

EDITORIAL



The G20, of which India assumed Presidency for the forthcoming year, has recently renewed its commitment to generate power using clean sources, including non-conventional energy sources, while endeavoring to phase down coal. India's 'Mission 500 GW' announced by the Government of India for meeting 50 percent of its' energy capacity from non-fossil energy resources by 2030, is a significant step in this direction. NIWE is focused on various areas of wind energy, including wind resource assessment, offshore wind, research and development, testing, certification and development of standards, towards meeting the targets set by the Government.

The Indian government has set a target of achieving 30 GW of offshore wind power by 2030. NIWE is working closely with its international partners to identify suitable sites through Maritime Spatial Planning for development of offshore wind projects under various Models stipulated in the Strategy Document. An "External Stakeholders workshop on offshore wind turbines" and an on-site assessment of the proposed location of the Test Station for offshore wind turbines at Dhanushkodi mark an important milestone in the development of offshore wind projects in India.

NIWE has been engaged in multiple research and development projects, one of R&D projects titled "Wind-Driven Air Storage System" has been deployed successfully. NIWE is also carrying out integrated Wind and Solar assessment and hybrid potential mapping across the country aimed at meeting

the RE targets set by the Government. Among major services provided during the quarter are wind monitoring procedure verification, Energy yield estimation, wind-solar hybrid forecasting and geotagging of wind turbines installed across the country. NIWE has also actively engaged in large turbine testing, acoustic noise measurements, and power curve measurements, inspection of wind turbine components aimed at ensuring engineering integrity, quality assurance and safety philosophy of wind turbine components and models in India. We are also providing technical support to MNRE and BIS for the implementation of Revised Lists of Models and Manufacturers of wind turbines and the development of Indian / IEC standards and IECRE documents related to wind turbines.

The implementation of the "Vayumitra Skill Development Program" to create a skilled workforce for the Indian wind energy sector to meet its commitment for the development of a skilled workforce to the Indian wind energy sector is underway. During the quarter, International Online Training Course and Customised training programme for the Industry were conducted on various aspects of wind turbine technology.

NIWE has actively participated in "Azadi ka Amrit Mahotsav" celebrations by promoting renewable energy and creating awareness among stakeholders about the benefits of using clean energy.

The services provided by NIWE to various stakeholders including industry, academia, and government are a testament of its commitment in helping India to achieve its renewable energy targets and reduce carbon emissions.

Dr. Rajesh Katyal, Director General (Additional Charge)

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Research & Development (R&D)

NIWE funded R&D Projects

NIWE has funded the R&D project to external organization with the approval of R&D council as detailed below:

Wind-Driven Air Storage System

The project aims at novel scheme to store the wind energy in the form of compressed air.

In the proposed system, the rotor of the wind turbine of capacity 5 kW drives the compressor and the excess energy from the wind turbine is stored locally, as compressed air in a storage pressurized tank. The system has been erected at site and is presently under testing.



Measurements & Testing

Measurements

The following activities have been completed by the Division during October to December 2022.

- Chip collection work in the state of Andhra Pradesh from 13.10.2022 to 14.10.2022.
- IWSRA installation and commissioning work has been completed successfully.
- Installation of LiDAR at Kayathar during the period between 12.10.2022 and 15.10.2022
- Calibration of AHF at NREL NPC 2022 event during the period between 21.09.2022 and 09.10.2022
- Installation and commissioning work in the state of Madhya Pradesh at the Hedapura site during the period 14.10.2022 to 20.10.2022.
- Rectification and chip collection work in the state of Gujarat during the period from 15.10.2022 to 19.10.2022.
- Rectification and site maintenance work in the state of Karnataka during the period 25.11.2022 to 27.11.2022
- Chip collection work in the state of Andhra Pradesh from 23.11.2022 to 26.11.2022.



- Rectification and commissioning work in the state of Madhya Pradesh at the Hedapura site during the period from 22.11.2022 to 29.11.2022.
- Rectification and chip collection work in Ladakh and Kargil region during the period from 21.11.2022 to 22.11.2022.
- Chip collection and maintenance work in the state of Rajasthan and Madhya Pradesh from 08.12.2022 to 21.12.2022.
- Dismantling work has been completed successfully in the state of Gujarat and Maharashtra during the period from 01.12.2022 to 24.12.2022.

Testing

DST approved R&D Project

DST approved R&D project with Test Turbine model – SIVA 250/50 kW with 30/32 rotor diameter from M/s. Siva Wind Turbine India Pvt. Ltd. The measurement completed and data under analysis for report preparation. Post measurement calibration underway at Test Bed B, WTTS, Kayathar.

Limited period Power Curve & Load Measurements of its model GWL 225 a wind turbine of M/s. Southern Wind Farms Limited

An agreement was signed between NIWE and M/s. Southern Wind Farms on 29.11.2022 for Measurements of its model GWL 225 a wind turbine with 29.8m rotor diameter Varapatti Village, Sultanpet Post, Suler Talak, Coimbatore District. Discussion with customer regarding instrumentation and Met Mast installation are on-going.



