~~1.       Good settings for IVVC on R5-25.00-1~~

We used this for the SGIG studies that much of this came from:

object volt\_var\_control {

  control\_method ACTIVE;

  capacitor\_delay 60.0;

  regulator\_delay 60.0;

  desired\_pf 0.99;

  d\_max 0.8;

  d\_min 0.1;

  substation\_link substation\_transformer;

  //NOTE: we added a substation transformer to model;

  //just need to point to a link object that you want to monitor power factor

  regulator\_list R5-25-00-1\_reg\_1;

  capacitor\_list R5-25-00-1\_cap\_1,R5-25-00-1\_cap\_2, R5-25-00-1\_cap\_3, R5-25-00-1\_cap\_4;

  voltage\_measurements R5-25-00-1\_node\_469,1,R5-25-00-1\_node\_501,1,R5-25-00-1\_node\_785,1;

  maximum\_voltages 16000;

  minimum\_voltages 10000;

  max\_vdrop 50;

  high\_load\_deadband 110;

  desired\_voltages 13000;

  low\_load\_deadband 110;

}

Documentation for volt\_var\_control object is here:

<http://gridlab-d.sourceforge.net/wiki/index.php/Powerflow_User_Guide#Volt-VAr_Control>

~~2.       Variables for houses~~

Big question.  We actually go into quite a lot of detail because the variables are not independent of each other – a “newer” house tends to have good insulation all around, coupled with a more efficient HVAC system.  When we have no real data about the utility, we tend to work from generalities – age of homes.  Below is a table, broken down by age of home, that describes the mean of each of the parameters.  We then randomize around each of those values (usually a uniform distribution of +/- 10-20%).  Here’s a link to a report about the whole methodology (Appendix B.2.1 – page 150):  <http://www.pnnl.gov/main/publications/external/technical_reports/PNNL-20772.pdf>.  This is all encapsulated in MATLAB scripts, and I believe Andy has much of it in Python scripts.

~~4. Wind turbine smaller than 10 kW.~~

There are provisions in there to describe any size you want.  It requires additional data to be included in the model.  For example, here are all the variables for the Bergey 10 kW:

And these can all be specified from the model level.  The main one to change would be Rated\_VA and Max\_P, but the entire model would need to be specified from the GLM.

~~5.  Description of market and passive\_controller~~

We use the market and passive\_controller to engage the TOU/CPP functions.  The market keeps track of the prices (as a player file) and passive controller takes that price and translates it into a “control action”.  I quote control, because some if it is actually behavioral (when attached to a ZIPload performing the PRISM model), while some of it is actually control (e.g., thermostat setbacks, HVAC cycling, or water heater and pool pump load control).  The documentation isn’t perfect for passive controller - it’s got a lot of descriptions of functions, but no examples:

<http://gridlab-d.sourceforge.net/wiki/index.php/Transactive_controls#Passive_Controller_.28non-bidding_controller.29>

Sorry about the failed parsing (on the wiki).  That’s next on our list after we get v3.2 out.