Provisional Type Certificate

Registration-No.
44 220 18245100-PTC-IEC, Rev. 2

This certificate is issued to

Suzlon Energy Ltd.
One Earth
Opp. Magarpatta City
Pune, 411 028
INDIA

For the wind turbine **SUZLON S120 DFIG 2.1MW (50 Hz)**

WT Class **IEC S (S class defined in Annex)**

This Certificate attests compliance with the below cited standards concerning the Design, Testing and Manufacturing. It is based on the following reference documents:

44 220 18245100-TDB-IEC, Rev. 0	Design Basis Conformity Statement on the Wind Turbine Suzlon S120 DFIG 2.1MW (50 Hz), TÜV NORD, dated 2018-10-15
44 220 18245100-PD-IEC, Rev. 3	Provisional Design Evaluation Conformity Statement on the Wind Turbine Suzlon S120 DFIG 2.1MW (50 Hz), TÜV NORD, dated 2019-01-31
44 220 18245100-M-IEC, Rev. 1	Manufacturing Conformity Statement on the Wind Turbine Suzlon S120 DFIG 2.1MW (50 Hz), TÜV NORD, dated 2018-12-20
44 220 18245100-PT-IEC, Rev. 2	Provisional Type Test Conformity Statement on the Wind Turbine Suzlon S120 DFIG 2.1MW (50 Hz), TÜV NORD, dated 2019-01-31
44 220 17257731-CC-IEC, Rev. 0	Component Certificate Converter PT0100, TÜV NORD, dated 2017-09-25, valid until 2022-09-20
44 220 19482776-CC-IEC, Rev. 0	Component Certificate Rotor Blade SB59S2, TÜV NORD, dated 2019-01-23, valid until 2024-01-22
8115 245 100-20 E, Rev. 2	Final Evaluation Report, TÜV NORD, dated 2019-01-31

Normative references:

Certification scheme:
IEC 61400-22 "Wind turbines - Part 22: Conformity testing and certification", Edition 1.0, 2010-05
in combination with:
IEC 61400-1 "Wind Turbines - Part 1: Design requirements", Third Edition, 2005-08 and Amendment 1, 2010-10

The wind turbine type is specified in the Annex of this Certificate.

The outstanding items towards a full Type certificate are listed on page 3 of this Provisional Type Certificate as well as in the Final Evaluation report.

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Any change in the design, the production and erection or the manufacturer's quality system has to be approved by TÜV NORD CERT GmbH. Without approval this certificate loses its validity.

Provided that valid Component Certificates are available, this Provisional Type Certificate is valid until: 29th October 2019
(under the condition of regular maintenance according to chapter 6.5.2 of IEC 61400-22)

TÜV NORD CERT GmbH
Certification Body
Wind Energy

Dipl.-Ing./M.Sc. M. Lange

DAkkS
Deutsche
Akkreditierungsstelle
D-ZE-12007-01-02

Essen, 2019-01-31

Langemarckstraße 20 • 45141 Essen • email: windenergy@tuev-nord.de

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Statement of open items:

This is a Provisional Type Certificate as there are outstanding items towards a full Type Certificate.
However, TÜV NORD CERT GmbH confirms that the outstanding items are limited to matters which have no safety implications.

The outstanding items are:

1. Design Evaluation:
    a. For the rotor blade SB59S1 design evaluation of the blade fatigue test specification, post fatigue test specification and manuals
    b. For the smart tubular tower with HH 120m (STT, config. 3) the assessment of the tower internals has to be finished
    c. For the smart tubular tower with HH 120m (STT, config. 3) and the hybrid concrete tower with HH 140m (HCT, config. 4) the loads assessment has to be done with regards to the optimized power curve.
2. Type Testing:
    a. For the smart tubular tower with HH 120m (STT, config. 3) and the hybrid concrete tower with HH 140m (HCT, config. 4) the eigenfrequencies and the corresponding damping values need to be validated by measurements
    b. For the smart tubular tower with HH 120m (STT, config. 3) the controller side-side Tower Damper shall be examined via additional measurements
    c. For the rotor blade SB59S1 fatigue test evaluation, post fatigue test evaluation as well as manufacturing documentation for the test blade needs to be finished

