EPRI | ELECTRIC POWER RESEARCH INSTITUTE

Summary of **EPRI Test Circuits**

Three models of actual electric power distribution circuits are made public in OpenDSS format. A summary of each, labeled Ckt5, Ckt7, and Ckt24, is given below.

Circuit Alias	**Ckt5**	**Ckt7**	**Ckt24**
System voltage (kV)	12.47	12.5	34.5
Number of customers	1379	5694	3885
Service xfmr connected kVA	16310	19320	69373
Total feeder kvar	1950	2400	3300
Subtransmission Voltage (kV)	115	115	230
3-Ph SCC at Sub Sec. (MVA)	114	475	422
Primary circuit miles total	48	8	74
Percent residential by load	96	39	87
No. of feeders on the Sub bus	1	14	2

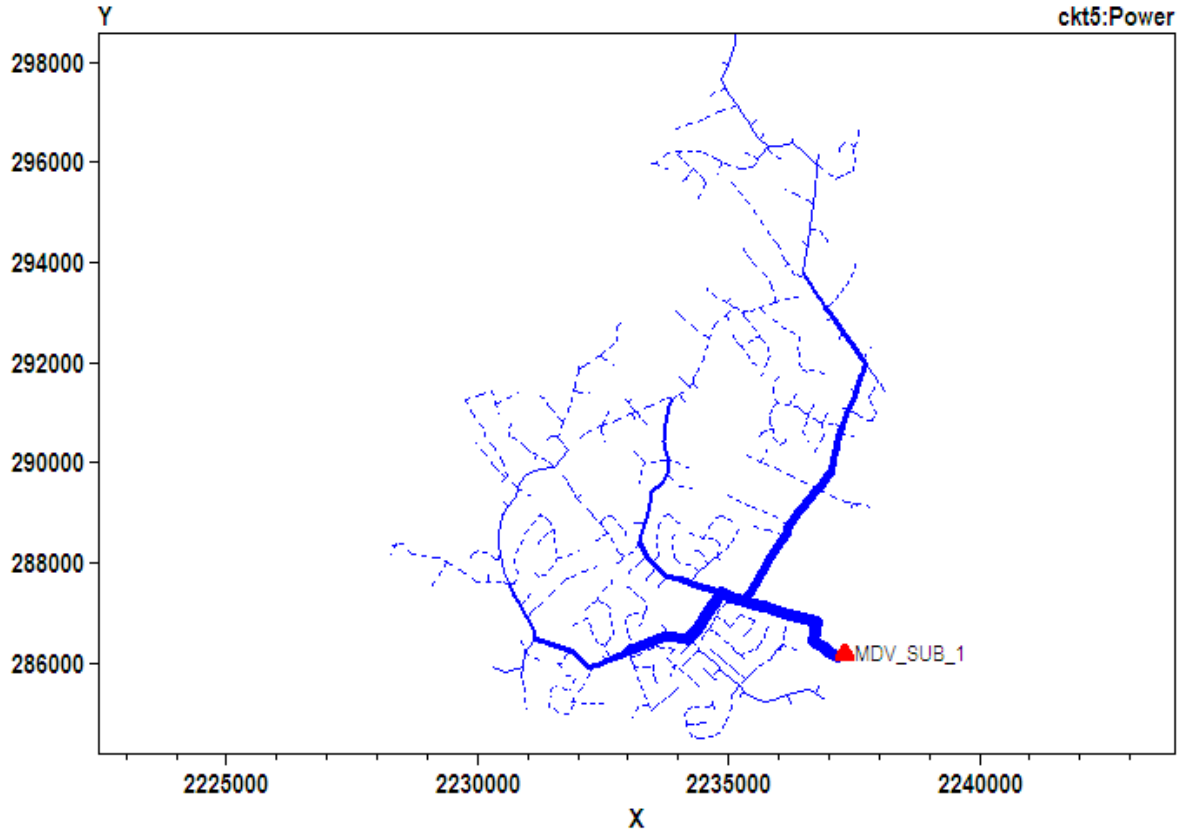
The models are contained in separate folders under the same names.

Researchers are encouraged to use these models to investigate Smart Grid issues.

