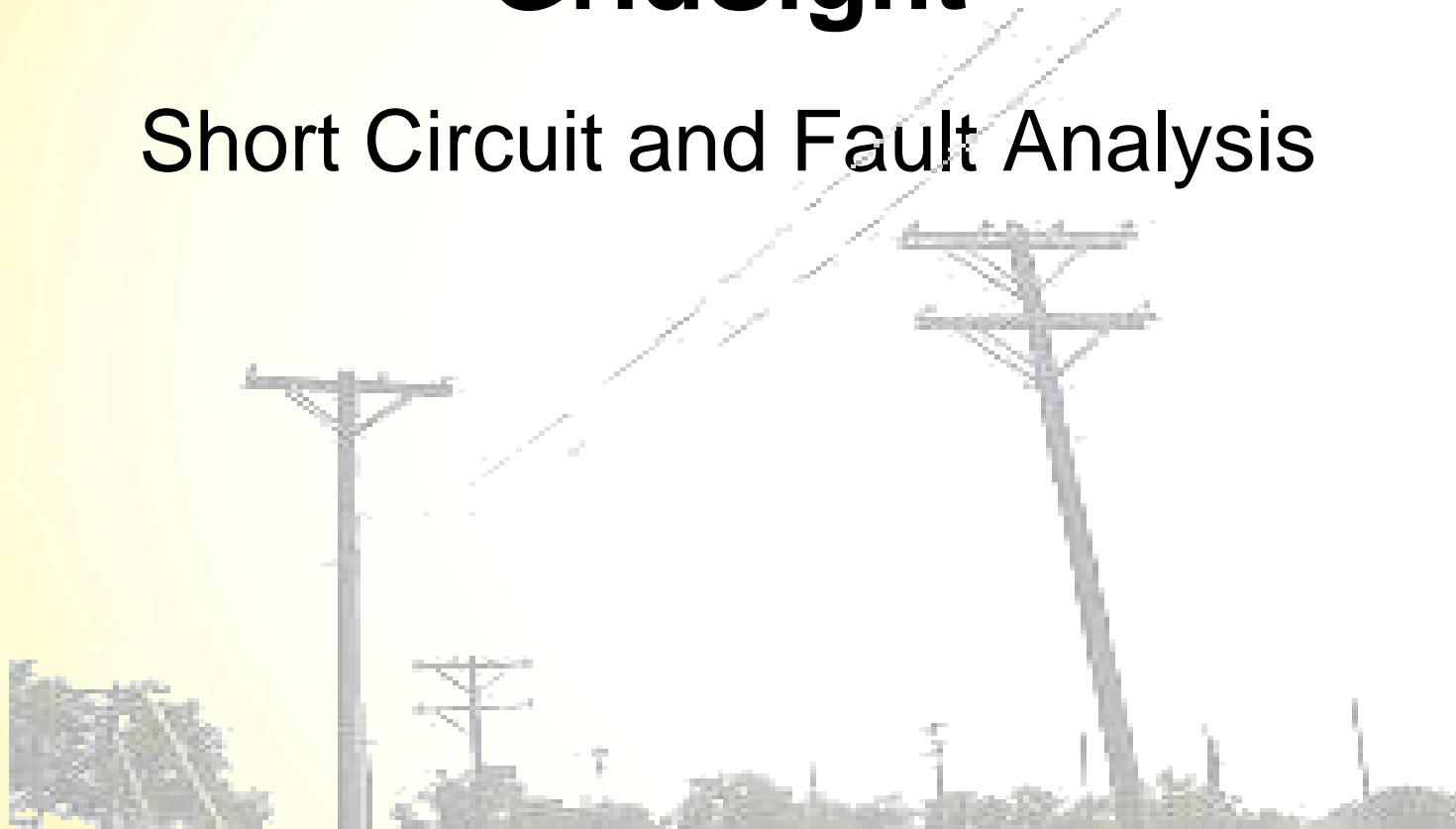


GridSight

Short Circuit and Fault Analysis



Performing Short Circuit Study

1. Go to **Tools**
2. Go to **Power Flow Study**
3. Choose the **Case Study Name** from the list
4. Choose the **substations and Bays** from the list
5. Select **Load Profile**
6. Enter **Load Scaling** (If an specific value is desired to scale the load up or down, it should be entered in the **Load Scaling Box**. Otherwise, the value should be left at 1, where the load will be left as is.)
7. Check **Perform Fault Calculations**
8. Click on **Options**

