

Fault levels: 3 x 110/11 kV Tx at Parkwood, all gens in service, cogen in service.

Parameter	Symbol	Value	Unit	Remarks
Switchroom Name		SGGC5 1 Room		
Switchroom internal volume	V	151.01	cu.m	
Maximum fault current	J"k	13087	A	From fault study
Primary protection operating time	t	0.47	sec	Cable box fault - feeder to GCUH, not high speed.
Secondary protection operating time	t	1.17	sec	Bus fault - protection failure
Maximum pressure if no relief provided (Pigler Fig 1)	Pt	8.1	kPa	Assume primary only applies under this scenario.
Maximum pressure if no relief provided (Pigler Fig 1)	Pt		kPa	Backup time
Pressure if 1sqm vent is provided (Pigler Fig 3)	P	0.84	kPa	

Based on paper "Compression Stress in Switchgear Rooms as a result of arcing faults; F Pigler, Energiewirtschaftliche Tagesfragen, 1976"

Allowable Pressure for Various Construction Types			Actual Type
Brick wall	1	kPa	
Reinforced brick wall	2.5	kPa	
Core filled, reinforced concrete block (estimate only)	3	kPa	
Precast concrete wall	5	kPa	
Cast in-situ wall	7	kPa	✓

Fault levels: 3 x 110/11 kV Tx at Parkwood, all gens in service, cogen in service.

Parameter	Symbol	Value	Unit	Remarks
Switchroom Name		SGGC5 All rooms		
Switchroom internal volume	V	841.45	cu.m	
Maximum fault current	J"k	13087	A	From fault study
Primary protection operating time	t	0.47	sec	Cable box fault - feeder to GCUH, not high speed.
Secondary protection operating time	t	1.17	sec	Bus fault - protection failure
Maximum pressure if no relief provided (Pigler Fig 1)	Pt	1.5	kPa	Assume primary only applies under this scenario.
Maximum pressure if no relief provided (Pigler Fig 1)	Pt		kPa	
Pressure if 1sqm vent is provided (Pigler Fig 3)	P	0.4	kPa	

Based on paper "Compression Stress in Switchgear Rooms as a result of arcing faults; F Pigler, Energiewirtschaftliche Tagesfragen, 1976"

Allowable Pressure for Various Construction Types			Actual Type
Brick wall	1	kPa	
Reinforced brick wall	2.5	kPa	
Core filled, reinforced concrete block (estimate only)	3	kPa	
Precast concrete wall	5	kPa	
Cast in-situ wall	7	kPa	