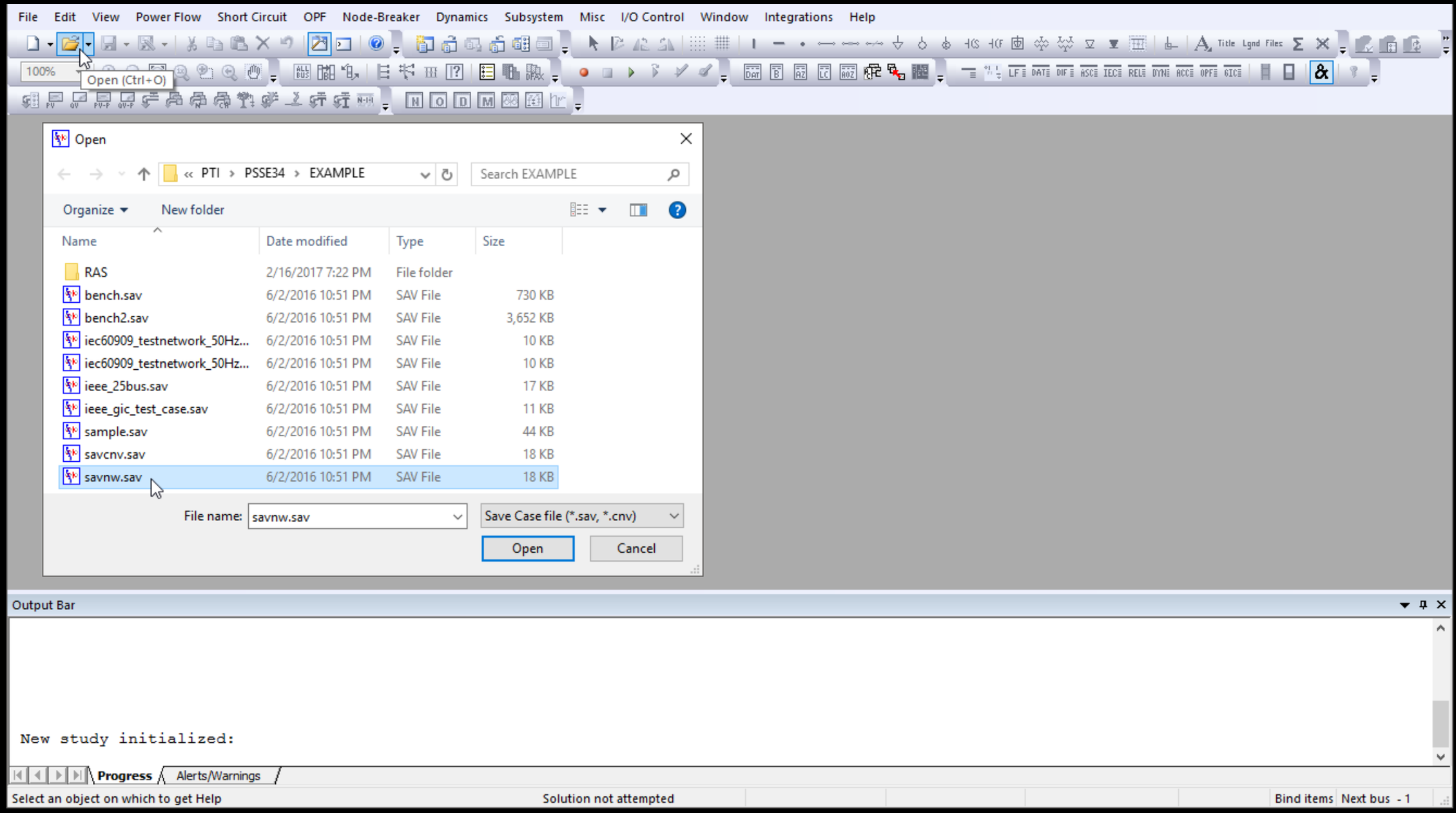
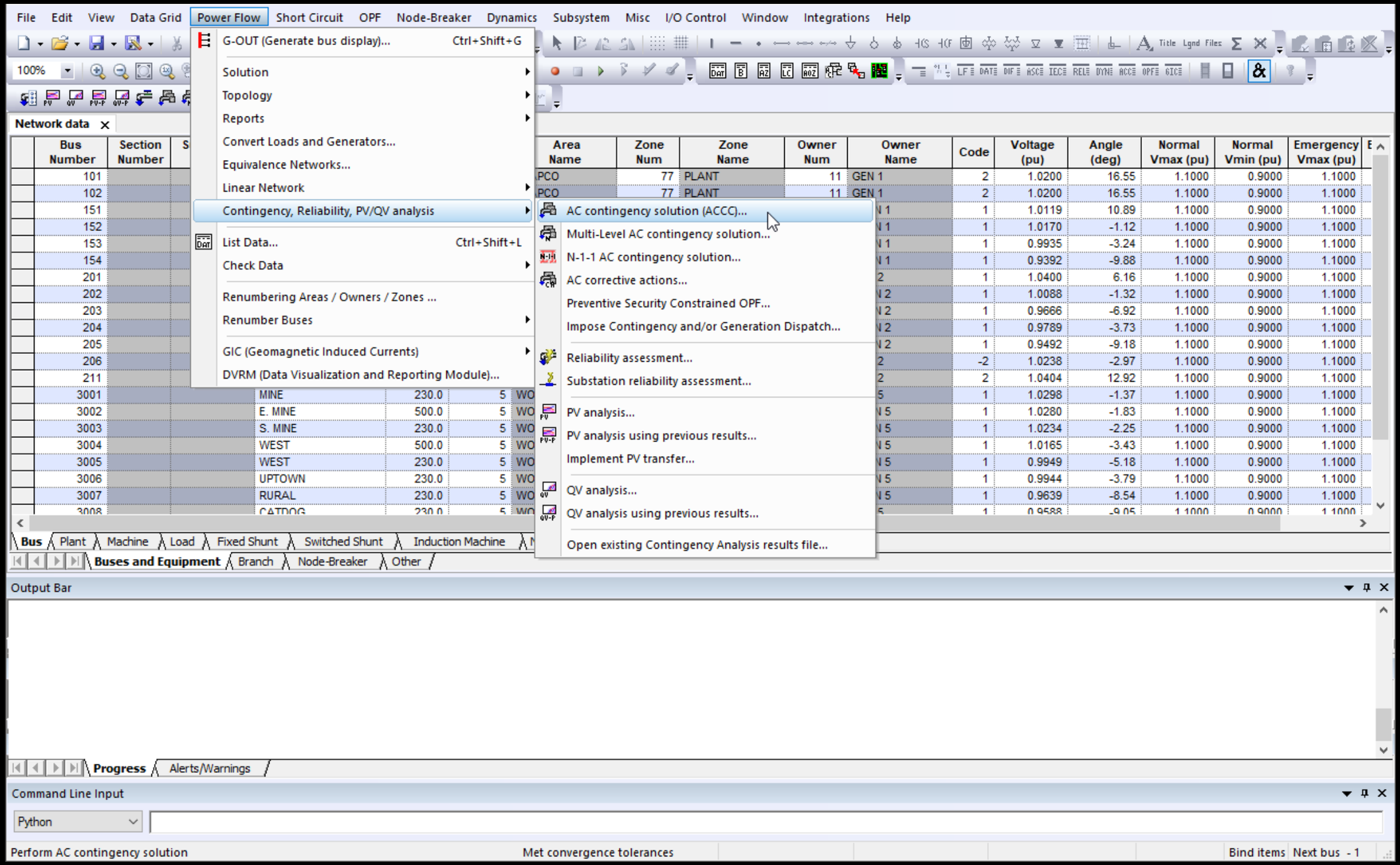
ACCC Analysis in PSSE