Fault Analysis Options

Default fault R, X (Ω):	0	0
OH fault R, X (Ω):	0	0
UG fault R, X (Ω):	0	0

OK Cancel

Tools

Command Analytics View **Power Flow Study** Topology Editing Out

Case Study Name: CapOpt - withcap

Substations and Bays: 07xx (MILLICAN)-0711
07xx (MILLICAN)-0721
07xx (MILLICAN)-0731
BARCLAY-2401
BARCLAY-2402
BARCLAY-2403

☒ All
☐ Selection

Load Profile: navarro

Load Scaling: 1

☒ Perform Fault Calculations **Options**

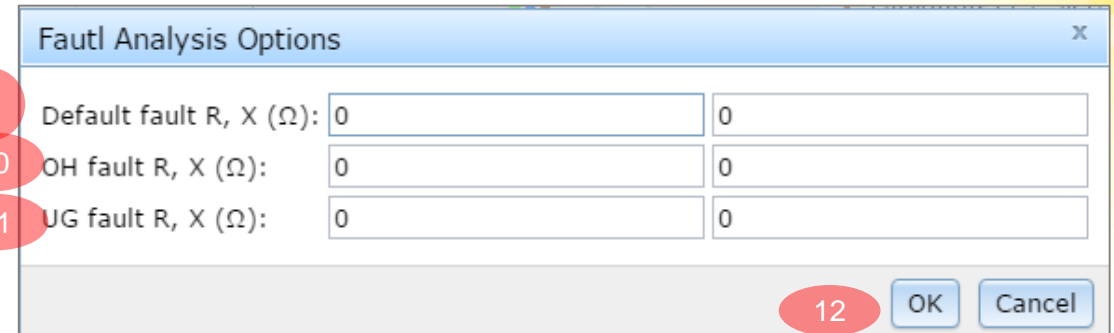
☐ Perform Capacitor Optimization **Options**

☐ Perform Motor Start Calculations

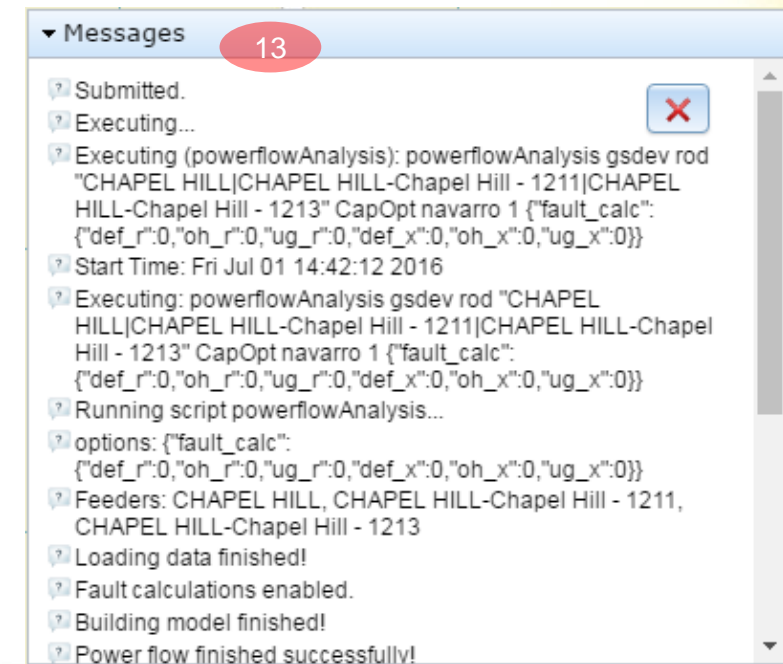
Run Case Study

Performing Short Circuit Study-cont'd

9. Enter **Default fault R, X(Ω)**
10. Enter **H fault R, X(Ω)**
11. Enter **UG fault R, X(Ω)**
12. Click on **Ok** and then **Run Case Study**
 - ❖ Please beware that this study requires a longer runtime.
13. Open **Messages** dialog box. If there is any error in the system, it appears in this dialog.



Fault Analysis Options		
9	Default fault R, X (Ω):	<input type="text" value="0"/> <input type="text" value="0"/>
10	OH fault R, X (Ω):	<input type="text" value="0"/> <input type="text" value="0"/>
11	UG fault R, X (Ω):	<input type="text" value="0"/> <input type="text" value="0"/>
		12 <input type="button" value="OK"/> <input type="button" value="Cancel"/>



13

Submitted.