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Wind turbine type specification:

Machine parameters:

Model	SUZLON S120 DFIG 2.1MW (50Hz)	
Type	Horizontal axis wind turbine with variable rotor speed	
Wind turbine manufacturer and country	Suzlon Energy Ltd., India	
Power regulation	Independent electromechanical pitch system for each blade	
Rated power	2100 kW	
Grid Frequency	50 Hz	
Rotor diameter	120 m	
Rotor orientation	Upwind	
Number of rotor blades	3	
Rotor tilt	5º	
Cone angle	3.5º	
IEC WT class	S	
Hub height(s)	105 m, 120 m, 140 m	
	Normal mode	Enhanced performance mode
Rated wind speed V_r	9.5 m/s	
Rated rotational speed	13.07 rpm	12.78 rpm
Operating wind speed range V_{in} – V_{out}	3 m/s - 18 m/s	
Operating range rotational speed	7.78 rpm - 14.44 rpm	
Design life time	20 years	
Lightning protection class	LPL 1	
Controller Software version:	18.20.4.2	

Turbine Variants:

Conf. No	Hub Height	Tower Type
1	105 m (TT)	Tubular Steel (TT)
2	140 m (HLT)	Hybrid lattice (HLT)
3	120m (STT)	Smart tubular (STT)
4	140 m (HCT)	Hybrid concrete (HCT)

Wind conditions:

	IEC WT class S
Characteristic turbulence intensity I_{ref} at V_{hub} = 15 m/s	14%
Annual average wind speed at hub height V_{ave}	7.25 m/s
Reference wind speed V_{ref}	36.5 m/s
Mean flow inclination	8 deg
50-year extreme wind speed at hub height V_{e50}	51.1 m/s

Electrical network conditions:

Normal supply voltage and range	690 V -15%/+10%
Normal supply frequency and range	50 Hz -6%/+5%
Number of electrical network outages	365/y

Other environmental conditions:

	HTV (light)
Operational temperature range	0 °C - +45 °C
Survival temperature range	0 °C - +50 °C
Annual Average Air density	1.16 kg/m³
Relative humidity of the air	up to 95%
Solar radiation	1000 W/m²
Max. snow load on nacelle	0 kN/m²
Max. altitude above sea level for electrical components	1000 m

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Major components:

Nacelle cover	Designed by:	Suzlon Energy Ltd.
	Manufacturer/Site:	Suzlon Energy Ltd., Daman, India Suzlon Energy Ltd., Pondicherry, India
	Main drawing no.:	M341.000394-03, Rev. 03
	Alternative: Main drawing no.	M341.301021-00, Rev. 0
Blade SB59S1 (config. 1)	Designed by:	Suzlon Energy Ltd. - Netherland Branch
	Manufacturer/Site:	Suzlon Energy Ltd
	- "Dhule":	S. No. 282, Chhadvel (Korde), Taluka: Sakri – 424 305, District: Dhule, Maharashtra, India
	- "Padu":	Plot No. 3, SEZ, ASPEN, Infrastructure Ltd., Village. Nadsalu – 574 111, Post: Padubidri, Tal. & Dist. Udupi, Karnataka, India
	- "Bhuj":	Survey No. 588, Bhuj – Bhachau Stae Highway, Village: Paddhar – 370 105, Taluka: Bhuj, District: Kutch, Gujarat, India
	- "Anantapuram":	Survey No. 125. 150, 152, 153 & 154, IPPERU Village, Kuderu Mandal, Anantapuram – 515 711, Andhra Pradesh, India
	- "Jaisalmer":	Khasra No. 165/317/566, Village: Bhoo - 345 001. Patwar Cirvle, Tehsil and District: Jaisalmer, Rajasthan, India
	- "Ratlam":	Survey No. 289, 290, 291, Village: Borali, Dhar - 454 660, Tehsi: Badnawar, District: Dhar, Madhya Pradesh, India
	Designation:	SB59S2
	Material:	glass fibre reinforced epoxy
	Blade length:	59 m
	Drawing no.:	SB59XX-D-01-00001, Rev. 0
	Specification:	SB59S1-S-01-00001, Rev.02

