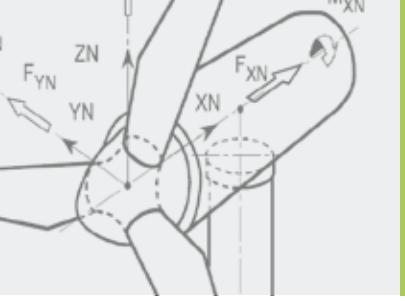
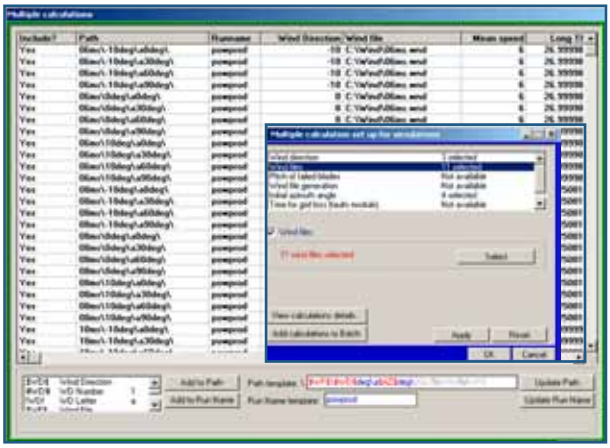


Bladed

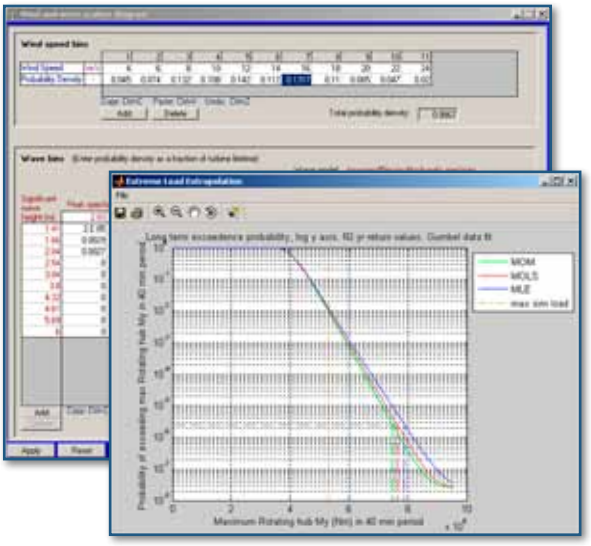
ADVANCED PROCESSING MODULE

The new 3rd edition of the IEC 61400-1 design standard requires the use of statistical methods for the extrapolation of ultimate loads to specified return periods. In response to this, the Advanced Processing module of Bladed allows this extrapolation to be carried out for both onshore and offshore turbines. For offshore calculations, a wind and wave scatter diagram can be used to automatically generate simulation batch lists and set up post processing. In addition, this module also makes it easier to set up multiple simulations to cope with the larger number of calculations required by the standard.



Multiple Simulation Setup

- Specify lists of parameters such as wind files, wind direction, initial azimuth angle, time for grid loss, pitch failure angle and others
- Automatically generate batch lists of simulations that combine those different calculation parameters
- Automatically generate sets of wind files with turbulence intensity appropriate for the IEC 61400-1 standard
- Automatically set up path and run names using an interactive template
- Link to wind and wave scatter diagram to automatically generate sea state conditions for offshore calculations



Extreme Load Extrapolation

- Statistical extrapolation of ultimate loads to a specified return period
- Gumbel and Three Parameter Weibull fitting distributions
- Method of Moments, Method of Least Squares, Maximum Likelihood Estimate fitting methods
- Automatic selection of wind and wave bin based on wind regime for onshore or wind and wave scatter diagram for offshore
- Produce diagnostic plots to check the accuracy of fit