

MEMORANDUM OF UNDERSTANDING

BETWEEN

**MINISTRY OF NEW AND RENEWABLE
ENERGY (MNRE), NEW DELHI**

AND

**NATIONAL INSTITUTE OF WIND
ENERGY (NIWE), CHENNAI**

FOR THE YEAR 2019-20



NATIONAL INSTITUTE OF WIND ENERGY, CHENNAI

Memorandum of Understanding – 2019-20

1. PART – I OBJECTIVES

NIWE is an autonomous R & D institution under the Ministry established to serve as the technical focal point for wind power development in India, for promoting and accelerating the pace of utilization of wind energy and support the growing wind power sector in the country. Other objectives of NIWE are:

- to carry out activities such as wind/ solar resource assessment, preparing wind energy density maps, wind/ solar atlas, Indian standards & its certification on wind turbines, activities related to offshore wind energy, etc., in the area of wind/ renewable energy, as may be assigned by the Ministry from time to time;
- to develop and strengthen the facilities and capabilities, evolve strategies, promote, conduct, co-ordinate and support research and development programs to achieve and maintain reliable and cost effective technology in wind power systems;
- to undertake human resource development programs for the personnel working in the wind energy sector;
- to promote commercial exploitation of know-how, know-why results and offer various consultancy services to the customers;
- to promote the development and commercialization of other wind energy systems.

2. PART –II EXERCISE OF ENHANCED AUTONOMY AND DELEGATION OF FINANCIAL POWERS

As per Rule 51 of NIWEs Memorandum of Association (MOA), NIWE Recruitment Rules and Bye-Laws, the Director General has been delegated with full powers to incur expenditure on all NIWE activities up to the Budget Limit.

3. PART–III MAIN ACTIVITES

Whereas the Institute recognizes that the process of developments has to relate continuously to significant and notable changes that are taking place in the Wind related industry and, rapidly exploring universe of knowledge in the area and for that purpose, the Institute main focus areas are as under:

- Wind Resource Assessment and Offshore development (WRA&O)
- Wind Turbine Testing (Both Large and Small)
- Standards and Certification (S&C)
- Information, Training and Customized Services (ITCS)
- Wind Energy & Hybrid System
- Research and Development (R & D)



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4. PART- IV: ROLES OF MNRE AND NIWE

Ministry of New and Renewable Energy [MNRE] on its part shall endeavor to provide adequate funding as per the approval of the Governing Council of NIWE for all the approved activities, besides providing direction and guidance on the thrust areas for research in accordance with overall aim of the government.

In consideration of activities to be implemented, the Institute shall endeavor:

- To absorb the establishment related expenditure from its internal earnings that is over and above the sanctioned grant by the Ministry under this head;
- To increase the internal generation of revenue by at least 10 to 20% every year. The institute shall project expenditure pattern for its Internal Revenue Generation and anticipated earnings during the year.
- To levy User charges including overhead/institutional charges/management fee in respect of Consultancy/Sponsored Project, wherever the output or benefit of services are utilized by others are levied at appropriate rates as per amended GFR Rule No.47 and display the same in the website.
- To achieve self-sufficiency in the matter of meeting expenditure on account of Salary and Salary related expenditure for regular staff of NIWE.
- To seek approval of the Ministry for activities beyond DG's delegated powers including those relating to agreements with international parties.
- Ministry shall hold a quarterly review meeting with NIWE at MNRE to review Physical and Financial targets and NIWE will send achievements of the targets on monthly basis to the Ministry and will also be reviewed by GC, NIWE appropriately.
- The institute shall follow the policy level decision(s) of GC/ MNRE with regard to programme implementation from time to time

5. PART- V: SPECIFIC PARAMETERS AND TARGETS

The following are specific activities along with defined timelines which NIWE is expected to complete during 2019-20. The segregation of activities is done as under-
a) New Initiatives, b) Phase implementation of planned activities and c) Carried forward from the previous year.