Agreement on (29.11.2022) was signed between NIWE and M/s. Southern Wind Farms for Limited Measurements of its model GWL 225 with 29.8m rotor diameter for wind turbine located at Varapatti Village, Sultanpet Post, Suler Talak, Coimbatore District.

Type Testing of INOX 3 MW

An agreement was signed between NIWE & INOX for Type Testing of its Wind Turbine INOX DF/3000/145 3.0 MW Power Booster Mode 3.3 MW Rotor Blade Type SR71 (T-Bolt), Hub Height 100 m IEC WT Class IIIB , Rojmal, Rajkot of M/s. INOX WIND LTD. The Instrumentation work has been completed and final measurements are yet to be completed.

Acoustic Noise Measurements of Senvion 2.3M130/2.7 MW

An agreement was signed between NIWE & SENVION for Acoustic Noise Measurement of its model – Senvion 2.3M130/2.7MW turbine, (HH 120m, RD 130m at Tithawa, Gujarat of M/s. Senvion Wind Technology Private Limited. OEM expected to provide the test turbine soon for measurements.

Power Curve Measurements for 600 kW and 500 kW (in de-rating configuration) of Pioneer Wincon 750 kW WT

An agreement was signed between NIWE and M/s. Pioneer Wincon Energy Systems Pvt Ltd on 11.07.2022 for Power Curve Measurements for 600 kW and 500 kW (in de-rating configuration) of its model Pioneer Wincon 750/57 a wind turbine with 57 meter rotor diameter at SF No.886, Cheliyanallur Village, Manur Taluk, Tirunelveli District, Tamil Nadu. Draft Test Reports have been issued to OEM. .

Visitors

Test cum Research Centre for offshore wind Turbines at Dhanuskodi

Honorable MoS Shri. Bhagwant Khuba had visited the Dhanuskodi Test site on 03rd October, 2022 and was apprised by DG, NIWE on the development works related to Offshore Wind Test Cum Research Centre and the Greening of Rameshwaram Island Project.



MoS accompanied by DG, NIWE at Dhanuskodi Site, TN



Stakeholder meeting for Setting Up of Offshore Wind Test Cum Research Centre at Dhanuskodi & Chennai

DTU, DEA and NIWE team visited Dhanushkodi for an onsite assessment of the proposed locations of the Test Station on 11th October, 2022, & also for defining the full scope and objective of the proposed Test cum Research Centre for Offshore Wind Turbines at Dhanuskodi. NIWE along with DTU, Denmark had organized the External Stakeholders workshop on 13th October 2022 at NIWE, Chennai. The Danish Team led by Peter Hjuler Jensen, Deputy Head of Wind & Energy Systems Department, DTU attended the workshop and shared the Denmark's Offshore Wind Test Center Østerild's experiences.

Visitors to WTTS, Kayathar Test Centre

Mr. Erik Solheim (6th Executive Director, United Nations Environment Programme, Former Under Secretary General), Member of The Governing Council headed by the Chief Minister of Tamil Nadu visited WTTS, Kayathar Test Center on 14.12.2022 to understand the Working of WTTS and its service to the nation. Engineer A. R. Hasan Ali, AEE made the official presentation to the dignitary guest.



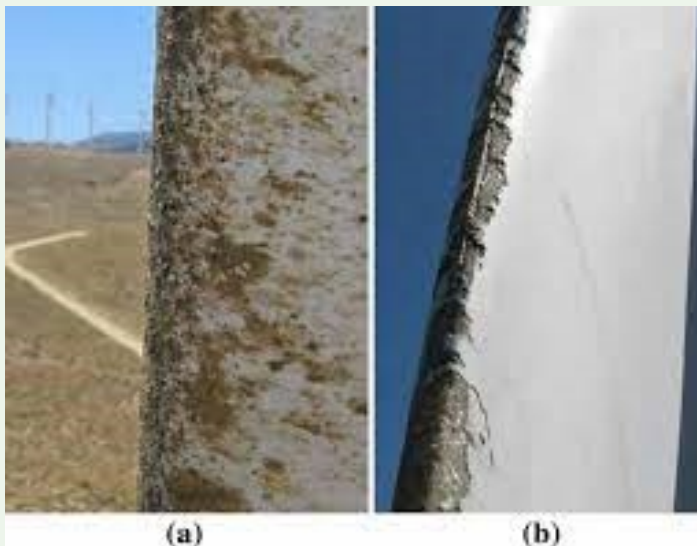
Discussions held during the meeting with Mr. Erik Solheim

Offshore Wind Development, Data Analytics and Forecasting & Information Technology

Research Activities

Maintenance and Repair Strategy for Wind Energy Development

- Conducted surveys with blade engineers about blade damage assessment guidelines and general procedures followed.
- Prepared literature on blade damage identification techniques.
- Collected quotations from various NDT suppliers for conducting damage assessment tests.



- Carried out a survey to determine the extent of the damage to wind turbine blades and the cost of repairing them.
- Traveled to Kayathar in search of a broken blade so that the non-destructive test could be carried out.

- Participated in discussions on doing non-destructive testing on wind turbine blades with representatives from Windcare.
- Framed a survey inquiry form for the training need for technician schemes blade repair, as well as for the purpose of gathering recommendations for damage assessment, blade repair, and the prevention of common errors.