Blade SB59S2 (config. 1-4)	Designed by:	Suzlon Energy Ltd. - Netherland Branch
	Manufacturer/Site:	Suzlon Energy Ltd
	- "Dhule":	S. No. 282, Chhadvel (Korde), Taluka: Sakri – 424 305, District: Dhule, Maharashtra, India
	- "Padu":	Plot No. 3, SEZ, ASPEN, Infrastructure Ltd., Village. Nadsalu – 574 111, Post: Padubidri, Tal. & Dist. Udupi, Karnataka, India
	- "Bhuj":	Survey No. 588, Bhuj – Bhachau Stae Highway, Village: Paddhar – 370 105, Taluka: Bhuj, District: Kutch, Gujarat, India
	- "Anantapuram":	Survey No. 125. 150, 152, 153 & 154, IPPERU Village, Kuderu Mandal, Anantapuram – 515 711, Andhra Pradesh, India
	- "Jaisalmer":	Khasra No. 165/317/566, Village: Bhoo - 345 001. Patwar Cirvle, Tehsil and District: Jaisalmer, Rajasthan, India
	- "Ratlam":	Survey No. 289, 290, 291, Village: Borali, Dhar - 454 660, Tehsi: Badnawar, District: Dhar, Madhya Pradesh, India
	Designation:	SB59S2
	Material:	glass fibre reinforced epoxy
	Blade length:	59 m
	Drawing no.:	SB59XX-D-01-00001, Rev. 0
	Specification:	SB59S2-S-01-00001, Rev.00
Blade bearing	Type:	Double-row ball bearing slewing ring
	Designed by:	IMO GmbH & Co. KG
	Manufacturer/Site:	IMO GmbH & Co. KG, Gremsdorf, Germany
	Designation:	11900
	Drawing no.:	42-552424/4-11900, Rev. -, dated: 2018-02-08
	<u>Alternative:</u>	
	Designed by:	Laulagun Bearings, S.L.
	Manufacturer/Site:	Laulagun Bearings S.A., Olaberria/Idiazabal, Spain
	Designation:	F2634M16DTTI125FAB
	Drawing no.:	F2634M16DTTI125FAB, Rev. 0, dated: 2018-02-15

Pitch system	Type:	Electromechanical, rotary drives, 3-stage
	Motor /actuator designed by:	Bonfiglioli Trasmital
	Manufacturer/Site:	Bonfiglioli Transmissions (PVT) Ltd., Chennai, Tamilnadu, India
	Motor/actuator Designation:	BN 132MA 4 230/400-50 IP55 CLF B5 FD100 270SD
	Main drawing no.:	56120990, Rev. F
Pitch lock	Type:	Mountable steel structure
	Design:	SUZLON Energy Ltd.
	Material:	S235JR/S355JR
	Drawing no.:	M481.000086-02, Rev. 2
Hub	Type:	Cast
	Designed by:	Suzlon Energy Ltd.
	Manufacturer/Site:	Seforge Ltd, Coimbatore, India Jiangyin Jixin Machinery Co., Ltd., Jiangying City, China Jiangsu Sinojit Wind Energy Technology Co. Ltd. Jiangyin City, China Changzhou Dahua Huanyu Machinery Manufacture Co. Ltd., Changzou City, China Zhejiang Jiali Wind Power Technology Co. Ltd., Hangzhou City, China Tongyu Heavy Industry Co., Ltd., Shandong, China
	Material:	EN-GJS-400-18-LT
	Drawing no.:	M414.330630-02, Rev. 02, dated 2018-09-28
	Alternative: Drawing no.:	M414.330579-03, Rev. 3