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TARGETS FOR THE YEAR 2019-20

Sl. No.	Targets	Deliverables	Timeline
I. New Initiatives			
1.	Wind Turbine Testing Program: Building Quality Assurance & Capacity	Application by NIWE & confirmation of acceptance from IECRE/MEASNET for RETL (Renewable Energy Testing Lab) & ILC (inter Lab Comparison)	31.08.2019
		Completion of Capacity Building in Wind Turbine Testing activities along with submission of report & Inter/Intra Lab comparison with a reputed/ accredited Lab.	31.03.2020
2.	Lab Accreditation related - Establishment of Quality Assurance Comparison Measurements at 2 Research Wind Turbines in WTRS, Kayathar.	Completion of Measurements campaign & data analytics to validate the changes in the latest version of Power Performance & Mechanical Load Measurements along with the submission of a report. A deliverable in accordance with the requirements of Cl.7.7 of IS/ISO/IEC 17025:2017 for ensuring Lab's validity of results.	31.03.2020
3.	DST DTU (Denmark Technical University) Project – Hybridize (Three year research project starting in 2019-20)	Testing Phase –1. Completion of Instrumentation and measurements & reporting on Micon 200kW WT at WTRS, along with first report submission.	31.03.2020
4.	WTG Certification Projects	Two projects will be taken up	31.12.2019
5.	Certification Body Management System (CBMS) as per IS/ISO/IEC 17065:2012 in connection with obtaining accreditation for Wind Turbine certification services of NIWE (likely to be completed by March 2021).	Submission of Application for processing of accreditation with requisite documentation as per IS/ISO/IEC 17065: 2012 to NABCB (QCI), Govt. of India.	30.06.2019



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6.	International standards committee meetings at Chennai.	Hosting IEC TC 88 & IECRE meetings	31.03.2020
7.	To provide technical support to BIS for preparation of Indian standards on wind turbines.	Finalization of three nos. of Indian standards	31.03.2020
8.	RLMM online portal to facilitate the submission of documentation by manufacturers.	Launching of RLMM online portal	30.09.2019
9.	Review of new RFP proposal received from various academic institution and industry	20 Nos. of R&D will be reviewed, evaluated.	31.03.2020
10.	Paper & Publications by the Scientists at reputed journals	Would publish at least 5 research papers. (for entire NIWE)	31.03.2020
11.	Design and Development of In-house LVRT facility (Two year research project starting in 2019-20)	Preparation of Design basis Report with identified Academic institutions / Industrial planner for developing Indigenous facility for LVRT and HVRT testing as per the CEA Technical standards of Grid connectivity requirements will be established	31.12.2019
12.	Development of Long-term Wind Speed Forecasting Using Hybrid Model (Two year research project starting in 2019-20)	Development of Forecasting Architecture based on literature survey.	31.03.2020
13.	IoT Based Smart wind farm to enable the real-time remote monitoring and control (Two year research project starting in 2019-20)	Design basis report preparation for Real-time data acquisition using IoT sensors. Design basis report preparation.	31.12.2019
14.	RE Forecasting (Centre for Excellence in VG power forecasting)	<ul style="list-style-type: none"> • Maharashtra – To initiate forecasting facility on pilot basis • Andhra Pradesh – To initiate forecasting facility on pilot basis 	<p>31.08.2019</p> <p>31.10.2019</p>



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		• SRLDC – To initiate Regional level forecasting facility on pilot basis	31.12.2019
		• Madhya Pradesh – To initiate forecasting facility on pilot basis	31.01.2020
15.	Resource Data Analytics Lab	Procurement of needed Hardware, Compiling of various Raw Data and Capacity building to NIWE officials for establishing Data analytics laboratory.	31.03.2020
16.	International Training Courses sponsored by MEA on Wind Turbine Technology and Applications	Five International Training Courses are proposed to be conducted during the financial year 2019-20 under the sponsorship of MEA, Government of India. Proposal has already been submitted to MEA for four training courses under ITEC and proposal will be submitted for One training under IAFS –III program.	31.03.2020
17.	National Training Courses on Wind Energy Technology	Two National Training Courses	31.03.2020
18.	SNA Training Program	One Training course on Wind and Solar Resource Assessment and technology will be conducted exclusively for SNA officials	31.03.2020
19.	Certificate Course on O&M of WTG	20 participants	31.03.2020
20.	E-office	Rolling out of e-Office in NIWE	30.04.2019
21.	Online data portal at MNRE	Availability of online wind and solar resource data portal at MNRE	30.09.2019
22.	DPR preparation	DPR preparation for hybrid projects for two North – Eastern states	31.12.2019 & 31.03.2019
23.	Wind Resource Assessment (WRA) in New Areas	Installation of masts in 10 Islands of Andaman & Nicobar Islands	31.03.2020
		WRA in Ladakh by installation of 10 wind masts or telecom towers	31.03.2020