Open a Case…



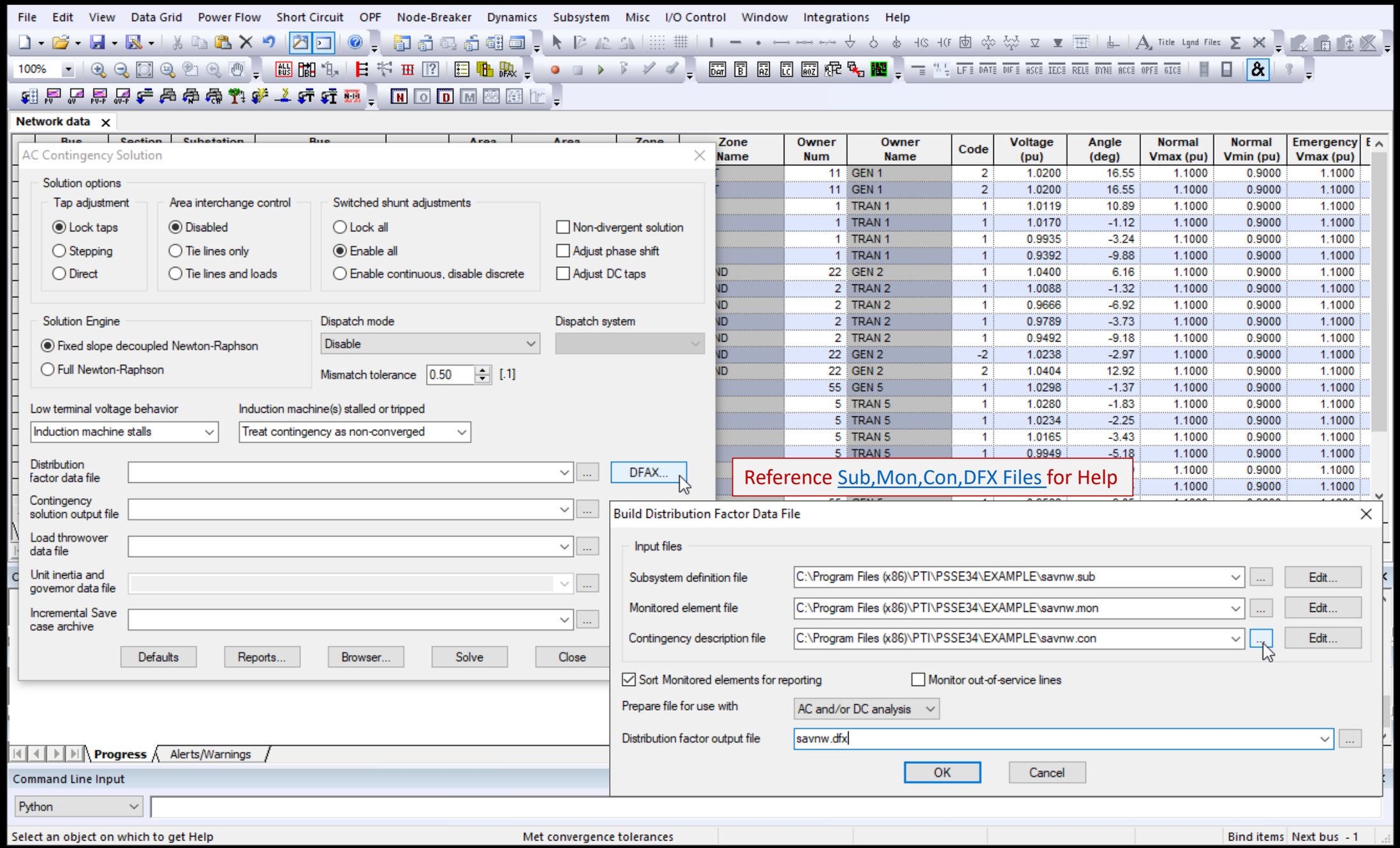
ACCC Analysis in PSSE

Go to --> Powerflow --> Contingency, Reliability, PV/QV analysis --> AC contingency solution (ACCC)