The SCADA control system at Bhuj, Gujarat

- The equipment required to develop an interoperable controller/interface system to turn off the WTG in the Bhuj area has been purchased and installed at the Bhuvad and Naranpur PSS.
- Testing of the SCADA system is in progress.

Offshore Wind Development

- Under the Indo-Danish cooperation, MNRE/NIWE & DEA have jointly carried out Marine Spatial Planning studies consisting of various significant factors such as wind speed, water depth, marine traffic, hazardous area, Environmentally sensitive zones, etc., The subzones are aligned with the MNRE strategy document for the developing offshore wind in the Gulf of Mannar, Off the Tamil Nadu coast. Based on the MSP, the identified sub-zones are given below under different models as stipulated in the strategy document.
- Conducted Electrical load flow study for Greening of Rameshwaram with TANGEDCO and received the report.
- Received applications from wind power developers for offshore wind development under model 2 of the

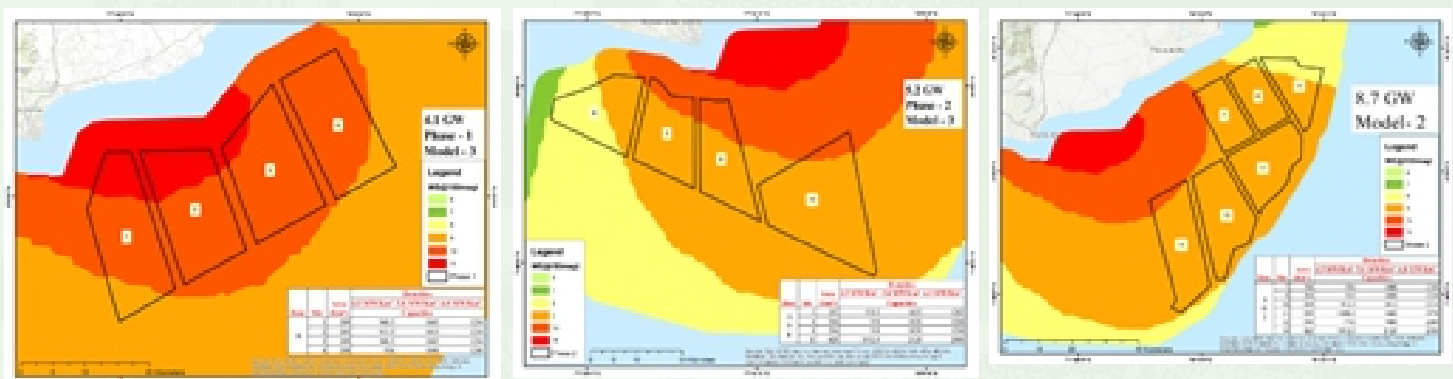


Figure showing Marine Spatial Planning for offshore wind farms in Tamil Nadu

strategy paper and initiated the clearance protocol as per National offshore policy 2015.

- Floated tender for conducting Rapid EIA tender in the context of CRZ clearance for the establishment of the Greening of Rameshwaram project.

Met Ocean Measurement

- Obtained all the Stage-I Clearances/NOC from the Ministries and Departments for Zone B1, Zone C1, and Zone E2.
- Refloated Global tender after receiving the comments from bidders; technical evaluation of the bid is underway.

Data Analytics

Consultancy projects

Data Analytics has been executed for 7 nos. of consultancy projects and currently handling 2 nos. of ongoing consultancy projects towards supporting the stakeholders of the wind industry. The activities include;

- Verification of wind monitoring procedure
- Energy Yield Estimation
- DPR Preparation
- Tender document preparation & Technical Bid evaluation
- Wind-Solar Hybrid

Forecasting

Wind & Solar Power Forecasting

- NIWE and NREL worked on a project to review the best practices of forecasting in India and across the globe and its recommendations to achieve the 500 GW green energy target. prepared the first version of the report.
- Conducted a benchmarking study on the hybrid forecasting system and prepared a report.

Wind and Solar data sale and geotagging

- Prepared a data availability report for various customers for the sale of Wind and Solar data.
- NIWE has geotagged nearly 28500 wind turbines with a capacity of 32 GW.

Information Technology

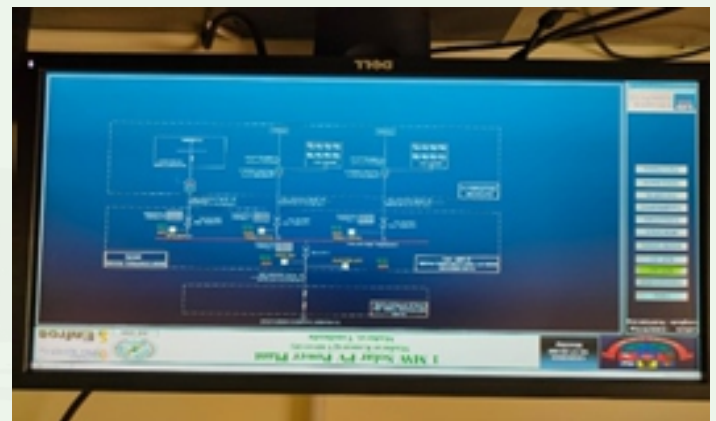
- Successfully fixed all the security vulnerabilities identified in the NIWE infrastructure security audit.

