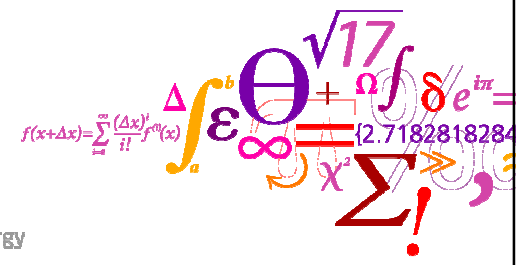
Load case implementation and Autogeneration of inputfiles



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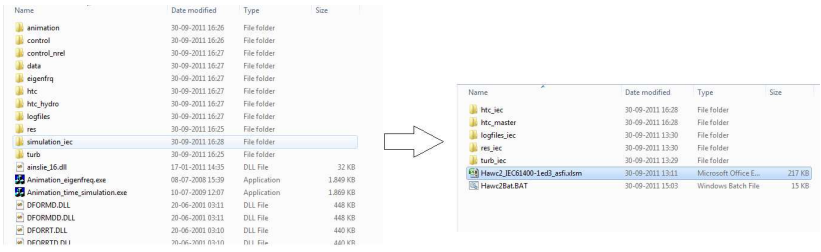
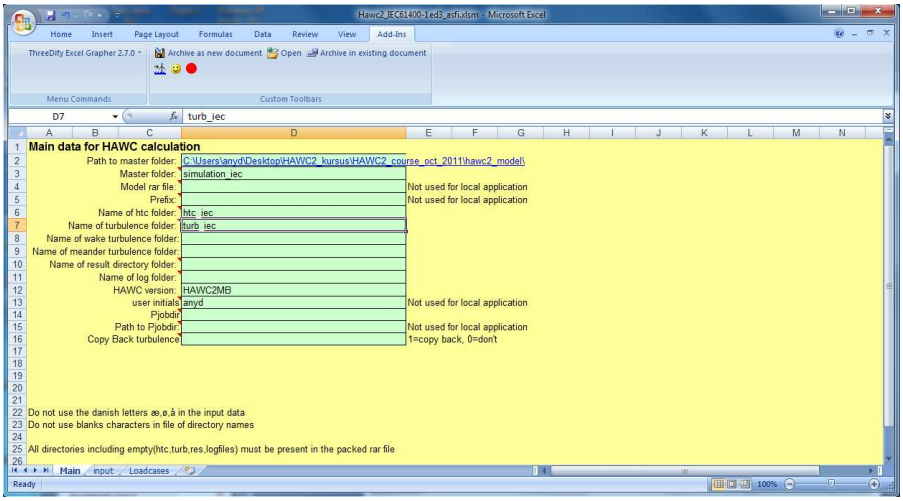
National Laboratory for Sustainable Energy

