

Fault Current Calculation Form

Please Print or Type Legibly

Project Name: _____

FOR CITY USE ONLY

Permit Number(s): _____

Date Stamp

Site Address:		Suite Number(s):	
Contractor or Property Owner Name:			
Address:		Phone:	
City:	State:	Zip:	Cell:

Use the following instructions to complete the fault calculation form on the following page. This form shall be completed and submitted prior to service approval; continue with these steps until each panel has been addressed or the fault current is below the minimum equipment rating.

INSTRUCTIONS

Step 1: To calculate the Secondary Transformer (I.C. rating) at its rated voltage, calculate ohms as follows:

$$\text{Transformer ohms} = \frac{\text{"Y" (defined in Step 3 or Step 4, below)}}{\text{Short Circuit Amps}}$$

120/240V	1 ohm 3-wire.....	120
208Y / 120V	3 ohm 4-wire.....	102
240V Delta	3 ohm 4-wire.....	140
480Y / 277V	3 ohm 4-wire.....	277
480V Delta	3 ohm 3-wire.....	277

Step 2: Conductor Impedance = $\frac{(\text{Impedance per 1000 ft.}) \times \text{Conductor Length}}{1000 \times \text{Number of Parallel Runs}}$

Step 3: "Y" = Service I.C. (C2) x Total ohms (transformer ohms + cable ohms)

Step 4: "Y" = Subpanel I.C. (E2) x Total ohms (transformer ohms + cable ohms)

NOTE

Transformer replacements which result in a higher possible fault current than that of the existing equipment shall be reviewed by this department prior to reconnection of existing service equipment.

Fault Current Calculation Form

	Value	Total Impedance	Fault Current
A. UTILITY TRANSFORMER			
1. Rated Capacity	_____ KVA		
2. Secondary Voltage	_____ Volts	_____ Ohms	
3. Nameplate % Impedance OR	_____ %		
4. Transformer Short Circuit Amps	_____ Amps		
5. Ohmic Impedance ("Y")	Step 1: _____	Ohms	
B. SERVICE CONDUCTORS			
1. Conductor Size	_____	_____ (Type – CU or AL)	
2. Conductor Length	_____ ft.		
3. Type of Conduit	_____		
4. Impedance/1000 ft.* (ohms/1000)	_____ Ohms		
5. Number of Parallel Runs	_____		
6. Conductor Impedance **	Step 2: _____	Ohms	
7. Total Impedance to Source (A5 + B6)	_____	_____ Ohms	
8. Fault Current at Load Terminals ("Y"/B7)		Step 3: _____	Amps
C. SERVICE ENTRANCE EQUIPMENT			
1. Service Rating	_____ Amps		
2. Interrupting Rating			_____ AIC
D. FEEDER CONDUCTOR			
1. Conductor Size	_____		
2. Conductor Length	_____ ft.		
3. Type of Conduit	_____		
4. Impedance/1000 ft.* (ohms/1000)	_____ Ohms		
5. Number of Parallel Runs	_____		
6. Conductor Impedance **	Step 2: _____	Ohms	
7. Total Impedance to Source (B7 + D6)	_____	_____ Ohms	
8. Fault Current at Load Terminals ("Y"/D7)		Step 4: _____	Amps
E. FEEDER PANEL			
1. Equipment Rating	_____ Amps		
2. Interrupting Rating			_____ AIC

* Contact Snohomish County PUD for cable impedance information.

Fault Current Calculation Form

** (Impedance per 1000 ft x conductor length) divided by (Number of Parallel Runs x 1000)