- NIWE has revised the IT policy (ITP-01 Rev.02) and circulated it to all the employees for implementation.
- NIWE website content has been updated.
- Prepared Technical specification HCI, LAN, CCTV,VC restructuring.

RE Projects

2 MWp Ground Mounted Grid Connected Solar Power Plant at Indian Institute of Management (IIM)-Trichy

- Monitoring the daily generation of data
- Monthly generation report preparing
- Meetings with the Contractor regarding the Power plant Generation
- Visited the site and checked the activities done as per the Operational and maintenance agreement
- Regular Module cleaning at site 15 days once and physical checking of all parameters
- Division Head, Unit Chief, and Engineers monitored and checked the Solar Power Plant Maintenance issues of the 2 MW solar plant at IIM Trichy on 28.12.2022.





MoU

Convened a meeting with NLC Director & officials and signed MoU between NIWE and NLC India Limited for “Strategic Collaboration in developing onshore and offshore Wind Power Projects in India” at NIWE, Chennai on 19.10.2022.

Cyber Jaagrookta Diwas (CJD) Celebrations at NIWE, Chennai on 06.10.2022

1 MW (AC) Ground Mounted Grid Connected Solar Power Plant at Madurai Kamaraj University (MKU), Madurai

- Daily Generation Data monitoring and preparing reports
- Meeting with the IIM Regarding Generation
- Visited the site and checked the activities done as per the Operational and maintenance agreement

Site Visit

- Dr.K.Boopathi, Director and Division Head, participated in the Launch event on the "Maritime Spatial Planning & Port study for India" inaugurated by the Ambassador of Denmark to India, H.E. Mr.Freddy Svane, and MNRE Joint Secretary, Shri Dinesh Jagdale at Westin, Chennai on 23.11.2022.
- Dr.K.Boopathi, Director and Division Head participated in the "Launch of Tamil Nadu Wind Energy Roadmap" by Global Wind Energy Council (GWEC) jointly launched by SED fund under the guidance of Tamil Nadu Government in Chennai on 09.12.2022
- Dr.K.Boopathi, Director and Division Head participated as a Panel member at "Industry -Academia Conclave-2022" at NMAM Institute of Technology, organised by NITTE, Karnataka on 20.12.2022.
- Division Head and Engineers carried out site visit to identify suitable area at NIEPMD, Muttukadu for establishing Solar Power Plant on the rooftop of the buildings of NIEPMD on 21.12.2022

Organized and celebrated the “Cyber Jaagrookta (Awareness) Diwas (CJD)” on 06-10-2022 at NIWE, Chennai. The main objective of the program was to create awareness of “Cyber Crime and Cyber Hygiene”. As part of the celebration, the following activities have been performed.

- Conducted an online 'Cyber Awareness Quiz' programme for self-assessment.
- Circulated Guidelines for Cyber Security Awareness in order to create awareness about the Cyber Security and NIWE IT policy,
- Distributed / pasted the cyber awareness photographs / short sentences Pamphlets Banners in all Walk pathways / common areas of NIWE to create more awareness about cyber threats & security.

Awareness programme on Cyber Crime & Cyber Hygiene

To create awareness on the topic “Cyber Crime and Cyber Hygiene” a special program was arranged, and Shri.M.Kalaiarasan, Inspector of Police, Cyber Crime department, Tamil Nadu Police has delivered a Keynote address on “Cyber Crime and Cyber Hygiene” through various case study and based on his 23 years experience in Police Service.

Shri. A.G.Rangaraj, Deputy Director & Unit Chief, Forecasting & IT (F&IT) had delivered the welcome address. Dr.K.Boopathi, Director and Division Head (OWD, DAF &IT) had delivered the introductory address. Shri. J.C. David Solomon, Director & Division Head (Testing) had shared his valuable suggestions about Cyber Crime. NIWE

Security Officer Shri. N. Ramalingam had briefed about security practices followed in NIWE and also explained how to be vigilant to avoid cybercrime-related issues.

Shri. A. Senthilkumar, Director & Division Head (S&R) had presented the memento and honoured the Chief Guest. The special programme ended with concluding remarks and vote of thanks given by Shri. Yelchuri Srinath, Assistant Director (Tech), F&IT



Glimpses of Cyber Jaagrookta Diwas Celebration



Glimpses of Awareness programme on Cyber Crime & Cyber Hygiene

Certification

Certification Division had completed the Inspection of wind turbine components viz. Hub and Nacelle Assembly, Rotor Blade, and Tower of M/s. Inox wind Ltd in connection with the “PMC services for commissioning of one number of WTG at VOC Port Trust, Tuticorin, Tamil Nadu”

Certification Division had completed a project viz. Pre-Evaluation of documentation in connection with Type Certification of "DF/2000/113" wind turbine model of M/s.Inox wind Ltd.



