# TechNote Phase Voltage Report

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## New EnergyMeter Property: PhaseVoltageReport

Applies to version 7.3.3 Build 56 or later. (SVN Revision 455 later)

This report was added to evaluate the phase voltages during a yearly simulation. The per unit min, max, and average voltage are reported for each phase (phases 1, 2, and 3 only) at each hour of the simulation. The results are segregated by voltage base within the meter's zone. This is an EnergyMeter object function and must be turned on for each energy meter for which you wish to see the report. The report applies only to a meter's zone, not to any other part of the circuit. Therefore, you can position

This property may be found under the EnergyMeter help listing, which is the following:

```
{Yes | No} Default is NO. Report min, max, and average phase voltages for the zone and
tabulate by voltage base. Demand Intervals must be turned on (Set Demand=true) and
voltage bases must be defined for this property to take effect. Result is in a
separate report file.
```

The Phase Voltage Report is generated during Yearly simulations in which Demand Interval (DI) metering is turned on and Verbose mode is specified. The default is **no report**. The report is a csv file with the min, max, and avg for the per unit voltages at each of the first three phases. So the conditions for getting the report are:

1. Voltage Bases defined
2. Verbose Demand Intervals turner on (Set Demand=true DIVerbose=true)

```
Compile (C:\DSSdata\IEEETest\8500Node\master.dss)
New Energymeter.m1 Line.ln5815900-1 1  PhaseVoltageReport=yes  ! Turn report flag on
Set Maxiterations=20     ! Sometimes the solution takes more than the default 15 iterations
Solve
set casename=ExampleCase
set mode=yearly number= 168    ! one week of hourly simulation (omit "number=168' to get the whole

Set overloadreport=true  ! TURN OVERLOAD REPORT ON
Set voltexcept=true      ! voltage exception report
set demand=true          ! demand interval ON
set DIVerbose=true        ! verbose mode is ON

Set Year=1        ! This statement resets all meters
solve
closeDI           ! Close any open DI files
```

A snippet of the output file generated is shown below:

```
"Hour", 12.5kV_Phs_1_Max, 12.5kV_Phs_2_Max, 12.5kV_Phs_3_Max, 12.5kV_Phs_1_Min, 12.5kV_Phs_2_Min, 1
1, 1.04914, 1.0498, 1.0501, 1.04914, 1.0498, 1.0501, 1.04914, 1.0498, 1.0501
2, 1.04914, 1.0498, 1.0501, 1.04914, 1.0498, 1.0501, 1.04914, 1.0498, 1.0501
3, 1.04914, 1.0498, 1.0501, 1.04914, 1.0498, 1.0501, 1.04914, 1.0498, 1.0501
4, 1.049, 1.04977, 1.05012, 1.049, 1.04977, 1.05012, 1.049, 1.04977, 1.05012
5, 1.04897, 1.04976, 1.05012, 1.04897, 1.04976, 1.05012, 1.04897, 1.04976, 1.05012
6, 1.04888, 1.04974, 1.05013, 1.04888, 1.04974, 1.05013, 1.04888, 1.04974, 1.05013
7, 1.04882, 1.04973, 1.05014, 1.04882, 1.04973, 1.05014, 1.04882, 1.04973, 1.05014
8, 1.04862, 1.04968, 1.05016, 1.04862, 1.04968, 1.05016, 1.04862, 1.04968, 1.05016
9, 1.0485, 1.04965, 1.05017, 1.0485, 1.04965, 1.05017, 1.0485, 1.04965, 1.05017
10, 1.0483, 1.04961, 1.05019, 1.0483, 1.04961, 1.05019, 1.0483, 1.04961, 1.05019
11, 1.04821, 1.04959, 1.0502, 1.04821, 1.04959, 1.0502, 1.04821, 1.04959, 1.0502
12, 1.04727, 1.04937, 1.0503, 1.04727, 1.04937, 1.0503, 1.04727, 1.04937, 1.0503
```

The output file will be written to a directory under the home directory for the circuit along with the rest of the demand interval (DI) data. The relative path is

casename\DI_YR_nn\

where nn= the year being solved.

You can easily paste this file into a spreadsheet program for further processing.

--Rdugan 18:39, 19 October 2010 (UTC)

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- This page was last modified on 19 October 2010, at 10:39.
- This page has been accessed 244 times.