Exporting HAP Hourly Simulation Data to Spreadsheets.

Introduction. HAP provides a wealth of output reports for energy simulations. These reports provide data ranging from simple bottom-line energy costs to detailed annual, monthly, daily or hourly breakdowns of cooling and heating coil loads, and energy input for component such as compressors, fans, pumps and motors. While these HAP reports serve most users' needs for working with output data, there can be cases where directly manipulating the output data for reporting or analytical purposes is necessary. For these situations HAP energy simulation results can be exported to a TXT format and then imported into a spreadsheet. The power of spreadsheets for viewing and manipulating large amounts of data can then be used to accomplish whatever reporting or analytical task is required. This eHelp explains how to export data from HAP simulations and then load it into a spreadsheet.

For this discussion we will use the example of transferring hourly air system simulation results to a Microsoft® Excel spreadsheet. The same procedure can be used for transferring monthly and daily results, and for results from plant or building simulations.

Exporting Data From HAP.

1. After running the HAP simulations, choose an air system and select the "Print / View Simulation Data" option in the Report Menu or the air system pop-up menu.
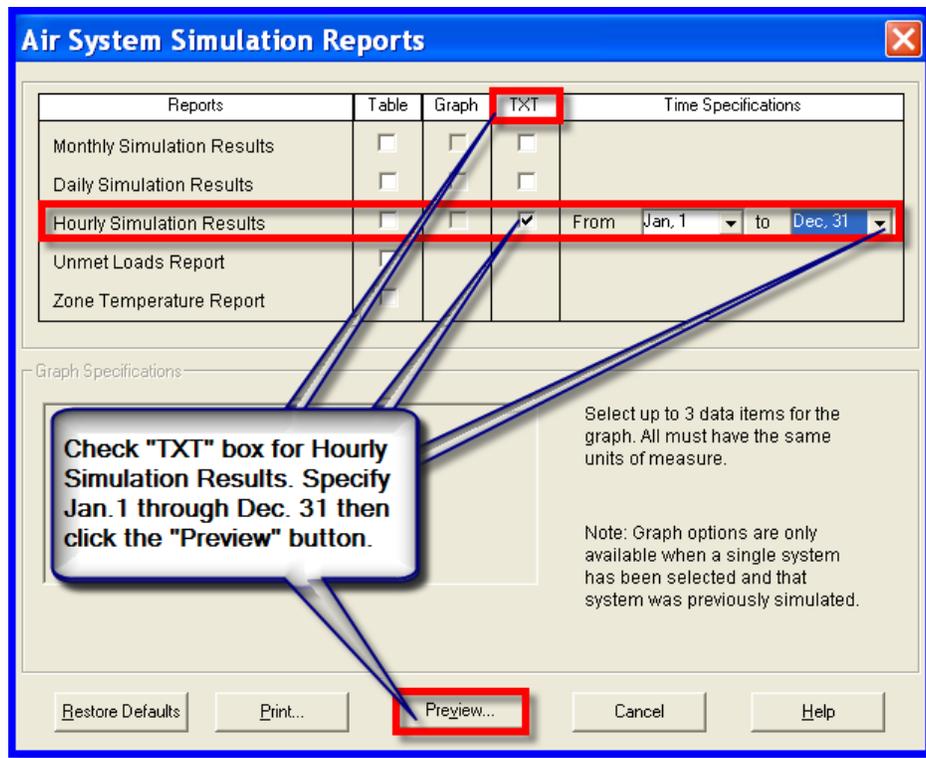
Figure 1

2. In the Air System Simulation Reports window (Figure 1), place a check in the "TXT" column opposite "Hourly Simulation Results". To the right of this check box specify the start and stop days for the data to be exported. In this example we will export the full year of data and therefore choose January 1 and December 31 as the start and stop points.

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3. Then click the Print or Preview button. In either case the program writes the requested data to a TXT file and displays a message indicating the name and location of the TXT file that was created (Figure 2)

Figure 2

Note: If you are using HAP v4.3 or an earlier version, the "TXT" report option is listed as "ASCII". This was a more technical name for plain text output. But this ASCII option performs the same as the TXT option in HAP v4.4 described above.

Importing Data into an Excel Spreadsheet.

1. Start Microsoft® Excel and create a new workbook. Note that other spreadsheet programs can be used by applying steps similar to those described below.

2. Choose the "Import External Data" option on the Data Menu, and then choose the Import Data option on the sub menu that appears (Figure 3).
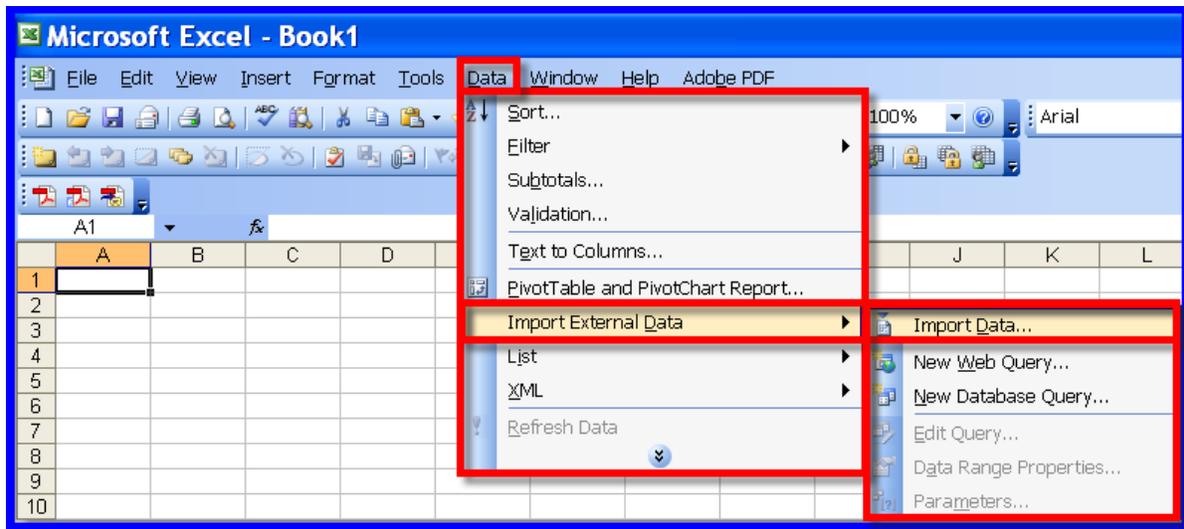
Figure 3