Inspection of Hub and Nacelle Assembly of M/s.Inox at Bhuj, Gujarat

Standards and Regulation

- Completed the review / verification of documentation of one prototype wind turbine model viz., “S144 3.0 MW” of M/s. Suzlon Energy Limited (SEL) in connection with installation of prototype wind turbine in India, as per MNRE guidelines. Subsequently, a letter has been issued in connection with grid synchronization of said prototype wind turbine, as decided by the Prototype Committee.
- The Review / verification of documentation of a prototype wind turbine model viz., “INOX DF/3000/145 3.0 MW” of M/s. Inox Wind Limited (Inox) in connection with installation of prototype wind turbines in India as per MNRE guidelines is under progress.
- Review / verification of documentation of 05 wind turbine models submitted for RLMM has been completed. Further, technical support has been provided to MNRE for implementation of Revised Lists of Models and Manufacturers of wind turbines (RLMM) process.
- Technical support to Bureau of Indian Standards (BIS) in connection with standards related works is under progress. In this regard, works related to draft Indian standards / IEC standards & IECRE documents are under progress.
- A meeting was organized on 18.11.2022 and discussion were held with BIS working group members on preparation of Indian standard on wind turbines.
- The continual improvement and maintaining the quality management system are ongoing.



Prototype Committee Meeting



Standards Working Group Meeting

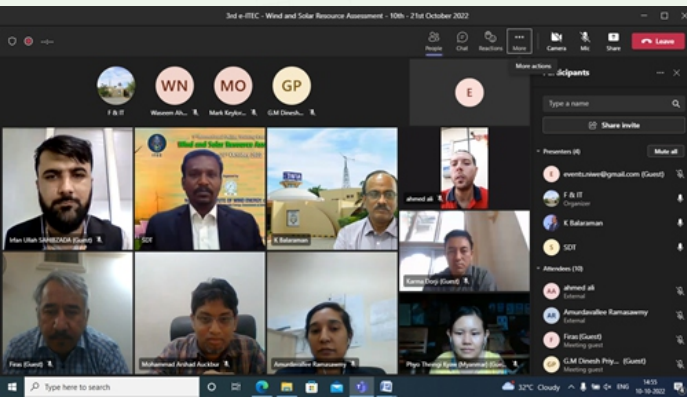
Skill Development and Training & Infrastructure Management

3rd International Online Training Course on “Wind and Solar Resource Assessment”

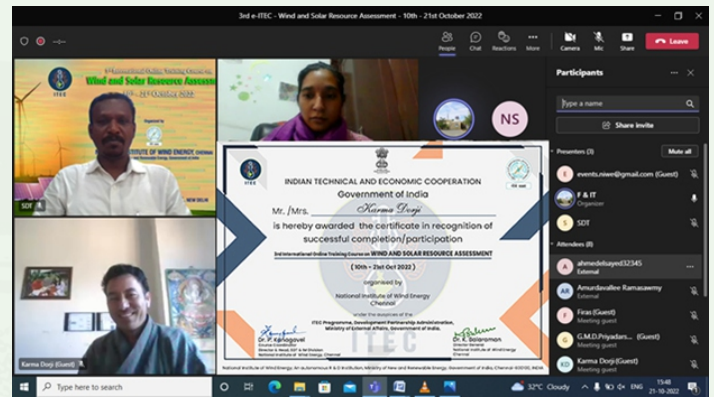
The Skill Development & Training and Infrastructure Management (SDT & IM) Division of NIWE had successfully conducted the 3rd International Online Training Course on "Wind and Solar Resource Assessment" conducted between 10th to 21st October 2022, sponsored by Ministry of External Affairs (MEA), Government of India under e-ITEC programme. The Course addressed all aspects of Wind and Solar resource assessment in a focused manner along with a brief introduction to wind and solar technology.

Twenty two participants were selected for this course and 14 participants from 11 different countries (Afghanistan, Bhutan, Bolivia, Egypt, Iran, Iraq, Kenya, Mauritius, Myanmar, Philippines and Sri Lanka) had attended.

The training course was inaugurated by Dr. K. Balaraman, Director General, NIWE in the presence of the Course Coordinator Dr. P. Kanagavel, Director and Head, SDT & IM, NIWE on 10th October 2022. The ITEC film was played after the welcome address delivered by the Course Coordinator.



Participants during Inaugural Function



Online distribution of the Course Certificate

During the 10 days of the course, 18 lectures were scheduled. Engineers of NIWE, academicians from premier institutions and from the wind & solar industry, who have many years of experience in the field, handled the course content during the training programme.

Course Coordinator Dr. P. Kanagavel, Director and Head, Skill Development and Training & Infrastructure Management, NIWE delivered the valedictory address and distributed e-certificates to the participants.

The way in which the course was structured and the consequent delivery of lectures were highly appreciated by the participants. In addition, the participants had admired and appreciated the organizing team for the smooth conduct of the online course.

