

## Transformer and Line Analysis Report

### Transformer Parameters

Parameter	Value
Rating	300.0 kVA
Impedance	6.0%
X/R Ratio	8.0
Z (Ohms)	24.200
R (Ohms)	3.002
X (Ohms)	24.013

### Line Parameters

Parameter	Value
Total Line Z	1.601 $\Omega$
Voltage Drop	3.01%
Unregulated Voltage	10.67 kV
Regulated Voltage	11.00 kV
Recommended HV Cable	25 mm <sup>2</sup>
Recommended LV Cable	150 mm <sup>2</sup> or larger

### Voltage Regulator

Parameter	Value
Status	Enabled
Type	Eaton Single-Phase
Connection	Delta
Tap Position	5
Target Voltage	11.0 kV
Bandwidth	2.0%
Range	$\pm 10.0\%$
3-Phase Capacity	555 kVA

### Fault Analysis

Parameter	Value
LV Fault Current	7.22 kA
HV Fault Current	0.25 kA
Ground Fault Current	1.66 A

## Protection Settings

Parameter	Value
CT Ratio	50/1
Relay Pickup Current	19.68 A
Relay Curve Type	Very Inverse (IEC)
Time Dial Setting	0.30
Differential Slope	25%
Reverse Power Trip	-10.0%

## Additional Protection Settings

Parameter	Value
Under Frequency	47.5 Hz
Over Frequency	51.5 Hz
Rate of Change	0.5 Hz/s
Under Voltage	0.8 pu
Over Voltage	1.2 pu
Time Delay	2.0 s