Executing...

Executing (powerflowAnalysis): powerflowAnalysis gsdev rod "CHAPEL HILL|CHAPEL HILL-Chapel Hill - 1211|CHAPEL HILL-Chapel Hill - 1213" CapOpt navarro 1 {"fault_calc": {"def_r":0,"oh_r":0,"ug_r":0,"def_x":0,"oh_x":0,"ug_x":0}}

Start Time: Fri Jul 01 14:42:12 2016

Executing: powerflowAnalysis gsdev rod "CHAPEL HILL|CHAPEL HILL-Chapel Hill - 1211|CHAPEL HILL-Chapel Hill - 1213" CapOpt navarro 1 {"fault_calc": {"def_r":0,"oh_r":0,"ug_r":0,"def_x":0,"oh_x":0,"ug_x":0}}

Running script powerflowAnalysis...

options: {"fault_calc": {"def_r":0,"oh_r":0,"ug_r":0,"def_x":0,"oh_x":0,"ug_x":0}}

Feeders: CHAPEL HILL, CHAPEL HILL-Chapel Hill - 1211, CHAPEL HILL-Chapel Hill - 1213

Loading data finished!

Fault calculations enabled.

Building model finished!

Power flow finished successfully!

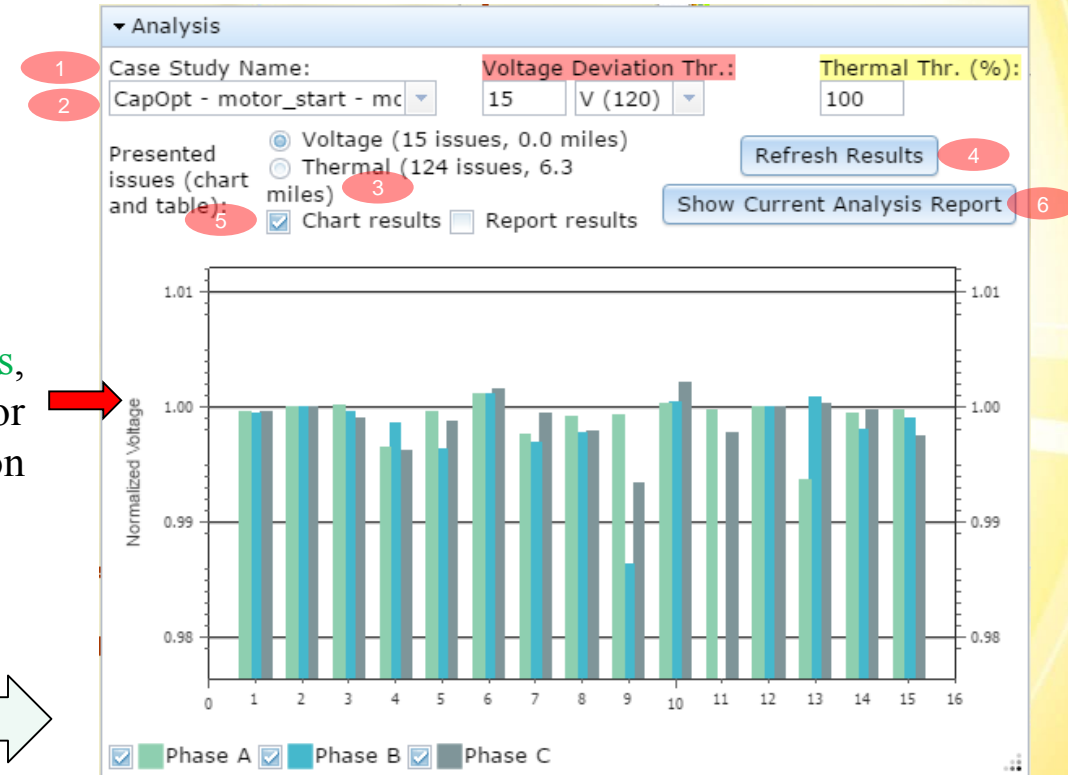
Results of the performed Short Circuit study

In order to see the Short Circuit Study results, take the following steps:

1. Go to **Analysis**
2. Choose the **Case Study Name** that you have performed and enter appropriate values in **Voltage Deviation Thr.** and **Thermal Thr.(%)**.
3. Choose between **Voltage issues** and **Thermal issues**
4. Click on **Refresh Results** to update the latest study.
5. Choose between **Chart results** and **Report results**.
6. Click on **Show Current Analysis Report**

❖ By choosing the **Chart results** and clicking on **Refresh Results**, a chart appears below the same window and indicates voltage or thermal issues. The user will be guided to the issue location on the model by clicking on the issue on the chart.

