

## Instructions for adding an Hourly Report for all electrical enduse kW values to an EE4 generated DOE file

The following instructions are to generate a text file with the hourly kW values at the plant level – for importing into the HPNC kW Summary report.

Note that you will need to follow these instructions for both the proposed and reference buildings.

### **Step 1 – Adding the hourly report keywords to the DOE input file:**

In EE4, under the CalcManager Options, uncheck “delete DOE keywords”.  
Run the simulation in EE4.

Open the DOE input .doe file using a text editor (.doe files are located in the \DOE directory)

Add:

HOURLY-DATA-SAVE = FORMATTED

here:

```
PLANT-REPORT
VERIFICATION = (
ALL-VERIFICATION,
)
SUMMARY = (PS-B, PS-D
BEPS,
ALL-SUMMARY,
)
HOURLY-DATA-SAVE = FORMATTED
..
```

(Make sure the terminator “ .. ” is still there below the keyword added. DOE requires the terminator after every keyword.)

The HOURLY-DATA-SAVE = FORMATTED specifies that the hourly report values will be dumped to a formatted text file which you will find on your \DOE directory ending in .DAT. You will be able to import this file into Excel and parse the columns to complete the HPNC application form with the hourly data. If you omit this keyword, the hourly report values will be imbedded in the simulation output .sim file and will need to be extracted from there.

Now, add the following to define the hourly report block which is a list of the variables to be reported, the schedule of hours to be reported (all hours). Variable 23 of type END-USE is the total of all electrical end uses. Note that it must be at the plant level to get all loads, systems and plant electrical values.

```
REPSCH = SCHEDULE THRU DEC 31, (ALL) (1,24) (1)..

RB-1 = REPORT-BLOCK
VARIABLE-TYPE = END-USE
VARIABLE-LIST = (23) ..
```

```
HR-1 = HOURLY-REPORT
REPORT-SCHEDULE = REPSCH
REPORT-BLOCK = (RB-1) ..
```

Right below that terminator, “..”.

So, the whole thing looks something like:

```
PLANT-REPORT
VERIFICATION = (
ALL-VERIFICATION,
)
SUMMARY = (PS-B, PS-D
BEPS,
ALL-SUMMARY,
)
HOURLY-DATA-SAVE = FORMATTED
..

REPSCH = SCHEDULE THRU DEC 31, (ALL) (1,24) (1)..

RB-1 = REPORT-BLOCK
VARIABLE-TYPE = END-USE
VARIABLE-LIST = (23) ..

HR-1 = HOURLY-REPORT
REPORT-SCHEDULE = REPSCH
REPORT-BLOCK = (RB-1) ..

END ..

COMPUTE PLANT ..
```

This completes the procedure for defining the hourly report keywords in the .doe file, however, there is one more step before we save and close the .doe. Sometimes, you will run DOE and the hourly report will not be generated even though you have followed the steps above correctly.

Commenting out the following lines that are automatically generated by EE4 will often resolve the problem.

```
LOAD-MANAGEMENT
  PRED-LOAD-RANGE = 99
  ASSIGN-SCHEDULE = (DEFAULT,DEFAULT,DEFAULT) ..
```

You could simply delete these lines or you can add a \$ and a space at the start of the lines to turn them into comment statements as shown below. Either is acceptable.

```
$ LOAD-MANAGEMENT
$   PRED-LOAD-RANGE = 99
$   ASSIGN-SCHEDULE = (DEFAULT,DEFAULT,DEFAULT) ..
```

Save your new DOE input file. Note it is best to choose a file name *without spaces*. (e.g. *ACME\_proposed\_HR.doe*)

## **Step 2 – Running DOE outside of EE4:**

There are 2 executable file which are run in sequence to complete a DOE simulation. DOEBDL.EXE is a pre-processor which verify the DOE input file. DOESIM.EXE runs the simulation. EE4 has a DOS batch file DOE.BAT which invokes these two executable files with the DOE input file and the weather file. You need to execute the DOE.BAT batch file with the input file name and the weather file name.

Weather files are stored on the EE4E\_OBC\WEATHER directory. There is a spreadsheet on the same directory matching the .bin file names to the weather file locations. You will need to identify the .bin file to use for your simulation. For example, Toronto is W04714W.bin.

Use a text editor to create a new (project specific) batch file containing 1 line:

```
CALL DOE ACME_proposed.doe C:\EE4E_OBC\WEATHER\w04714w.bin
```

Where *ACME\_proposed.doe* is the input file saved in step 1 above and *w04714w.bin* is the weather file including directory.

Save the batch file (e.g. ACME\_doe\_run.bat) on the C:\EE4E\_OBC\DOE directory and then execute it.

If successful, you should find ACME\_proposed.BDL, ACME\_proposed.SIM and a .DAT file on the DOE directory. The .BDL is the preprocessor output. The .SIM is the DOE detailed output file .

The text data file, CEC3\_01.DAT, is the hourly report data. The format of the text file is 4 columns of data per the example below. The columns are: month, day, hour and kW. You can then parse the kW values into the HPNC kW Summary Spreadsheet report ... and then repeat the exercise for the reference building.

Example .DAT output (for very small example building!)

1	1	1	0.331
1	1	2	0.331
1	1	3	0.331
1	1	4	0.331
1	1	5	0.331
1	1	6	0.911
1	1	7	1.422
1	1	8	2.723
1	1	9	2.962
1	1	10	3.066
1	1	11	3.066
1	1	12	3.066
1	1	13	3.066

Note that the hourly report data will always go to a file CEC3\_01.DAT so you will need to save or rename the proposed data file before running the reference building.