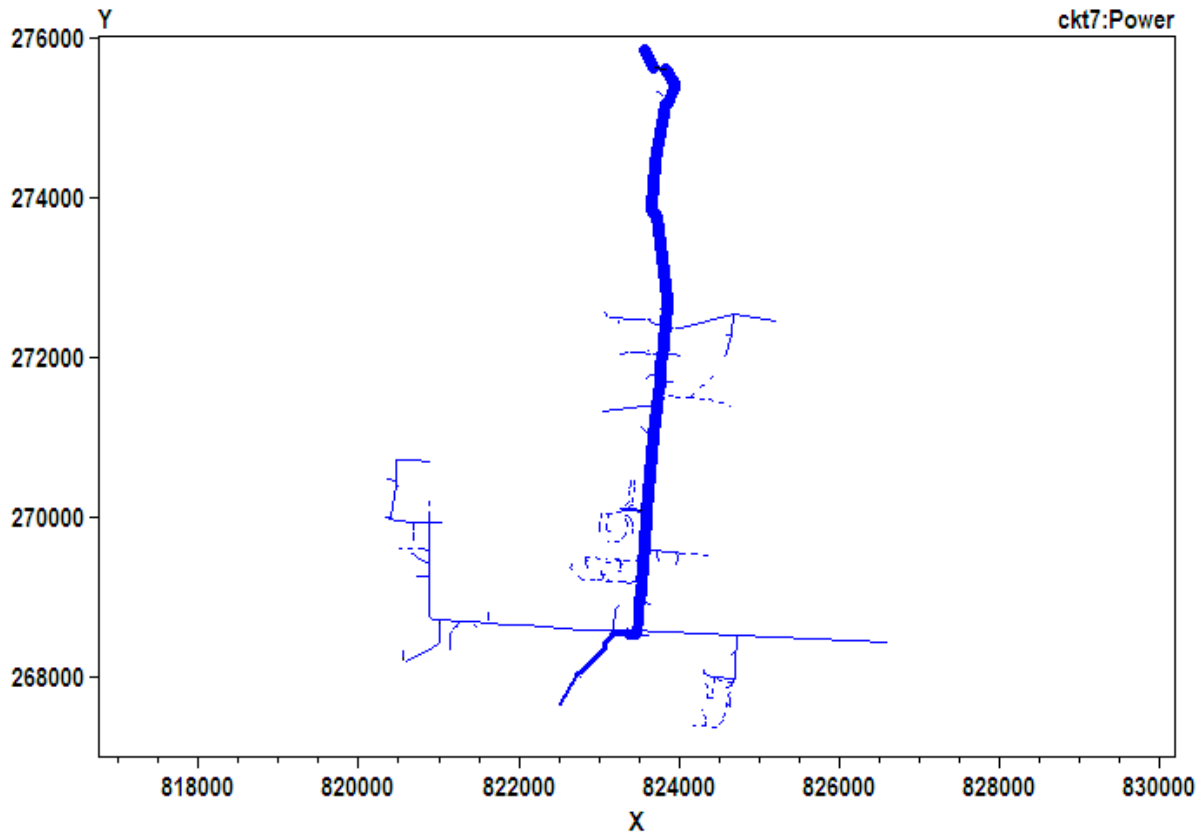
Diagrams of each circuit with line thicknesses drawn proportional to power flow are provided on the following pages.

To begin, open the file in each circuit folder beginning with “Run_...” in the OpenDSS program. Then select the line(s) you wish to execute from the file and right-click. This will give you several options, the first of which is to execute the selected lines.

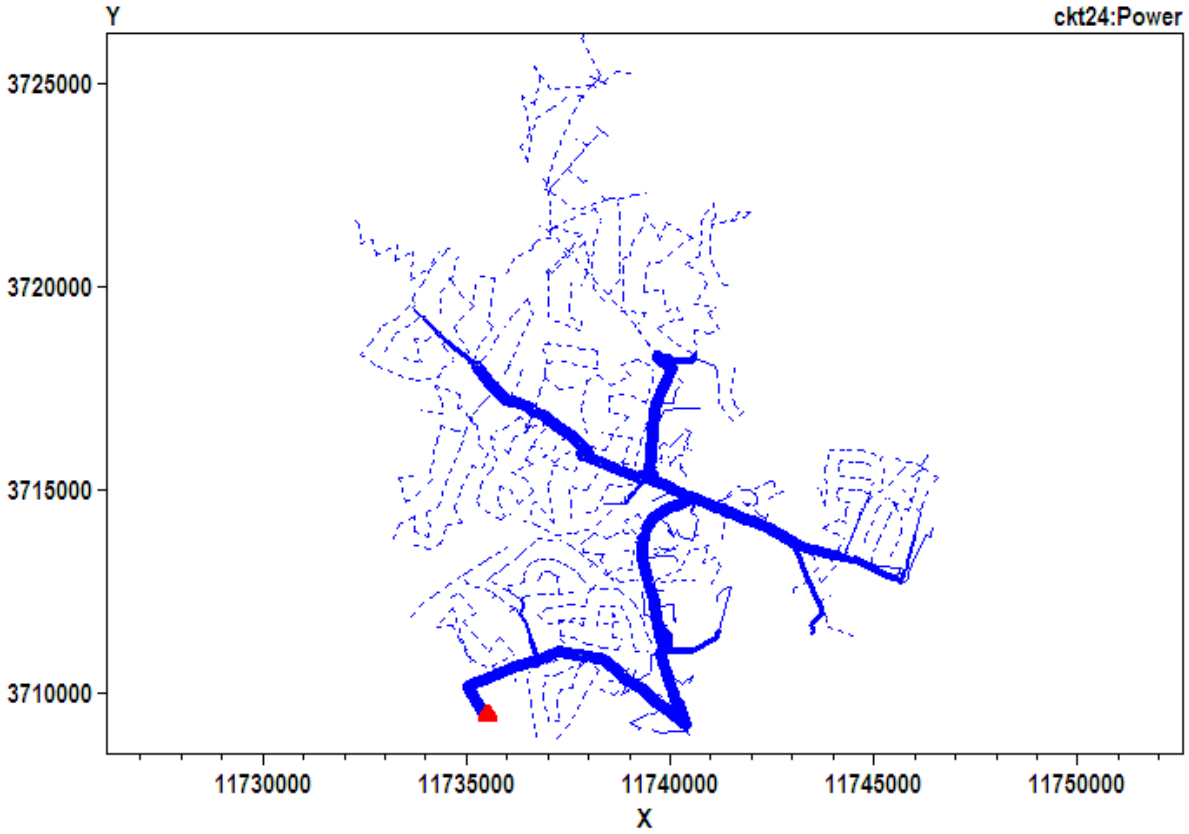
If you get a message that the Master file cannot be found, right-click again and select “Change to this directory”. Alternatively, you may edit the Run file to put in the full path name of the master file. This will automatically change the default OpenDSS data directory when it is executed.


Y
ckt5:Power
298000
296000
294000
292000
290000
288000
286000
MDV_SUB_1
2225000
2230000
2235000
2240000
X

Ckt5


Y
ckt7:Power
276000
274000
272000
270000
268000
818000
820000
822000
824000
826000
828000
830000
X

Ckt7


Y
ckt24:Power
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3720000
3715000
3710000
11730000
11735000
11740000
11745000
11750000
X

Ckt24