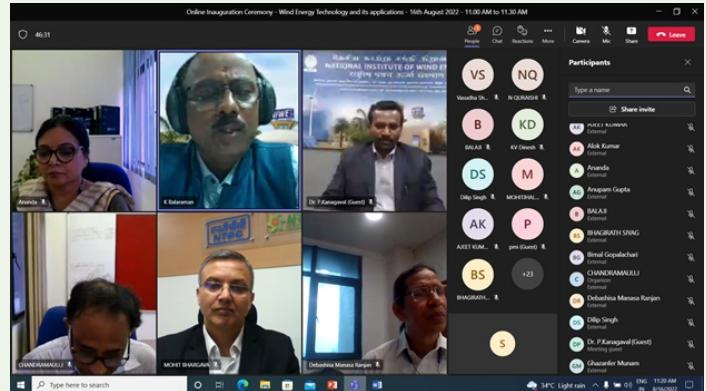
Customized Online Training Course on “Wind Energy Technology and its Applications” specially for the employees of NTPC Limited

The Skill Development and Training & Infrastructure Management (SDT&IM) Division of NIWE had successfully conducted a customized online training course on “Wind Energy Technology and its Applications” specially for the employees of M/s. NTPC Limited held between 16th August to 20th October 2022. The training addressed all the aspects of wind energy technology and was attended by 29 participants.

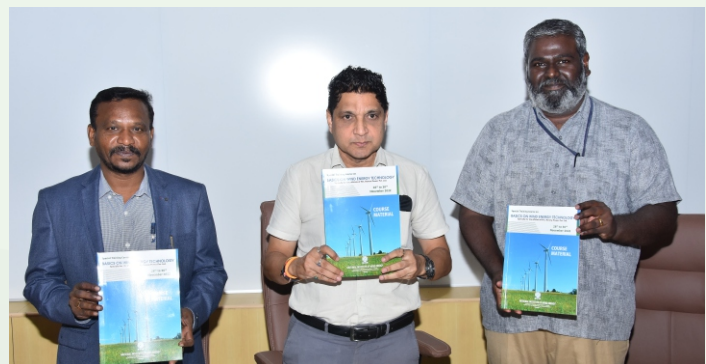
Special Training Course on "Basics on Wind Energy Technology" for the officials of Renew Power Pvt.Ltd.

The Skill Development and Training Division of NIWE had successfully conducted the special training course on "Basics on Wind Energy Technology" for the officials of M/s. Renew Power Pvt. Ltd. held during 28th to 30th November 2022. The course addressed all aspects of Wind Power starting from what is wind energy to wind resource assessment, project implementation and operations & maintenance aspects in a focused manner along with financial and policy aspects towards going for economically viable wind farm projects. A total of 25 Renew Power officials working in different facets of wind projects had participated enthusiastically in the course.

Dr. P. Kanagavel, Director & Head, SDT & IM Division, NIWE delivered the welcome address which was followed by the inauguration of the training course by Dr. Rajesh Katyal, Director General (Additional Charge) of NIWE who also released the course material. Shri J.C. David Solomon, Director & Head, M&T Division delivered the Vote of Thanks.



DG, NIWE Inaugurating the Course



Release of Course Material



Participants sharing their feedback about the training they received



Participants receiving the Course completion certificate

As part of the training course, course Material was released and distributed to all the participants, faculties and guests, which was a compilation of the write - ups of all the presentations / lectures collected from the lecturers specially prepared for this particular course for the benefit of the participants as a ready reference material.

There were 12 presentations scheduled during the course, which was handled by 7 NIWE Engineers and 4 external experts from wind turbine industry.

The participant's feedback was part of the Valedictory Function, where Dr. P. Kanagavel presented the course summary of

the training. Shri. Swamy Reddy, Senior HR Manager had shared his views about the training on behalf of Renew Power Pvt. Ltd. after which the Course Certificates were distributed to all the participants. Shri. J.C. David Solomon, Director & Head, M&T Division, NIWE delivered the Vote of Thanks.

Special Training Course on "Basics of Wind Energy Technology" for the officials of Nordex Engineering and Technology Pvt. Ltd.

The Skill Development and Training Division of NIWE had successfully conducted the special training course on "BASICS OF WIND ENERGY TECHNOLOGY" for the officials of Nordex Engineering and Technology Pvt. Ltd. held during 7th to 9th November 2022. The course addressed all aspects of Wind Power starting from what is wind energy to wind resources assessment, project implementation and operations & maintenance aspects in a focused manner along with wind solar hybrid system and offshore wind aspects towards going for economically viable wind farm projects. A total of 25 Nordex officials working in different facets of wind projects had participated in the course.

Dr. P. Kanagavel, Director & Head, SDT & IM Division, NIWE delivered the welcome address. Dr. Rajesh Katyal, Director General (Additional Charge) of NIWE has inaugurated the course and released the course material. Shri S.A. Mathew, Director & Head, Certification Division delivered the Vote of Thanks.

As part of the training course, the course material was distributed to all the participants, which is a compilation of all the presentations / lectures collected from the lecturers specially prepared for this course for the benefit of the participants as a ready reference material.

There were 14 presentations scheduled during the course, which was handled by 12 NIWE Engineers & Scientists.

The participants received their Course completion Certificates, which was distributed by Dr. Rajesh Katyal, Director General (Additional Charge) on the last day of the course.