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3. In the Select Data Source window that appears, navigate to the location of your TXT file and select the file (Figure 4).
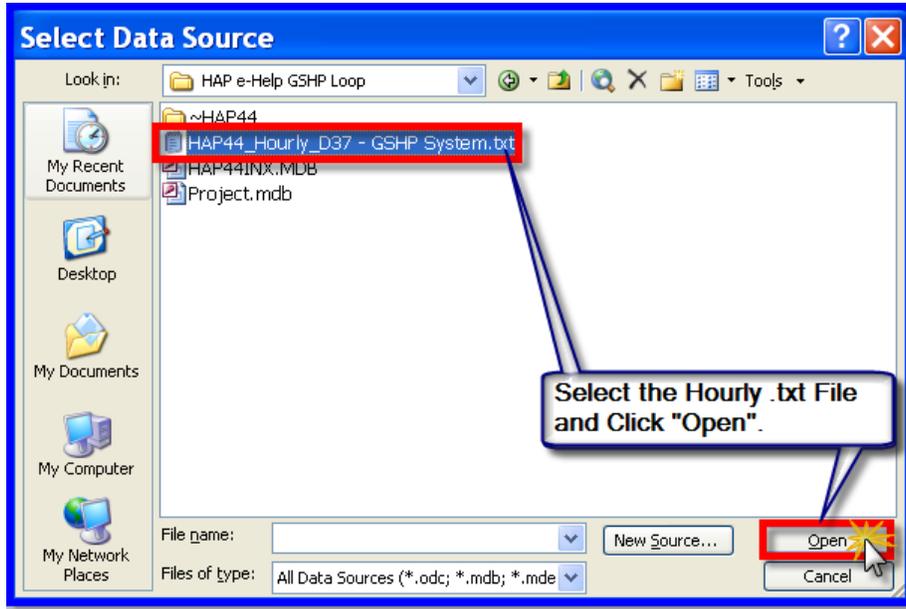
Figure 4

4. Then follow the 3-step Wizard screens to import the data from the TXT file into the spreadsheet. All that is necessary is to click the Next button on each of the three wizard screens. The first of the three screens is shown in Figure 5.
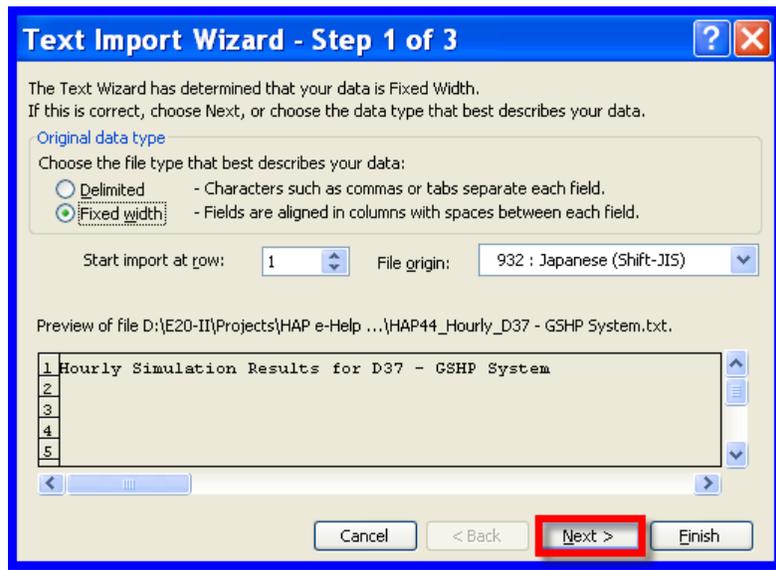
Figure 5
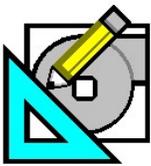
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5. Excel will then import the data and format it automatically. When complete, the Excel spreadsheet appears as shown in Figure 6.

Figure 6

7. At this point you can sort, edit or graph the data.

As an example, suppose you are analyzing the range of outdoor air dry-bulb temperatures at which the cooling coil is operating - possibly to troubleshoot a question you have about economizer operation. In this spreadsheet you could sort the rows based on the outdoor dry-bulb temperature (column D) and then review the sorted data to determine the minimum outdoor dry-bulb at which a cooling coil load exists.

Note: It is possible to load the TXT file into an Excel spreadsheet using other procedures. For example, the TXT file can also be loaded via the File / Open menu option in Excel with similar results to the Import Data option described in the procedure above.

As mentioned earlier, the same procedure described above can be used for monthly and daily totals data as well as hourly data. The procedure can also be applied to plant simulation results and the whole building energy use profiles calculated in a HAP building simulation.