Washington Rd DFM)	6	500	890	890
Area 5 (Merced)						
7205-01		DFM-2 Snelling Highway Feeder (from L-118 Tap)	6,8	400	400	720
7202-01		DFM-3 Vinewood Avenue Feeder (from L-118 Tap)	4	400	720	720
7201-01		DFM-4 Crassey Way Tap to Rogers Bros Packing (Crassey Way Feeder)	4,6	400	400	720
7206-01		DFM-9 Yosemite Parkway Feeder (from L-118 Tap)	6	400	400	720
7204-01		DFM-23 Winton Way Feeder (from L-118 Tap)	6	400	720	720
7208-01		DFM-29 Madera Women's Pnson (Road 22) Feeder (from L-118 Tap)	4	400	400	720
7207-01		DFM-30 Mendota Biomass Feeder(Belmont Ave DFM-Mendota) (from L-307 Tap)	4	500	890	890
7211-02		DFM-31 Road 26 to Obert Olive (Obert Olive DFM)	4	400	720	720
		DFM-32 L-134 Tap to Kerman Pnmary Req Station	4	500	720	720
7203-02		DFM-33 (Nees Avenue Parallel)	4	620	620	620
7208-02		DFM-34 Avenue 22 to Paul Masson Winery (Belmont Ave DFM)	4	400	500	620
7205-04		DFM-35 Ragu Foods DFM	8	400	400	400
7204-02		DFM-36 Bellevue Ave DFM to JR Wood Cogen	4	400	720	720
7213-01		DFM-39 Road 17-1/2 to Certainteed	4	720	720	720
7209-01		DFM-40 L-118 Tap to Avenue 9 to Valley Children Hospital (Bnton Dane-	8	720	720	720
7210-01		Los Bancos DFM	4, 6	394	394	720
Area 5 (Stockton)						

MAOP OF DFMS OPERATING AT OR OVER 20% SMYS					Mn MAOP	Future
Route #	Operating less than 20%	Description	Pipe Diameter (inches)	MOP (psig)	for Segment (psig)	Design Pressure (psig)
1021-01		Clear Creek Road Feeder	4	500	720	720
1023-01?		Enterprise Town Feeder	4.6	500	600	720
1033-01		Gerber Feeder	2	450	911	911
1019-01		Hamilton City Tap to Verschagin	4.6	720	720	720
		Holly Sugar Tap	4.6	575	720	720
		Louisiana Pacific Lumber Mill s/o Red Bluff	2	911	911	911
1042-01		McArthur-Fall River Feeder	2	525	911	911
1004-01		Orland Tap from L-177 to Second Stage Regulator (Orland Feeder)	6	490	490	720
1017-01		Paradise Primary Reg to Secondary Reg (Paradise Feeder)	8	400	720	720
1001-02		Red Bluff Feeder (formerly Line 309)	2	911	911	911
1003-01		(Redding DFM)	6	500	600	720
1041-01		Sierra Pacific Lumber Tap (Burney Feeder)	2	911	911	911
1007-01		Simpson Paper Mill Feeder	6	500	600	720
Area 6 (Sacramento)						
0614-05		119-Elm and Tracton Ave Reg Station to T-0 99	12	180	500	600
0617-08		16" DFM-Madison and Kenneth to Pershing and Madison (Folsom Feeder-Pershing Avenue)	16	274	500	500
0617-03		16" DFM Hwy 80 to Hemlock (Folsom Feeder-Palm Avenue from Roseville Road)	16	274	275	500
0613-01	X	DFM-1 Sacramento Division Gas Load Ctr to North Sacramento Holder	8,12	260	260	720
1802-01		DFM-2 Union Carbide Tap to Union Carbide Corp	8,10	412	412	720
		Line 108 Tap to Sacramento Blvd Regulator	10,12,16	412	412	720
0610-01		Line 108 to Campbell Soup Company	16	412	412	720
0609-01		Line 108 to Florn Road and Woodbine Avenue (Florn Road Tap)	6	412	412	720
		Line 108 to Florn Road Primary	6,10	412	412	720
0605-01		Line 108 to Galt Primary Regulator (New Hope Road Tap to First Street)	4	490	490	720
0607-02		Sacramento Airport DFM (Airport DFM Reg Station to Reg Station A-40)	2,4,6	425	425	720
0612-01		Sutterville Road to 43rd and Riverside	6,8	412	412	720
Area 6 (Sierra)						
1520-01		Diamond Oaks Feeder	6	500	500	600
1502-01		District 10 DFM, Marysville	8	400	400	720
1511-01		Feather River Boulevard	4	600	600	720
1509-05		Greenleaf II Cogen Plant	6	975	975	1000
1510-01		Greenleaf I Cogen Plant	6	975	975	1000
1504-01/02	X	Lincoln DFM (Nicolau Road)	4,6	274	274	600
1509-04		Yuba City Cogen Plant (Catalyst-Sunsweet Co Gen Plant)	3,6,8	485	720	720
1503-01		Yuba City Underground Holder to Market St Reg Pit	6,8	250	250	400
1518-01		Baseline Rd DFM	4,8	500	500	720
1519-01		Rocklin Rd DFM	6,12	500	500	720
1521-01		Grass Valley DFM	6	600	720	720
1522-01		El Dorado Hills DFM	6,10	500	500	720
1523-01		Twelve Bridges DFM	8	500	720	720
DREG8724		Green Valley Rd DFM	12	500	720	720