Release of Course Material



Participants receiving the Course completion certificate

Vayumitra Skill Development Program (VSDP)

MNRE has assigned NIWE as the nodal agency to implement "Vayumitra Skill Development Program (VSDP)" in eight windy states and Kerala. The objective of the programme is to create skilled workforce for the Indian wind energy sector so as to achieve the Government of India targets. In the first phase, the following three major areas / job levels were identified namely (1) O&M Electrical & Instrumentation Technician – WPP, (2) O&M Mechanical Technician – WPP and (3) Site Surveyor – WPP based on the discussions and demand of the wind industry. The proposed "VSDP" is designed in line with the National Skill Development Corporation (NSDC) of the Ministry of Skill Development and Entrepreneurship, Government of India.

The programme envisages training of 5734 out of which 5010 Participants through Training of Participants (TOP) programme (1830 participants in O&M Mechanical Technician, 1830 trainees in O&M Electrical Technician and 1350 trainees in Site Surveyor). The TOP programme will be conducted at the identified Training Partners located close to Wind Farms of nine (9) windy states, namely Andhra Pradesh, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu and Telangana. To train the participants through the identified institutions, NIWE will train 690 Trainers (345 participants from

the institutes and 345 participants from the wind industry) through 12 days Training of Trainers (TOT) programmes. Both the TOP and TOT programme will be assessed by qualified Assessors from Sector Skill Council (Skill Council for Green Jobs) and NIWE will conduct Orientation Programme to 34 Assessors through Orientation to Assessors (OTA) programme of 7 days.

Status of the VSDP Activities

- Web Portal

The web portal is ready for launch with all the requisite content and features. The same has been given to IT Division of NIWE for auditing the source code.

- EoI for selection of remaining Institutes

The draft EoI is ready for approval

- Content Development for ToT / ToP

NIMI has already prepared a book, Teaching Methodology and order has been placed with NIMI to procure the same for Facilitator Guide for Trainers.

Order has been placed with NIMI for preparation of Participants Hand Book.

- ToT (Training of Trainers)

The first two batch of ToTs will commence on 2nd to 13th January 2023 and the remaining ToTs batches scheduled are as follows-

February 2023 : 06.02.2023 to 17.02.2023, March 2023 : 06.03.2023 to 17.03.2023 and 20.03.2023 to 31.03.2023.

- Physical Inspection of Training Centers

The inspection of all provisionally selected 13 training Centers have been completed on 23.12.2022. The final selection letter has been issued.

Azadi ka Amrit Mahotsav-2022-23

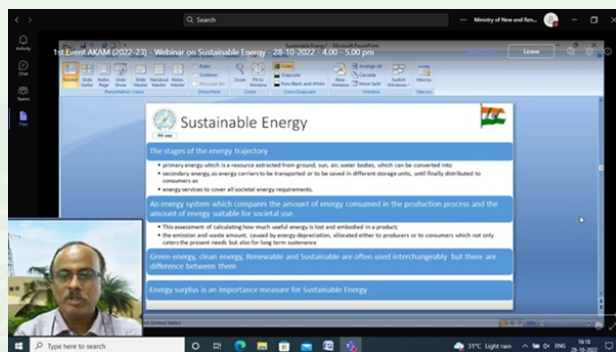
NIWE with the support of MNRE has scheduled sixteen events to commemorate 75 years of progressive Independent India (Azadi Ka Amrit Mahotsav).

The announcement about the event carrying the instructions was hosted in NIWE website and circulated through Social Media pages along with the Flyer.

The following four events were conducted online between 16.00 and 17.00 pm, enabling large number of participants to take part in the Webinar.

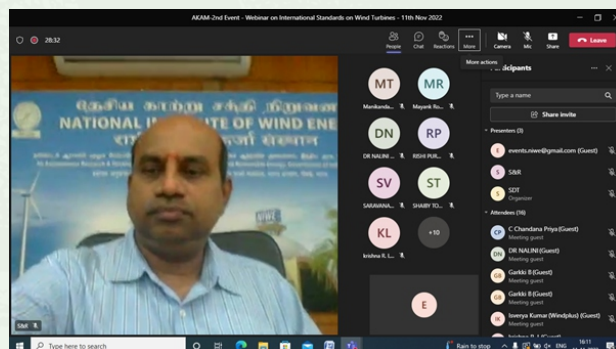
1st Event - “Webinar on Sustainable Energy”

The first event, “Webinar on Sustainable Energy” by Dr. K. Balaraman, DG, NIWE was held on 28th October 2022 and conducted successfully. 245 registrations were received and totally 44 participants have attended the event.



2nd Event - Webinar on International Standards on Wind Turbines

The second event, “Webinar on International Standards on Wind Turbines” by Shri. A. Senthil Kumar, Director & Head, S&R Division, NIWE was successfully conducted on 11th November 2022. 84 candidates were registered and 23 participants have attended the event.



4th Event - “Webinar on Type Certification of Wind Turbines”

The fourth event, “Webinar on Type Certification of Wind Turbines” by

Shri. S.A. Mathew Director & Head, Certification Division, NIWE was successfully conducted on 02nd December 2022. 80 candidates were registered and 15 participants had attended the event.

