



Safe Mode

Your safety route to success

Siemens Gamesa Safe Mode is a solution to maximize performance by increasing the cut-out wind speed and the restart wind speed to lengthen the operation time during high wind speed conditions.

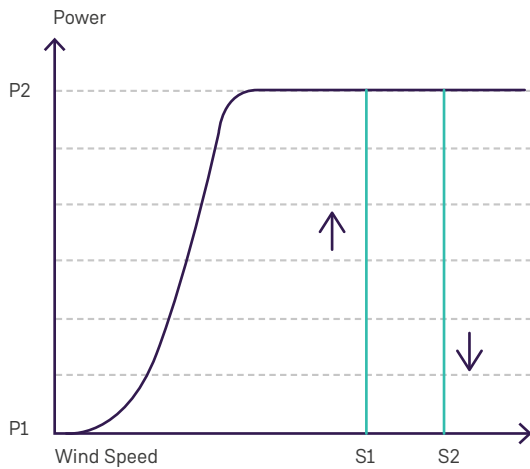
The integrity of the turbine components is ensured when operating above the normal cut-out wind speed as the power production and rotor speed will be reduced gradually until the Safe Mode cut-out wind speed is reached again.

How does it work?

The power production and rotor speed will be reduced gradually when the wind speed increases above the old cut-out wind speed, to avoid any affect on the integrity of the components.

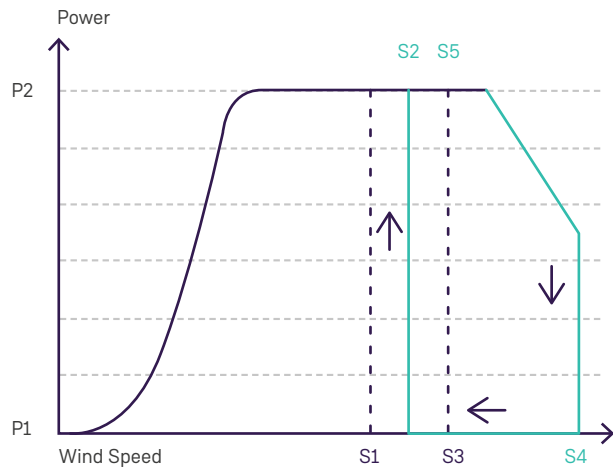
- Safe Mode extends the range of operation, increasing the power produced by the wind turbine at high wind speed conditions
- AEP increase of up to 1.5% depending on wind turbine configuration and wind farm conditions
- Increase in production, due to reduction of standstill events and extended range of operation

Fig. 1: Standard high wind speed limits



P1 No power output
P2 Rated power output
S1 High wind speed cut-in
S2 Cut-out wind speed without Safe Mode functionality

Fig. 2: New high wind speed limits with Safe Mode



P1 No power output
P2 Rated power output
S1 High wind speed cut-in without Safe Mode functionality
S2 High wind speed cut-in with Safe Mode functionality
S3 Cut-out wind speed without Safe Mode functionality
S4 Cut-out wind speed with Safe Mode functionality
S5 Safe Mode functionality activation limit

Key benefits of Safe Mode

- No upfront cost, revenue sharing model
- Increase the power produced in high wind speed conditions
- Increase annual energy production by up to 1.5% (depends on wind turbine configuration and wind farm conditions)
- Reduction of full stops
- Benefits achieved from day one



Applicability: G5X, G8X

Siemens Gamesa Renewable Energy
 Parque Tecnológico de Bizkaia, Edificio 222
 48170, Zamudio, Vizcaya
 Spain
 +34 944 03 73 52 (International)
 902 734 949 (Spain)

siemensgamesa.com

Copyright 2023
 Siemens Gamesa Renewable (SGRE).

All rights reserved.
 No part of this document may be reproduced
 without the prior written permission of SGRE.

The information contained in this document
 is for general information purposes only and
 may not apply in all cases. Information is
 subject to change without prior notice.
 No binding commitments are made by
 SGRE unless expressly agreed upon in a
 separate contract.