MAOP OF DFMS OPERATING AT OR OVER 20% SMYS					Mn MAOP	Future
Route #	Operating less than 20%	Description	Pipe Diameter (inches)	MOP (psig)	for Segment (psig)	Design Pressure (psig)
1518-02/03		Roseville Energy Park DFM	10.24	500	720	720
1501-01		South Suter DFM	3.4	245	245	720
DREG7496		Algodon Rd DFM	6	600	720	720
GCUST5809		Calpine-Feather River Energy Center DFM	6	600	720	720
1508-01	X	Beale AFB DFM	4	395	395	600
Area 6 (Colusa)						
0630-01		Colusa Meridian Feeder	4.6	240	240	800
0637-01		DFM-1 Tap to Strain Rice Dryer	4	800	800	800
0634-01						
0634-02		Maxwell Feeder Main (Colusa Glenn Dryer)	2	600	600	1000
0638-02		Naas Foods Feeder, Williams	4	800	800	800
0632-01	X	Williams Feeder Main	3	180	180	180
Area 6 (Vacaville)						
0601-01		American Home Foods Feeder	2, 4, 6	720	720	720
0602-01		Anheuser Busch Feeder (Cordelia Rd & Hale Ranch Rd)	6	650	650	720
0604-06		Davis St. Feeder-Mason to McNigh (3" Marshall Road)	4	400	720	720
0600-02		Dixon Canning Company Feeder (Vaughn Rd Tap)	4	720	720	800
0604-01		Elmira Rd. Feeder-Peabody to Shasta	6	400	400	720
0604-16		Fairfield Feeder (10") - Scandia Road-Vaca Tap	10	675	675	675
0614-17		Fairfield Feeder (12") - Scandia Road-Vaca Tap (L-210 Cross-Tie)	12	650	650	740
0603-01		Fairfield Feeder (6" & 10")	6, 10	650	650	720
0604-01		Hawkins Road Feeder-Lewis Road (Hawkins-Lewis Primary to L-400)	6	975	975	975
0604-01		Hawkins Road, Nut Tree Rd to Lewis Road (Vacaville Feeder - D/S of H-L Primary)	8	400	400	720
0600-03		Robben Road Feeder-Tremont Tap to Dixon Meter Station	6	720	750	800
		Travis to Vacaville Junction (3"-0604-24) (6"-0604-07)Vacaville 4")	3, 4, 6	400	400	400
0604-02		Vacaville Feeder	6	400	400	400
0604-02		Vacaville Feeder-Eldridge to Nut Tree Road (6" Elmira & 4" Davis)	4, 6	400	400	720
		Vacaville Feeder-SNRR to Elmira Road	3, 6	400	400	720
		Vacaville Feeder-SNRR to n/b Alamo	6	400	400	720
0604-24		Vacaville Feeder (3") - Scandia to SNRR	3	400	400	400
0604-07		Vacaville Feeder (6") - Scandia to SNRR	6	400	400	400
Area 6 (Woodland)						
n/a		Gibson Feeder Main, 8"	8	800	800	800
0620-01		Gibson Feeder Main, 6"	6	500	500	800
0624-01		Fairfield-Knowliss Feeder	4	500	500	800
0625-01		Hunts Feeder Main	6	500	500	800
0622-01		Woodland Biomass Feeder	4	500	500	500
Area 7 (North Bay)						