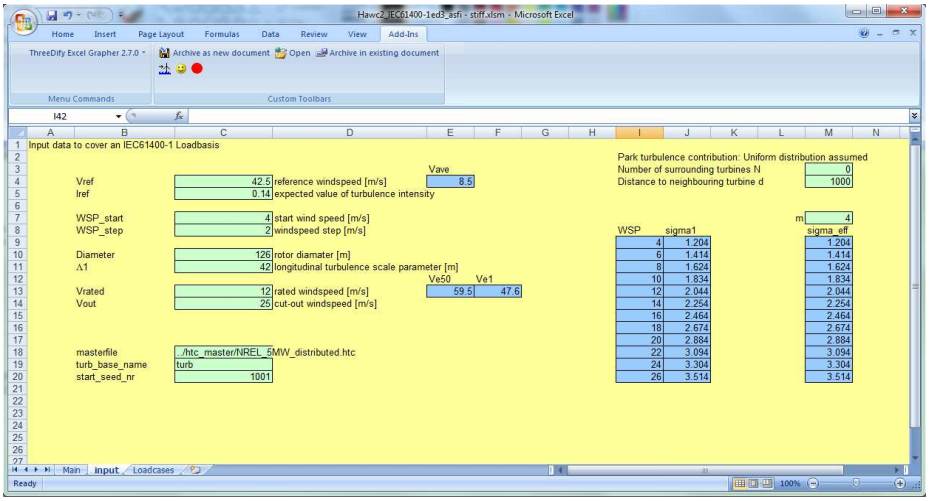
Excel Spreadsheet



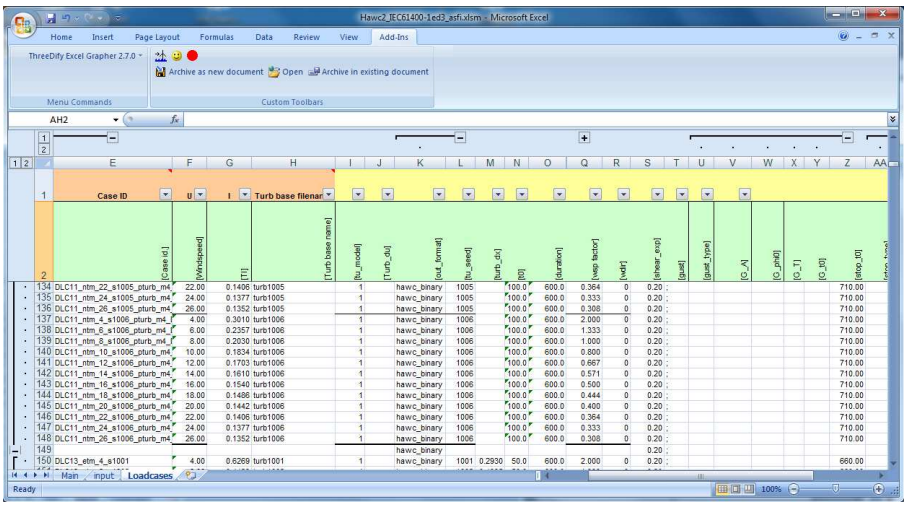
Spreadsheet input 1



Spreadsheet input 2



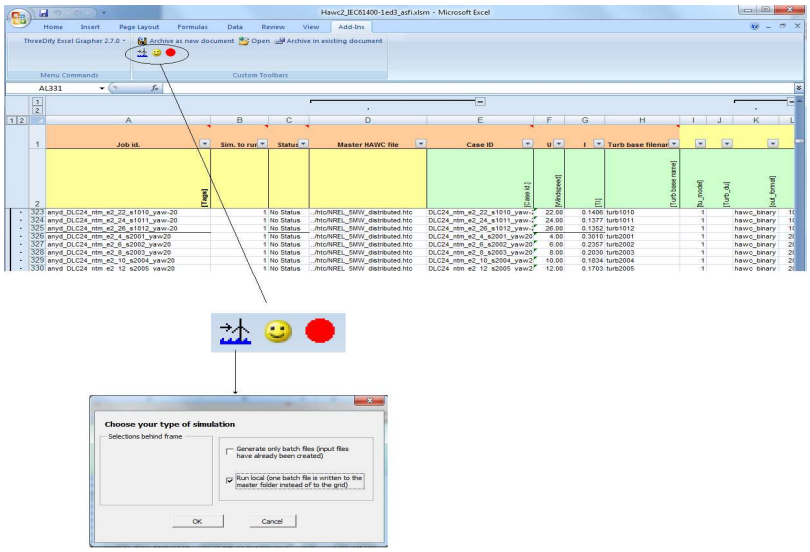
Spreadsheet input 3



The format for the master.htc file

```
begin Simulation;
  time_stop    [time stop];
  solvertype   1 ;    (newmark)
  on_no_convergence continue ;
  logfile ./logfiles_iec/[Case id.].log ;
;  animation ./animation/[Case id.].dat;
;
  begin newmark;
    deltat    0.02;
  end newmark;
end simulation;
;
begin new_htc_structure;
  beam_output_file_name  ./logfiles/[Case id.] _beam.dat;          Optional - Calculated beam
    properties of the bodies are written to file
  body_output_file_name  ./logfiles/[Case id.]_body.dat;           Optional - Body initial position
    and orientation are written to file
;  body_eigenanalysis_file_name ./eigenfrq/[Case id.]_body_eigen.dat;
;  structure_eigenanalysis_file_name ./eigenfrq/[Case id.]_strc_eigen.dat;
;-------------------------------------------------------------------------------------------------
  begin main_body;         tower 87m
    name         tower ;
    type         timoschenko ;
    nbodies      1 ;
```

Generation of HTC´s & Bat file



Quick guide

1. **Sheet: Main**
   Enable macros. Set all necessary folder names to match your directories of the hawc2 folder (path to master folder has to end with /)
2. **Sheet: input**
   If covering the IEC61400-1 Load basis insert all values in the green cells from the standard. Click to generate the load cases in the sheet loadcases
3. **Sheet: Loadcases**
   Check all inputs and if you wish to remove any load cases clear the cells in row "Sim. to run". Click to generate all HTC-input files and the batch file. Mark "run local" and click "ok". (jobs after an empty field in the "Job id." Will not be run)

• remember to set decimal symbol to . in Windows (Control Panel\Clock, Language, and Region\Change the date, time, or number format\Format\additional settings)

Exercise

- **Ex1 Generate HTC & Bat - files**
  - Generate all the HTC-files from the load case basis and a Batch file (skip step 2)
  - Check some of HTC-files and see if the right values are inserted?
  - Run a load case in HAWC2
    - Start command promt and write: hawc2mb simulation_iec\htc_iec\"loadcase name" or tab to browse files
  - Make initial assessments of results using windap, does the results make sense?
- **Ex2 Run a bat file**
  - Create a bat-file contaning the 3 first loadcases and run it in HAWC2.
  - (move the bat-file to the main folder and add the directory simulation_iec\ to the path files)
- **Ex3 Make a parameter study of own choice**
  - Generate a new set of the loadcases with new parameters of your own choice (this can be damping parameter,turbulence intensity, wind direction)
  - Make assessments of the results using windap.

Running HAWC2 on a cluster (thyra)