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COMPLIANCE

Main shaft:	Type:	Forged
	Designed by:	Suzlon Energy Ltd
	Manufacturer/Site:	Zhongyuan Special Steel Co. Ltd., Jiyuan City, China Tongyu Heavy Industry Co., Ltd., Shandong, China Shandong Laiwu Jinlei Wind Power Tech. Co. Ltd., Shandong, China
	Material:	42CrMoS4/42CrMo4
	Drawing no.:	M334.000985-04, Rev. 4
Main bearing:	Type:	Spherical roller bearing
	Designed by:	Schaeffler Technologies AG & Co. KG (FAG)
	Manufacturer/Site:	Schaeffler Romania S.R.L., Brasov, Romania FAG Bearings India Ltd. Baroda, India
	Designation:	240/710B.MB.R250.370.M15BK.M47
	Drawing no.:	240/710B.MB.R250.370.M15BK.M47, dated 2010-08-25
	<u>Alternative:</u>	
	Type:	Spherical roller bearing
	Designed by:	Schaeffler Technologies AG & Co. KG (FAG)
	Manufacturer/Site:	Schaeffler Romania S.R.L., Brasov, Romania FAG Bearings India Ltd. Baroda, India
	Designation:	F-623425.PRL-M15BK-C2H
	Drawing no.:	EDD F-623425.PRL 000, Rev. 00, dated 2016-10-28
	<u>Alternative (Conf. 1, 2, 4):</u>	
	Type:	Spherical roller bearing
	Designed by:	SKF Group
	Manufacturer/Site:	SKF Technologies India Pvt. Ltd., Ahmedabad, Gujarat, India
	Designation:	240/710 BC/C2H
	Drawing no.:	240/710 BC/C2H, Rev.1, dated 2017-05-17

	Alternative (Conf. 1, 2, 4):	
	Type:	Spherical roller bearing
	Designed by:	SKF Group
	Manufacturer/Site:	SKF Technologies India Pvt. Ltd., Ahmedabad, Gujarat, India
	Designation:	240/710 ECA/C2HW 33RE10
	Drawing no.:	240/710 ECA/C2HW 33RE10, Rev.2, dated 2018-03-02
Main bearing housing	Type:	Cast part
	Designed by:	Suzlon Energy Ltd.
	Manufacturer/Site:	Changzau Dahua Huanyu Machinery Manufature Co. Ltd., Changzou City, China Jiangsu Sinojit Wind Energy Technology Co. Ltd. Jiangyin City, China Zhejiang Jiali Wind Power Technology Co. Ltd., Hangzhou City, China
	Material:	EN-GJS-400-18-LT
	Drawing no.:	M334.001070-05, Rev. 5
Shrink disc	Type:	Shrink disc
	Design:	Compomac
	Trade designation:	CONEX-SA 720x1060
	Main Drawing no.:	10.1881, Rev.1, dated 2018-03-23
Gearbox	Type:	Planetary helical gearbox
	Designed by:	ZF Wind Power Coimbatore Pvt. Ltd.
	Manufacturer/Site:	ZF Wind Power Coimbatore Pvt. Ltd, Coimbatore - 641659 Tamil Nadu,
	Designation:	EH0828A-001
	Gear ratio:	89.79
	Main drawing no.:	097-EH0828A001, Rev. B, dated 2018-03-02
	Alternative:	
	Type:	Planetary helical gearbox
	Design by:	Siemens AG - Germany / Siemens Ltd. – India
	Manufacturer/Site:	309/2, "A" Block 100, Chettipattu Village, Thandalam Post. Sriperumbudur Taluk, Kancheepuram Dist., 602105 India
	Designation:	Winergy PEAB 4450
	Gear ratio:	89.775
	Main drawing no.:	A5E35769398A, Rev. AK (011)