MAOP OF DFMS OPERATING AT OR OVER 20% SMYS					Mn MAOP	Future
Route #	Operating less than 20%	Description	Pipe Diameter (inches)	MOP (psig)	for Segment (psig)	Design Pressure (psig)
0407-01		26" Line 21 (V-16 16) to Pine St Meter Station, V-3 16	8	450	500	675
0405-01		26" Line 21 (V-16 16) to Zinfandel Reg Station (MP 19 00)(L-21 to Calistoga to Angwin)	10	450	500	675
0405-01		Zinfandel Reg Station (MP 19 00) to York Creek Reg Sta (MP 21 88)	8,10	250	250	675
0406-03		Tap to Kaiser Steel east of Napa River (Kaiser Road Tap)	4	450	500	675
0401-01		Fairhills & Lincoln DFMs, San Rafael	16,12,10,8	175	175	275
Area 7 (North Coast)						
1301-01		Cotati Feeder (Danman Flat to Cotati)	8	150	150	675
1302-01		Madrone Station of Cotati Station	12	450	675	675
1306-01		Sonoma Tap Line	6	450	500	675
1303 to 1305		Sonoma DFM (d/s Monroe Reg Station) to 5th & MacArthur (Sonoma), Mt View, & Guerneville Rd	8,10,12	200	200	275
Notes:						
A There may be many DFMs listed that operate under 20% SMYS, but they are shown for the purpose of continuity. GT&D will be identifying which DFMs are operating under 20% SMYS						
Shaded area identifies change from previous revision						

MAOP OF PIPE TYPE HPUGH OPERATING AT OR OVER 20% SMYS

	Pipe	Pipe			Design	Future
Description	Length (feet)	Diameter (inches)	MOP (psig)	MAOP (psig)	Pressure (psig)	Pressure (psig)
Santa Cruz	7,360	30	618	618	618	618
	4,950	34	618	618	618	618
Yuba City	12,334	34	525	525	550	550
Sacramento	79,520	34	500	500	500	500
	3,984	36	500	500	500	500
	10,956	42	500	500	500	500

MOP, MAOP, FDP
STANDARD PACIFIC GAS LINES INC.

Line Number	MP	to	MP	Description	Pipe Diameter (inches)	MOP (psig)	Min. MAOP for Segment (psig)	Future Design Pressure (psig)
3	167.31		176.16	Delta Fair Junction to Los Medanos PLS	20,24,26	600	600	600
3	176.16		191.15	Los Medanos PLS to Franklin Canyon PLS	24,26	400(1)	468	600
3	191.15		198.10	Franklin Canyon PLS to San Pablo Station	22,24,26	380	380	600
3	198.10		198.68	San Pablo Station (V-40&41) to Chevron Pipeline (A/B Block)	16	250(4)	420	600
4Y	0.85		7.33	East Rio Vista Field to Antioch Terminal	4, 8, 10, 12	685 (2)	800	800
4Z	0.85		8.92	East Rio Vista Field to Antioch Terminal	8, 10, 12, 16	510(3)	800	800
5	0.00		3.87	Antioch Terminal to Antioch Town Meter Station (V-3)	24	338	390	600
5	3.86		5.80	Antioch Town Meter Station (V-3) to Delta Fair Junction	30	600	600	600
Ryer Island Branch	0.00		0.60	Los Medanos PLS to MP-0.60	6	405	600	600
Numbered Notes								
(1) This section of SP-3 has a 405 psig MOP when operated as a standby backup to Line 105B at Franklin Canyon PLS.								
(2) This section of SP-4 has a 685 psig MOP when operated in conjunction with Line 131Z. (East Rio Vista Field to Antioch Terminal)								
(3) This section of SP-4 has a 510 psig MOP when operated in conjunction with Line 114. (West Rio Vista Field to Antioch Terminal)								
(4) This section of SP-3 has a 405 MOP when connected directly to Line 105B at San Pablo Station								

MAOP OF LINES OPERATING AT OR OVER 20% SMYS

SHEET 25 OF 25 SHEETS

DRAWING 086868
REV 20