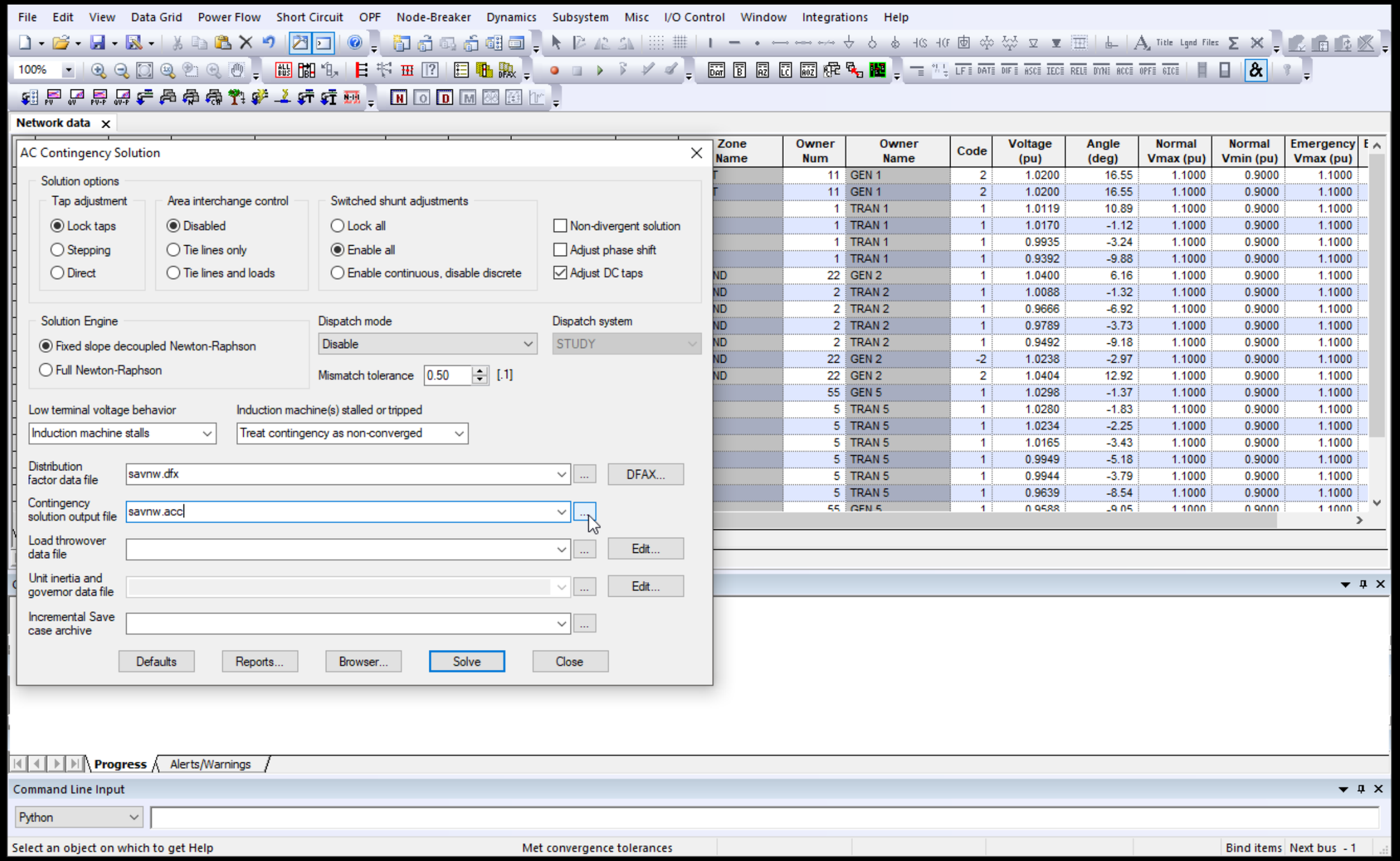
ACCC Analysis in PSSE

Click on --> DFX ... Browse for your .sub .mon .con files ... Type in a name for the .dfx file ... Click OK