	Shrink disc:	Flender FSD-720
	Alternative: Shrink disc:	Stüwe HSD 720-81-1
	Alternative: Shrink disc:	Stüwe HSD 720-22-24
	Alternative: Shrink disc:	Rexnord Tollok TLK 681-720X1080-Y2370
Elastomer Bearing Housing	Type: Designed by: Material: Main drawing no.	steel part Suzlon Energy Ltd. S355J2 M331.003664-00, Rev.0, dated 2018-03-16
Elastomer Bearing	Type: Design: Manufacturer/Site: Designation: Main drawing no.	Elastomer rubber ESM Energie- und Schwingungstechnik Mitsch GmbH ESM Energie- und Schwingungstechnik Mitsch GmbH, Heppenheim, Germany UB03_011_005_Suz UB03_011_005_Suz, Rev. -
	Alternative: Type: Design: Manufacturer/Site: Designation: Main drawing no.	 Elastomer bushing Zhuzhou Times New Material Technology Co., Ltd. Zhuzhou Times New Material Technology Co., Ltd., Zhuzhu, Hunan, 412007, China GB-AVM 170 TMT 0100278 Rev. F, dated 2014-09-03
Rotor brake	Type: Designed by: Manufacturer/Site: Designation: Quantity of calipers: Position: Drawing no.:	Active, hydraulic Antec S.A. Antec Braking System (Tianjin) Co. Ltd., Tianjin, China HE-2-90/96 1 High speed shaft 20.103.944, Rev. -

Rotor lock	Type:	Bolt with guiding cylinder
	Designed by:	Suzlon Energy Ltd.
	Material:	
	Disc:	S355NL
	Pin:	34CrNiMo6
	Cylinder:	42CrMo4
	Drawing no.:	
	Main:	M331.000989-05, Rev.5
	Disc:	M334.300895-02, Rev.2
	Bolt:	M331.000989-05, Rev.5
Generator Coupling	Designed by:	CENTA Antriebe Kirschey GmbH
	Designation:	019W-00028-SS20
	Main drawing No.	
	50 Hz, long:	019-63675-000-xxx, Rev. B, dated 2015-11-02
	50 Hz, short:	019-64069-000-xxx, Rev. -, dated 2016-02-11
	Alternative:	
	Designed by:	Winergy
	Designation:	ARPEX ARV-4 KRZK 520-4
	Main drawing No.	50 Hz: A5E36240514A, Rev. AG
Main frame	Type:	Cast
	Designed by:	Suzlon Energy Ltd
	Manufacturer/Site:	Seforge Ltd, Coimbatore, India Jiangsu Sinojit Wind Energy Technology Co. Ltd. Jiangyin City, China Changzau Dahua Huanyu Machinery Manufacture Co. Ltd., Changzou City, China Zhejiang Jiali Wind Power Technology Co. Ltd., Hangzhou City, China Tongyu Heavy Industry Co., Ltd., Shandong, China
	Material:	EN-GJS-400-18-RT
	Drawing no.:	M314.001170-01, Rev.1, dated 2018-09-28

Generator frame (Girder System)	Type:	Spheroidal cast iron & Welded structure
	Designed by:	Suzlon Energy Ltd
	Manufacturer/Site:	Seforge Ltd, Coimbatore, India Jiangsu Sinojit Wind Energy Technology Co. Ltd. Jiangyin City, China Changzau Dahua Huanyu Machinery Manufacture Co. Ltd., Changzou City, China Zhejiang Jiali Wind Power Technology Co. Ltd., Hangzhou City, China Tongyu Heavy Industry Co., Ltd., Shandong, China
	Material:	S355J2, EN-GJS-400-18-LT
	Drawing no.:	M321.000248-02, Rev. 2, dated 2017-12-22
Yaw system	Type:	Active, friction bearing with gear rim, 6 active yaw drives and motor brake
Yaw Drive	Type:	5 stage planetary gearbox
	Designed by:	Bonfiglioli Trasmital
	Manufacturer/Site:	Bonfiglioli Transmissions (PVT) Ltd., Chennai, Tamilnadu, India
	Designation:	712T5F (MT712T086 / MT712T092)
	Drawing no. (MT712T086):	I7120T014000, Rev. D
	Drawing no. (MT712T092):	I7120T016500, Rev. A
	Manufacturer motor:	Bonfiglioli
	Designation motor:	BN100LB4 400/690-50
Yaw bearing	Type:	Slide block system with friction pads
	Designed by:	Suzlon Energy Ltd.
	Material:	
	Structure:	S355NL
	Friction pads	PA6
	Drawing no.:	M310.000107-00, Rev. 0

