Pacific Gas and Electric Company

CATHODIC PROTECTION AREA CURRENT REQUIREMENTS WORKSHEET

S&CU
4/06
FO-16-F

CPA _____ Job No. _____ Date _____

Soil Resistivity (Ohms Cm) _____ Completed By _____

1.Cathodic Protection Current Formula

Total Current Requirements (Amperes) = Pipe Length (Feet) x Pipe Outside Wall/Running Foot (Square Feet per Foot) x Current Requirements per Square Feet (Milliamperes per Square Feet)/1000

Steel Mains

Nominal Pipe Size (Inches)	Length of Pipe (Feet)	Lineal Foot to Square Foot Multiplier (Square Ft. / Ft.)	Total Outside Pipe Area (Square Feet)	Current Requirements (Milliamperes per Sq. Ft.)	Total Current Requirements (Amperes)	Comments
¾		0.27		0.05		
1		0.34		0.05		
1¼		0.43		0.05		
1½		0.50		0.05		
2		0.62		0.05		
3		0.92		0.05		
4		1.18		0.05		
6		1.73		0.05		
8		2.26		0.05		
10		2.81		0.05		
12		3.34		0.05		
16		4.19		0.05		
20		5.24		0.05		
Subtotal						

Gas Services

Number of Services	Service Material	Average Length of Pipe (Feet) [1]	Total Length of Pipe (Feet)	Lineal Foot to Square Foot Multiplier (Square Ft. / Ft.)	Total Outside Pipe Area (Square Feet)	Current Requirements (Milliamperes per Sq. Ft.)	Total Current Requirements (Amperes)
	Steel			0.27		0.05	
	Copper			0.16		7.8	
	Plastic	N/A					
Subtotals							

[1] Use the division average length.

Total Cathodic Protection Current (Design)

Total Calculated Current (Mains and Services)	

2. Total Number of Rectifiers Needed: _____ (*Total Current*) ÷ 3.5 (Amps) = _____ (Number of Rectifiers)

3. Actual Current in CPA: _____ (*Total Current*) ÷ _____ (*Square Feet*) = _____ mA/sq ft

Notes

1. After completing this form, attach it as part of the job. Ensure that this form is filed in the CPA's permanent record.
2. Check with the local corrosion department for any special local current requirements.
3. Update this form as required by UO Standard S5467, "Cathodic Protection Area Assessment/Resurvey Procedures for Gas Distribution."
4. Computerized "Current Calculation Sheet" may also be used.