5th Event - “Webinar on Wind Turbine Testing and Measurement Techniques”

The fifth event, “Webinar on Wind Turbine Testing and Measurement Techniques” by Shri. J.C. David Solomon, Director & Head, Measurements & Testing Division, NIWE was successfully conducted on 07th December 2022. 57 candidates were registered and 26 participants had attended the event.

All the speakers gave a detailed presentation on the topic and followed by a Q&A session, which was open for the participants to interact with the speakers. Many questions were asked by the participants, which were clarified by the speakers. The organization of webinar was highly appreciated by the participants. The participants were very much satisfied with the quality of the presentation and expressed thanks to NIWE for arranging the online events under the aegis of Azadi ka Amrit Mahotsav.

3rd Event -“RE Camp at Kayathar for ITI/Diploma Students

The third event, “RE Camp at Kayathar for ITI / Diploma Students” was successfully conducted during 19th to 23rd December 2022.

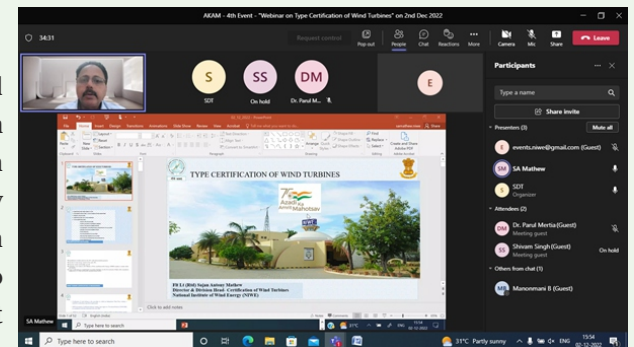
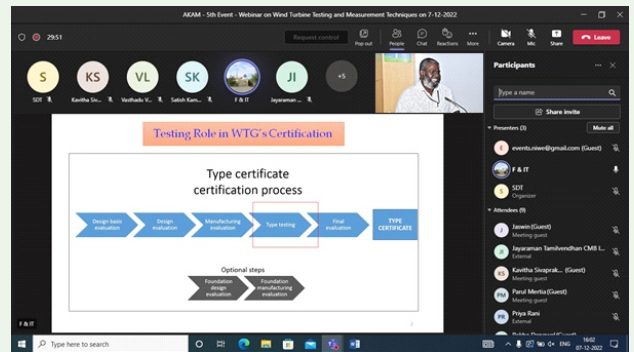
Against the announcement, 32 registrations were received and all the participants were selected to attend the camp. 28 participants have attended the camp at Kayathar.

The camp was scheduled as per the following programme. The topics are covered in the following areas : • Introduction to Wind Energy Technology • Overview of Wind Turbine Components • Electrical System in Wind Turbines • Wind Turbine Generators • The Aerodynamic aspects of Wind Turbine • Control and Protection System in Wind Turbine • Wind Resources Assessment & Techniques • Design and Layout of Wind farms • Site selection for Wind Monitoring Stations • Economic Analysis of Wind Power Development • Installation and Commissioning of Wind Turbine • Operation and Maintenance aspects of Wind Farms • Wind Turbine Testing & Measurement Techniques • Certification of Wind Turbine • Grid Integration of Wind Turbines • Forecasting of Wind and Energy Production • Overview of Wind Turbine Research & Testing Station facilities • Field visit to Large & Small Wind Turbine Testing Facilities • Field visit to Wind Monitoring Station • Field visit to Wind – Solar Hybrid system • Field visit to Sub- station.

RE camp created awareness and provided a good foundation on the principles of engineering besides wind energy technology and its operations in the field during all the seasons. The camp was very helpful to the participants to facilitate a valuable forum for dialogue and open exchange of views.

The participants got knowledge about the wind energy technology, wind resource assessment, aerodynamic technology, wind components, wind electrical generator and operations of wind turbine through classroom lectures. They also got added knowledge practically, through field visit of wind monitoring station, wind farm, research and testing facilities of large and small wind turbines and substation. Participation certificates were distributed to the participants at the end of the RE camp during the valedictory function.

The structure and organization of RE camp was highly appreciated by the participants through their feedback. The participants were very much satisfied by the quality of the content they got from the training and expressed thanks to NIWE and MNRE for arranging the free RE camp under this programme.





Classroom Lecture



Participants learning to wear Safety belt for safety



Valedictory Function and Certificate Distribution



Group Photo of the Students at Wind Farm, WTTS, NIWE, Kayathar

Students & Training Participants Visit

To create awareness and to motivate towards research on wind energy, achieving the indigenization and also to create awareness about the activities and services of NIWE, schools and college students are encouraged to visit the campus.

During the period from October to December 2022, the following visits were coordinated.

- 21 participants & 1 coordinator of ITEC Course participants of National Productivity Council, Chennai - delegation from 14 countries on 21st November 2022.
- 50 students & 2 staff of Vellore Institute of Technology (VIT), Chennai on 09th November 2022.
- 43 students & 2 staff of Vellore Institute of Technology (VIT), Chennai on 14th November 2022.



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