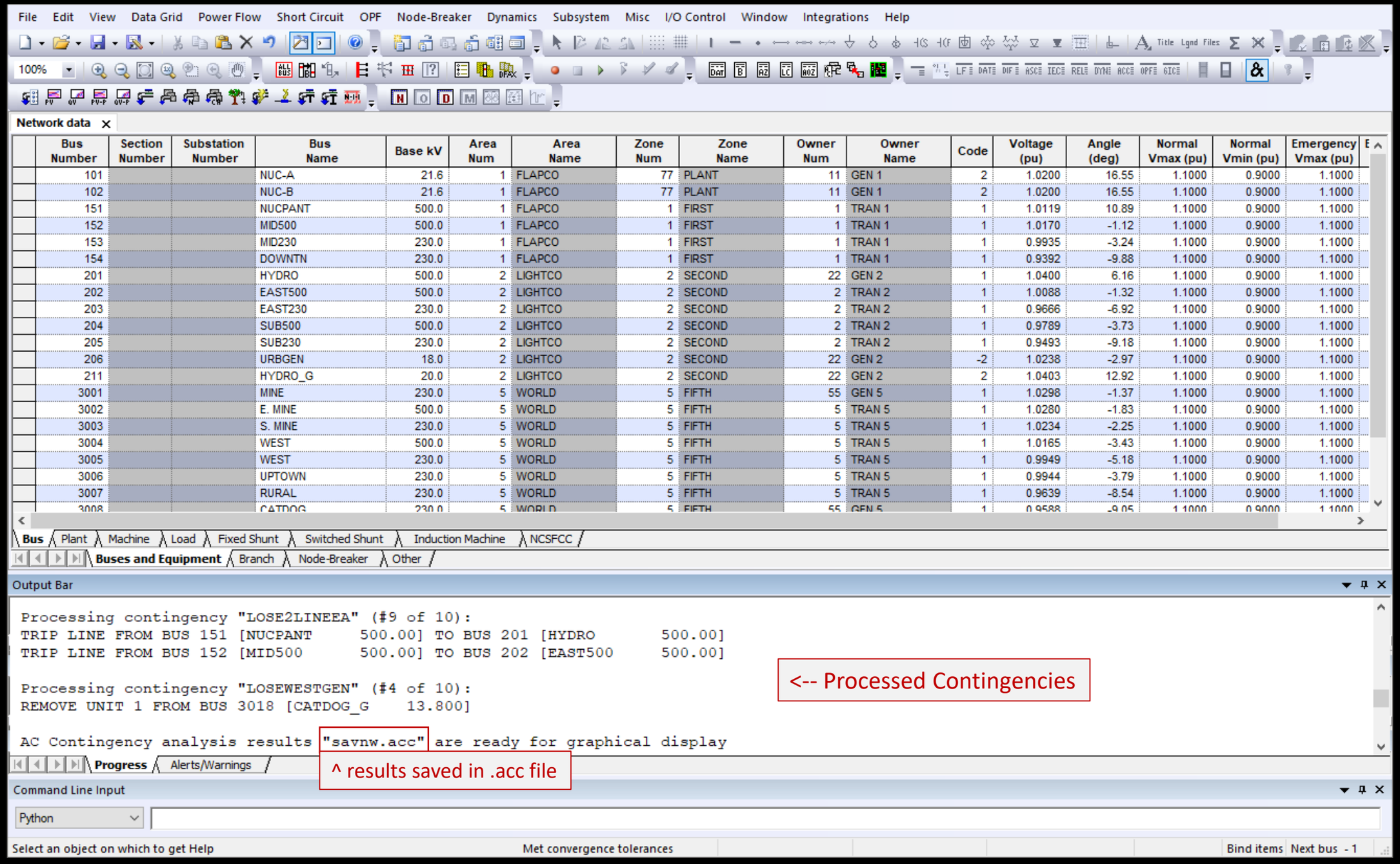
ACCC Analysis in PSSE

Type in a name for the .acc file … Click Solve