Hydraulic System	Design:	Hydac (India) Pvt Ltd
	Designation:	PP00325E
	Drawing:	02-PP00325E, Rev. a
	Hydraulic diagram:	01-PP00325E, Rev.a
	<u>Alternative:</u>	
	Design:	EKOMAT GmbH & Co. KG
	Designation:	1-2629
	Drawing:	1-2629, Rev. 4
	Hydraulic diagram:	3-2632, Rev. 3
	<u>Alternative:</u>	
	Design:	EKOMAT GmbH & Co. KG
	Designation:	1-3725
	Drawing:	1-3723_D, Rev. D
	Hydraulic diagram:	3-3725, Rev. A
	<u>Alternative:</u>	
	Design:	PMC Hydraulics Pvt Ltd.
	Designation:	10006002
	Drawing:	PMCH-1588, Rev. 2
	Hydraulic diagram:	PMCH-1562, Rev. D
	<u>Alternative:</u>	
	Design:	PMC Hydraulics Pvt Ltd.
	Designation:	10006007
	Drawing:	PMCH-2140, Rev. 1
	Hydraulic diagram:	PMCH-2139, Rev. 1
Generator	Type:	Doubly-fed induction generator (DFIG)
	Designed by:	ELIN
	Manufacturer/Site:	Suzlon Energy Ltd., Coimbatore, India
		Suzlon Generators Ltd. Chakan, Pune, India
	Designation:	MRL-063Z06
	Rated power:	2170 kW
	Rated frequency:	50 Hz
	Rated speed:	1166 rpm
	Rated voltage:	690 V
	Rated current:	
	Stator:	1580 A
	Rotor:	540 A
	Insulation class:	H
	Degree of protection:	IP54

Converter	Designed by:	Ingeteam
	Manufacturer/Site:	Suzlon Energy Ltd., Coimbatore, India
	Designation:	PT0100
	Rated frequency:	50 Hz/60Hz
	Max. voltage (machine side):	780 V
	Rated current (machine side):	650 A
	Rated voltage (grid side):	690 V
	Rated current (grid side):	600 A
	Degree of protection:	IP54
	Alternative:	
	Designed by:	Vertiv Tech Co. Ltd.
	Manufacturer/Site:	Emerson Network Power Co. Ltd (VERTIV), Mianyang, China
	Designation:	WF1000-06L0210-CPN-A
	Rated frequency:	50 Hz/60Hz
	Max. voltage (machine side):	759 V
	Rated current (machine side):	650 A
	Rated voltage (grid side):	690 V
	Rated current (grid side):	600 A
	Degree of protection:	IP54
Transformer	Location:	outside tower
Medium voltage Switchgear	Location:	outside tower

Tower:	Type:	Tubular Steel Tower, HH 105m
(Conf.1)	Designed by:	Suzlon Energy Ltd.
	Manufacturer/Site:	Suzlon Energy Ltd., Chopadava, Kutch India Tool fab Engineering Industries (P) Ltd. Trichy, Tamilnadu, India Barakath Engineering Industries Pvt. Ltd., Trichy, Tamilnadu, India Jay Engineering Industries, Trichy, Tamilnadu, India Altec Fabricators, Trichy, Tamilnadu, India Cu-Built Engineers Pvt. Ltd., Khandala, India Metal Engineers, Trichy, Tamilnadu, India Likhita Energy Systems Pvt. Ltd., Ongole, Prakasham, India
	Sections:	5
	Length:	101.895 m
	Main drawing no.:	M200.000272-02, Rev. B, dated 2018-02-15
	Foundation specification:	TGDE-RE-003172, Rev.03, dated 2018-03-08

