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Germanischer Lloyd

Statement of Compliance

GL-Wind Statement No.: WT 00-016A-2001

This Statement of Compliance for the Design Assessment is issued for the Wind Turbine

Projekt 80.1 - 750 kW

designed by aerodyn Energiesysteme GmbH
Provianthausstraße 9
24768 Rendsburg, Germany

manufactured by BWU Brandenburgische Wind- und Umwelttechnologien GmbH
Birkenweg
16230 Britz, Germany

trade name BWU 48/750

manufactured by Jacobs Energie GmbH
Rödemis Hallig
25813 Husum, Germany

trade name JE 48/750.

The Design Assessment is based on the calculations and fabrication drawings listed in the relevant certification reports referenced below and the characteristic data given in the attached Annex.

Certification Report numbers and titles:

71404-1	dated 2001-06-12	Load Assumptions GL-Type Class I, Hub Height 50 m
71404-2	dated 2001-06-12	Safety System and Manuals
71404-3	dated 2001-06-12	Rotor Blades LM 23.2
71404-4	dated 2001-06-12	Machinery Components
71404-6	dated 2001-06-12	Electrical Equipment
71404-7	dated 2001-06-12	Tubular Steel Tower GL TC I, Hub Height 50 m
71404-8	dated 2001-06-12	Commissioning

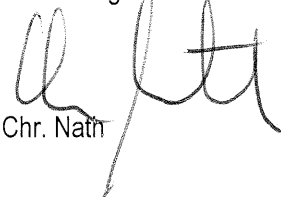
Normative references: Germanischer Lloyd „Regulations for the Certification of Wind Energy Conversion Systems“, 1999 Edition.

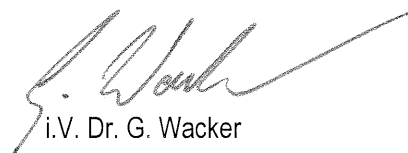
Changes in design are to be approved by Germanischer Lloyd WindEnergie GmbH, otherwise this statement loses its validity. Fabrication surveillance is not part of this Statement of Compliance for the Design Assessment.

Hamburg, 12th June 2001

Germanischer Lloyd *Shol*

WindEnergie GmbH


Chr. Nath


i.V. Dr. G. Wacker

By DAP German Accreditation System for Testing
accredited Certification Body for products
The accreditation is valid for the fields of certification
listed in the certificate



DAP-ZE-02.253-00-92-01



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Characteristic Data Wind Turbine Projekt 80.1-750 kW:

General	Type	horizontal axis wind turbine with two rotor speeds
	Power regulation	by aerodynamic stall
	Rated power	750 kW
	Hub height	50 m
	Rated rotational speed (low/high)	15.0/22.6 rpm
	Cut-in wind speed	4 m/s
	Rated wind speed	15 m/s
	Cut-out wind speed (10-min. mean)	25 m/s
	Extreme wind speed (50-year-gust)	65.1 m/s
	Annual average wind speed	10.0 m/s
	GL – Type class	I
	Design life time	20 years
Nacelle	Drawing No.	Z-80.1-GO.00.00-C, Rev. C
Rotor	Diameter	48.4 m
	Number of blades	3
	Orientation	upwind
	Cone angle	0 deg.
	Tilt angle	5 deg.
	Blade type	LM 23.2
	Blade material	glass fibre reinforced polyester
	Manufacturer	LM Glasfiber A/S
Main Braking System	Design	hydraulically activated blade tip brakes with 2 independent hydraulic valves
	Type	integrated in LM 23.2
	Manufacturer	LM Glasfiber A/S
Secondary Braking System	Design	fail-safe disk brake, spring-loaded and hydraulically released with 2 brake calipers
	Location	at high speed shaft
	Drawing Nos.	Z-80.1-TS.SB.01-C, Rev. A and Z-80.1-TS.SB.02-C, Rev. A
	Type	SHD 4 or SHD 5
	Manufacturer	Sime Industrie GmbH

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Rotor Hub	Type	cast
	Material	EN-GJS-400-18U-LT
	Drawing No.	Z-80.1-RO.NA.01-C, Rev. B
Main Shaft	Type	forged
	Material	42 CrMo 4V
	Drawing No.	Z-80.1-TS.RW.01-C, Rev. B
Main Bearing	Type	24084 CA/W33
	Manufacturer	SKF GmbH
Main Bearing Housing	Drawing No.	Z-80.1-TS.RL.00-C, Rev. B
Gear Box	Type	PEAS 4290
	Ratio	67.427
	Manufacturer	Flender AG, Bocholt
Generator	Design	induction generator, 6/4 poles
	Rated power (low/high)	150/750 kW
	Rated voltage	690 V
	Rated speed (low/high)	1014/1520 rpm
	Degree of protection	IP 54
Main Carrier	Type	welded
	Material	S235J2G3 (for t > 40 mm)
	Drawing No.	Z-80.1-MT.00.00-D, Rev. F
Yaw System	Design	2 active electric yaw drives, disk brake with 5 calipers
	Yaw drive	Bonfiglioli, type 307L4-754-HZ
	Yaw brake	Svendborg, type BSAB 75-S-401 or Sime, type BCHR 85A-B-825
	Drawing No.	Z-80.1-WN.00.00-C, Rev. A
Tower	Design	tubular steel tower
	No. of sections	3
	Length	47.28 m
	Drawing No.	Z-80.1-RT.00.03-C, Rev. E

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**Control and
Safety System**

Type
Manufacturer

WP 3000
Mita Teknik A/S

End of Annex

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MWPS World