ACCC Analysis in PSSE

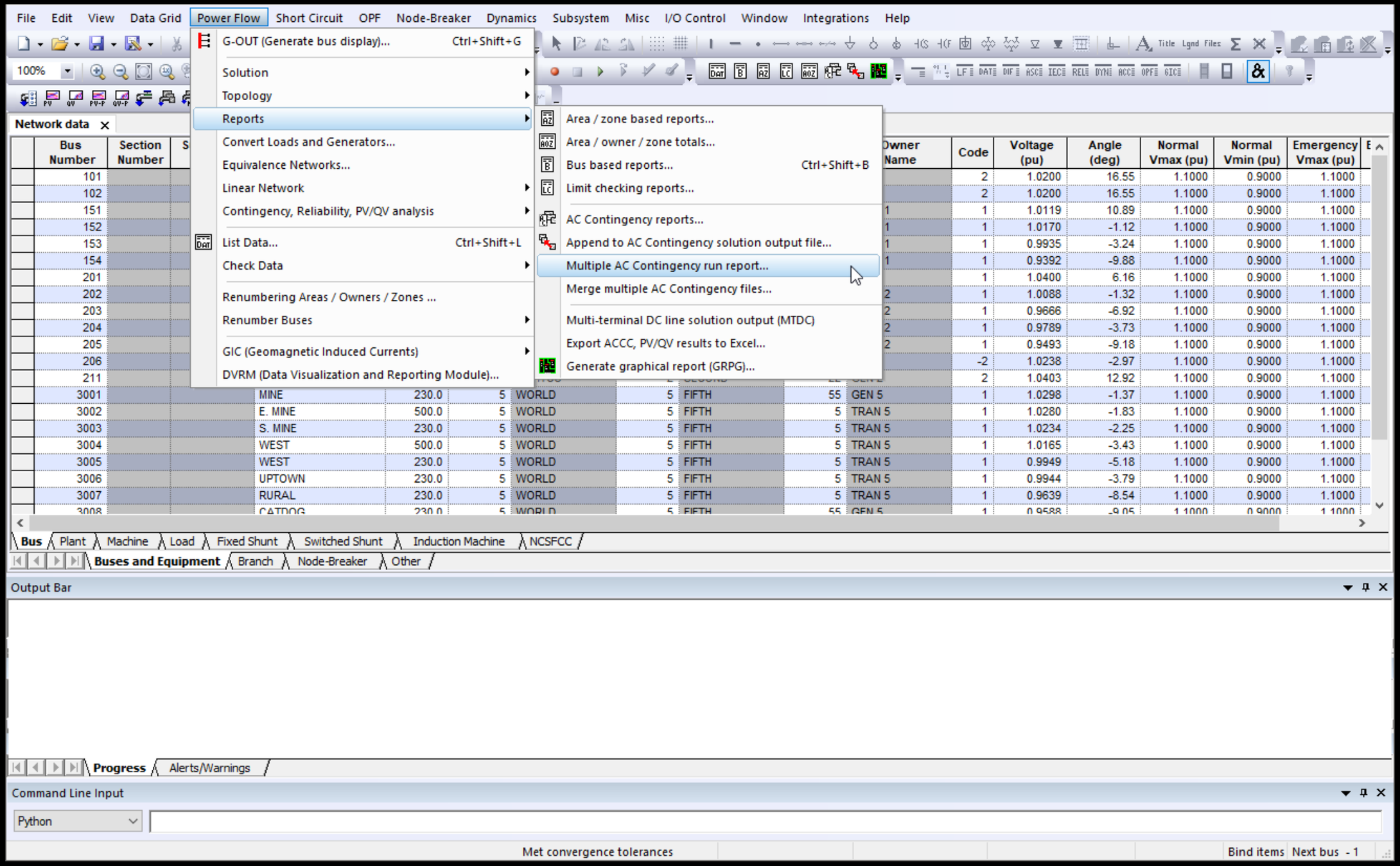
You will see the contingencies scroll by in the Output Bar …