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		WRA in Himachal Pradesh by installation of 5 wind masts or telecom towers	31.03.2020
		WRA in West Bengal (including Sunderbans) by installation of 2 wind masts or telecom towers	31.12.2019
		WRA in Uttarakhand by installation of 2 wind masts or telecom towers	31.03.2020
24.	New campus for NIWE	Identification and acquisition of land for establishment of new campus for NIWE	31.03.2020
II. Phased implementation of the planned activities (Project continued from last year)			
1.	Wind Resource Assessment in North East States using Existing telecom towers of BSNL/ Airtel (ongoing)	Installation of meteorological sensors on additional 52 (40+12) nos. (by Airtel/ BSNL) including 12 nos. of telecom towers that has been carry forwarded from MoU 2018-19 (In total 52 nos.)	31.03.2020
2.	Validation of wind power forecasting (30 nos. of 100 m mast) (ongoing project)	Installation & Commissioning of 10 nos. of 100 m wind monitoring stations in Gujarat.	31.01.2020
3.	LVRT & HVRT Testing facility	Procuring LVRT & HVRT testing facility and initiating testing of FRT	31.03.2020
4.	Indian Wind Turbine Certification Scheme (IWTCS).	Finalization of Indian Wind Turbine Certification Scheme (IWTCS) by MNRE	30.09.2019
5.	Establishment of Smart RE-Micro Grid with Integrated Resource and Building Management System (IRBM) at National Institute of Wind Energy, Chennai (Three year research project started in 2018-19)	Establishment of generation system (solar PV) for the Smart Micro Grid and commencement of Measurements related to Energy Management, Performance	31.03.2020
6.	Evaluation / Monitoring against Milestones for RC Approved external projects Currently on-going projects: 4nos.	Completion of two R&D projects	31.03.2020
7.	RE Forecasting (Centre for Excellence in VG power forecasting)	Extending forecasting facility on pilot basis for Solar in Gujarat	31.12.2019



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8.	Amendment of NIWE RR's/Bye Laws	Carrying out need based amendments to NIWE RR's/Bye-Laws as per the direction of the Ministry.	30.09.2019
9.	Target for internal revenue generation during 2019-20.	Internal revenue generation of Rs.10.00 crores during the financial year.	31.03.2020
III. Carried forward from the previous year			
1.	Wind Resource Assessment in Uncovered/ new areas (2016-17) (ongoing project)	UP (3 no.) and 2 nos. in West Bengal that has been carry forwarded from MoU 2018-19 (In total 5 nos.)	30.10.2019
2.	Geo-Technical Survey off Gujarat Coast	Submission of geo-technical survey report	31.01.2020
3.	Installation of LiDAR for offshore wind resource measurement using LiDAR installed at Gulf of Mannar at Ramanathapuram, Tamil Nadu.	One LiDAR installation at Zone C	31.03.2020
4.	Establishment of Renewable Energy Demo Lab at Wind Turbine Test station at Kayathar, Tamilnadu	Completion of Building infrastructure works and readying for setting up Renewable Energy Demo Lab & SWT test hub facility (Blade Drive Train and Maker's Space)	30.12.2019
5.	Small Wind Turbine hub Facility for Design and Component Testing at the Renewable Demonstration Lab in WTRS, Kayathar	Operational SWT hub test facility consisting of Maker's Space, Blade & Drive Train Test facility within the RE Demo Lab at WTRS	31.03.2020
6.	Bench marking of costs for assessment of Capital Costs and O&M Costs for Wind Energy Technologies for estimating Tariff as per the requirements of CERC / SERC	Assessment of cost for Wind energy technology	31.03.2020
7.	Design and Development of indigenous Grid emulator facility (Two year research project starting in 2019-20)	Preparation of Design basis Report with identified Academic institutions for developing Indigenous facility to test and control the Active power, Reactive power and frequency response of the WTG as per the CEA Technical standards	31.03.2020



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		of Grid connectivity requirements will be established.	
8.	Geo-Technical and Geo-Physical Survey off Tamil Nadu Coast.	Geophysical and Geotechnical studies and survey at Gulf of Mannar, Ramanathapuram District, Tamil Nadu (240 sq. km. earmarked at Zone C)	31.03.2020

6. PART-VI: ESTIMATED EXPENDITURE AND BUDGET

To support the above activities and for normal functioning of the institute, the total estimated budget [as recommended by the 43rd GC in its meeting held on 15.03.2019] to the tune of Rs.17.00 Crores [Rs.10.50 Crores Capital and Rs.6.50 Crores Revenue] will be provided by the Ministry during the financial year 2019-20.

[Signature]
Director General
NIWE, Chennai

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Secretary
MNRE, New Delhi

Place: New Delhi
Date: Aug 6, 2019