Tower:	Type:	Hybrid Lattice Tower, HH 140m
(Conf. 2)	Designed by:	Suzlon Energy Ltd.
	Manufacturer/Site:	
	Steel part:	Suzlon Energy Ltd., Chopadava, Kutch India Tool fab Engineering Industries (P) Ltd. Trichy, Tamilnadu, India Barakath Engineering Industries Pvt. Ltd., Trichy, Tamilnadu, India Jay Engineering Industries, Trichy, Tamilnadu, India Altec Fabricators, Trichy, Tamilnadu, India Cu-Built Engineers Pvt. Ltd., Khandala, India Metal Engineers, Trichy, Tamilnadu, India Likhita Energy Systems Pvt. Ltd., Ongole, Prakasham, India
	Lattice part:	Valmont Structures Pvt. Limited Survey No. 189 to 193, Village: Chandrapur – 389 350, Taluka: Halol, District: Panchmahal, Gujarat, India Associated Power Structure Pvt. Ltd., Block No. 35, Near Mordern Petrofiles, N.H. 8, Village: Bamangam Tal.: Karjan Dist.: Vadodara – 391240, Gujarat, India Sanvijay Infrastructures Pvt. Ltd, A-1-1 A-1/P/1/A/2, MIDC Butibori Area, Khairy Khurd-440108, Tal.-Hingna, Dist-Nagpur, Maharashtra, India
	Length:	138.015 m
	Main drawing no.:	M200.000276-01, Rev. 01
	Tubular part:	M201.000672-01, Rev. 01
	Lattice part:	M801.000030-01, Rev. 01
	Foundation specification:	M111.300006-00, Rev. 01

Tower:	Type:	Smart Tubular Tower, HH 120m
(Conf. 3)	Designed by:	Suzlon Energy Ltd.
	Manufacturer/Site:	Suzlon Energy Ltd., Chopadava, Kutch India Tool fab Engineering Industries (P) Ltd. Trichy, Tamilnadu, India Barakath Engineering Industries Pvt. Ltd., Trichy, Tamilnadu, India Jay Engineering Industries, Trichy, Tamilnadu, India Altec Fabricators, Trichy, Tamilnadu, India Cu-Built Engineers Pvt. Ltd., Khandala, India Metal Engineers, Trichy, Tamilnadu, India Likhita Energy Systems Pvt. Ltd., Ongole, Prakasham, India
	Sections:	5
	Length:	117.696 m
	Main drawing no.:	M200.000274-03, Rev. 3, dated 2018-07-23
	Foundation specification:	TGDI-RE-007894, Rev.02, dated 2018-06-28

Tower:	Type:	Hybrid Concrete Tower, HH 140m
(Conf. 4)	Designed by:	
	Steel part:	Suzlon Energy Ltd.
	Concrete part:	BYO Towers, SL
	Manufacturer/Site:	
	Steel part:	see steel tower HH 105 m
	Concrete part:	on site
	Length:	137.7 m
	Main drawing no.	
	Steel part:	M201.000670-01, Rev. 1, dated 2018-02-12
	Concrete part:	T-ME-067-0025-PL-C0001-R01, Rev. 1, dated 2018-03-09
	Foundation specification:	T-ME-067-0023-IC-0004-R01, Rev.01, dated 2018-03-02

Manuals:	O&M manual: Transport manual, Assembly and Commissioning manual:	TGPM-MA-006850-S120-OMS, Rev. 04 TGPM-MA-006850-S120-A, Rev. 04
Control and safety System:	Designed by: Document no.:	Suzlon Energy Ltd. TGDI-RE-007048, Rev. 03

- End of Annex -