Bus Number	Section Number	Substation Number	Bus Name	Base kV	Area Num	Area Name	Zone Num	Zone Name	Owner Num	Owner Name	Code	Voltage (pu)	Angle (deg)	Normal Vmax (pu)	Normal Vmin (pu)	Emergency Vmax (pu)
101			NUC-A	21.6	1	FLAPCO	77	PLANT	11	GEN 1	2	1.0200	16.55	1.1000	0.9000	1.1000
102			NUC-B	21.6	1	FLAPCO	77	PLANT	11	GEN 1	2	1.0200	16.55	1.1000	0.9000	1.1000
151			NUCPANT	500.0	1	FLAPCO	1	FIRST	1	TRAN 1	1	1.0119	10.89	1.1000	0.9000	1.1000
152			MID500	500.0	1	FLAPCO	1	FIRST	1	TRAN 1	1	1.0170	-1.12	1.1000	0.9000	1.1000
153			MID230	230.0	1	FLAPCO	1	FIRST	1	TRAN 1	1	0.9935	-3.24	1.1000	0.9000	1.1000
154			DOWNTN	230.0	1	FLAPCO	1	FIRST	1	TRAN 1	1	0.9392	-9.88	1.1000	0.9000	1.1000
201			HYDRO	500.0	2	LIGHTCO	2	SECOND	22	GEN 2	1	1.0400	6.16	1.1000	0.9000	1.1000
202			EAST500	500.0	2	LIGHTCO	2	SECOND	2	TRAN 2	1	1.0088	-1.32	1.1000	0.9000	1.1000
203			EAST230	230.0	2	LIGHTCO	2	SECOND	2	TRAN 2	1	0.9666	-6.92	1.1000	0.9000	1.1000
204			SUB500	500.0	2	LIGHTCO	2	SECOND	2	TRAN 2	1	0.9789	-3.73	1.1000	0.9000	1.1000
205			SUB230	230.0	2	LIGHTCO	2	SECOND	2	TRAN 2	1	0.9493	-9.18	1.1000	0.9000	1.1000
206			URBGEN	18.0	2	LIGHTCO	2	SECOND	22	GEN 2	-2	1.0238	-2.97	1.1000	0.9000	1.1000
211			HYDRO_G	20.0	2	LIGHTCO	2	SECOND	22	GEN 2	2	1.0403	12.92	1.1000	0.9000	1.1000
3001			MINE	230.0	5	WORLD	5	FIFTH	55	GEN 5	1	1.0298	-1.37	1.1000	0.9000	1.1000
3002			E. MINE	500.0	5	WORLD	5	FIFTH	5	TRAN 5	1	1.0280	-1.83	1.1000	0.9000	1.1000
3003			S. MINE	230.0	5	WORLD	5	FIFTH	5	TRAN 5	1	1.0234	-2.25	1.1000	0.9000	1.1000
3004			WEST	500.0	5	WORLD	5	FIFTH	5	TRAN 5	1	1.0165	-3.43	1.1000	0.9000	1.1000
3005			WEST	230.0	5	WORLD	5	FIFTH	5	TRAN 5	1	0.9949	-5.18	1.1000	0.9000	1.1000
3006			UPTOWN	230.0	5	WORLD	5	FIFTH	5	TRAN 5	1	0.9944	-3.79	1.1000	0.9000	1.1000
3007			RURAL	230.0	5	WORLD	5	FIFTH	5	TRAN 5	1	0.9639	-8.54	1.1000	0.9000	1.1000
3008			CATDOG	230.0	5	WORLD	5	FIFTH	55	GEN 5	1	0.9588	-9.05	1.1000	0.9000	1.1000