The user can also choose the phase or phases for which the chart shows the results



Results of the performed Short Circuit Study-cont'd

❖ By choosing the **Report Results** and then clicking on **Refresh Results**, a new tab opens and shows the issues in a report.

Section	Feeder	Parent	Equipment	Length (mi)	Nominal (kV)	V drop (120V base)			Rating	Current Loading (%)			Current (A)			Loading (kW)			Power	
						A	B	C		A	B	C	A	B	C	A	B	C	A	B
N26E58F	SPRING VALLEY-2402	N20689C1	500 KVA	NA	7.2	0.0	0.0	0.0		0	1	0	0.0	1.4	0.0	0.1	8.6	0.1	0.71	0.3
N4EB5DB5	GATESVILLE-1202	N76BD	500 KVA	NA	7.2	0.0	0.0	0.0		0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.84	0.3
N314B28D	BOSQUE-2401	N6D4590	500 KVA	NA	7.2	-0.1	0.0	0.1		6	9	1	6.7	9.7	1.7	41.1	59.9	10.5	0.84	0.3
N314B2EF	BOSQUE-2401	N4A0795	500 KVA	NA	7.2	0.4	0.1	0.4		14	22	38	14.3	22.1	38.0	95.3	159.5	264.4	0.92	0.3
N44F19BC	MOODY-2403	N2013	500 KVA	NA	7.2	0.0	0.4	0.1		15	6	17	15.4	6.9	17.2	94.5	42.4	106.4	0.85	0.3
MXFMR070	07xx (MILLICAN)	07xx (MILLICAN)	519-MILLICAN070	NA	7.2	-0.2	-0.2	-0.2		4	4	4	4.6	4.5	4.6	0.5	0.5	0.5	0.01	0.0
N1E4FCF4	WINDSOR-2403	N1E4FCEE	1250 KVA	NA	7.2	0.2	0.3	0.0		24	33	60	24.9	33.8	60.4	162.4	225.1	379.2	0.90	0.3
N312AEDB	BOSQUE-2405	N492313	500 KVA	NA	7.2	0.1	0.2	0.2		20	14	13	20.0	14.0	13.5	140.6	99.8	82.7	0.97	0.3
N11D92D2	LEON JUNCTION-2401	ND40843	500 KVA	NA	7.2	0.0	1.6	0.7		13	30	23	13.7	30.8	23.9	93.8	195.0	155.0	0.94	0.3
S39628B9	BARCLAY-2403	S2F094B3	500 KVA	NA	7.2	-0.1	-0.1	-0.3		7	33	45	7.3	33.7	45.9	46.2	228.6	303.1	0.87	0.3
S411075A	BARCLAY-2402	S3B0F835	500 KVA	NA	7.2	0.0		0.2		11		13	11.9		13.3	82.1		91.3	0.95	
S3E16843	MIDWAY-1203	S3E6A2CB	833 KVA	NA	14.4	0.0	0.0	0.0		13	13	14	13.8	13.8	14.9	0.9	1.0	1.0	0.00	0.0
S3CC9653	BARCLAY-2401	S2F0AE47	500 KVA	NA	7.2	0.7	-0.1	-0.1		39	43	20	39.6	43.7	20.9	259.6	278.4	139.0	0.91	0.3
S2FB7C46	BRANCHVILLE-2402	S2E1D443	500 KVA	NA	7.2	0.0	0.2	0.0		20	8	10	20.2	8.7	10.2	132.9	61.4	62.7	0.91	0.3
S4110755	BARCLAY-2402	S383C796	500 KVA	NA	7.2	0.0	0.1	0.2		4	3	11	4.6	3.2	11.2	33.4	19.2	77.5	0.99	0.3

Exporting the Results of a Short Circuit Study

1. Go to **Tools > Reporting**
2. Choose **Case Study Name**.
3. Select the same **Substations and Bays** for the study.
4. Click on **Generate Report File**
5. Go to **Messages** dialog and a link appears for opening the report. Click on the link [here](#) and a new tab in your browser opens showing the report.