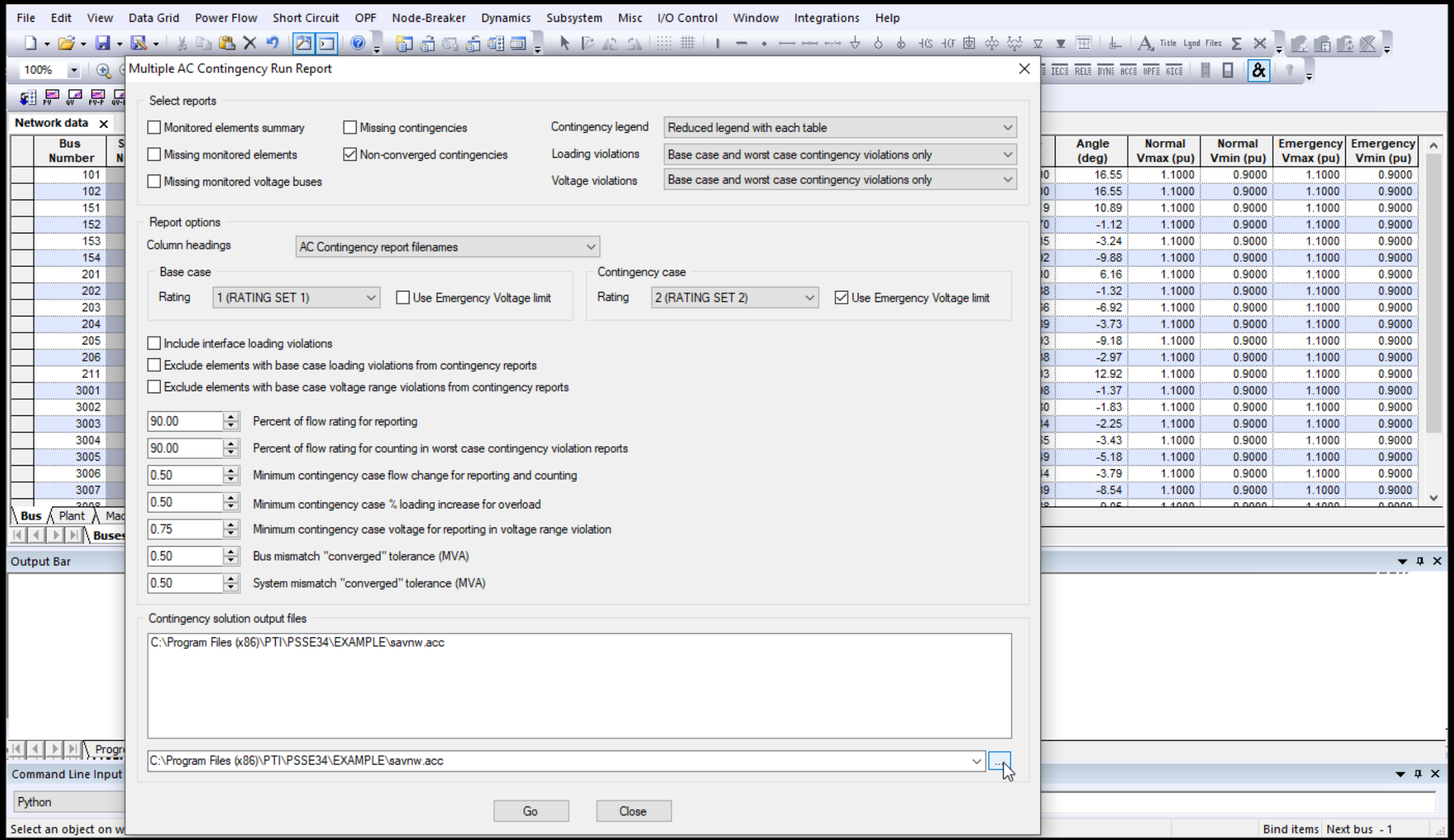
ACCC Analysis in PSSE

Now you can get a text report of the ACCC results …



ACCC Analysis in PSSE

Select options and browse for .acc file(s) … Click Go



ACCC Analysis in PSSE

Report is displayed in the Output Bar by default … You could write to file --> I/O Control --> Direct Report Output (Open)

Output Bar

```
                          PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E     SAT, JUN 23 2018  16:2

                                AC CONTINGENCY REPORT FOR  1 AC CONTINGENCY CALCULATION RUNS

                    CONTINGENCY CASE MONITORED BRANCHES LOADED ABOVE  90.0% OF RATING SET 2 - WORST CASE
                        % LOADING VALUES ARE % MVA FOR TRANSFORMERS AND % CURRENT FOR NON-TRANSFORMER BR
                        THRESHOLD FOR THE COUNT OF CONTINGENCIES CAUSING OVERLOADING IS  90.0% OF RATING
                               MINIMUM DEVIATION FROM BASE CASE LOADING =    0.5 MVA (MW FOR INTERFACES)
                               MINIMUM INCREASE IN LOADING FROM BASE CASE =  0.5 PERCENT OF RATING SET 1
```

X----- MONITORED ELEMENT ------X	X-----LABEL----X	...\EXAM PLE\savn w.acc
205 SUB230 230.00	LOSE2LINEEA	91.2%
154 DOWNTN 230.00 1		497MVA (1x)

```
CONTINGENCY LEGEND:
<----- CONTINGENCY LABEL ------>  EVENTS
LOSE2LINEEA                    : TRIP LINE FROM BUS 151 [NUCPANT     500.00] TO BUS 201 [HYDRO       500.00]
                                 TRIP LINE FROM BUS 152 [MID500      500.00] TO BUS 202 [EAST500     500.00]
```

```
                          PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E     SAT, JUN 23 2018  16:27                    PAGE 5

                                AC CONTINGENCY REPORT FOR  1 AC CONTINGENCY CALCULATION RUNS

                                 SPECIFIED BUS BASE CASE BUSES WITH VOLTAGE GREATER  1.0500
```

```
X----------- BUS ---------
```

PSSE text reports are difficult to interpret.
better option is to create a python script that gets ACCC results and reports to Excel

Progress | Alerts/Warnings | ACCC_MULTIPLE_RUN_REPORT_2

Report Output Destination Selector

Report output destination
- Report window
- File
- Printer
- Current progress device
- Current report device
- Suppress output

Printer: Microsoft_Print_to_PDF

Copies: 1

Printer output
- Queue output
- Print immediately

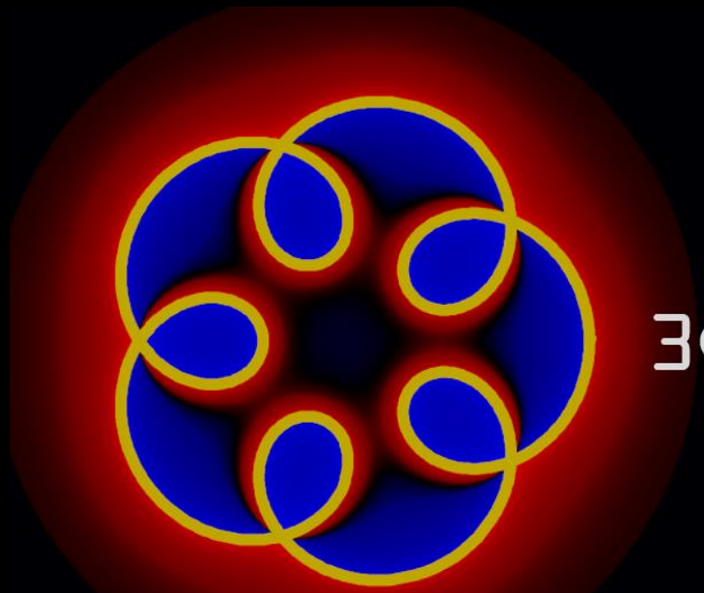
Lines per page: 60

ReportOutput Destination file: some_filename.txt

Use FORTRAN forms control

Append to file, if file exists

OK | Cancel



ΣΦΕΕ

Dedicated to Power Engineering

Questions or Comments …

contact us