

PRESS RELEASE

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IEA Wind TCP Recommended Practice

Wind Farm Data Collection and Reliability Assessment for O&M Optimization

The IEA Wind TCP published the new »recommended practice 17«. It leads the user to individually appropriate solutions for wind farm data collection and reliability assessment for O&M optimization. It is primarily directed at operators and service providers, but all identified stakeholder groups will benefit from the adoption of this best practice.

Several guidelines and standards from different industries provide lists of necessary data entries, as well as a range of taxonomies at varying degrees of granularity. However, none of these guidelines provide a complete scheme for reliability analyses of wind turbine components. This recommended practice presents an overview of appropriate standards and guidelines, suggesting taxonomies for categorizing component designations, measuring points, failure aspects, and maintenance tasks.

The Value of Data Collection Standards

»Reliability is a critical issue for the growing wind energy industry since it affects other areas like safety, availability, maintenance, logistics and cost. Increasing future demands on reliability and profitability of wind energy, especially offshore, require the optimization of wind turbine maintenance, for which appropriate data management and sophisticated decision-support tools are prerequisites. «, explains Berthold Hahn from Fraunhofer IWES in Kassel, Germany.

The development and adoption of reliability data collection standards and reporting across the industry will take the time and commitment of all stakeholders. The value, as realized in other industries such as oil and gas, lies in safer, more effective, and more efficient maintenance policies, strategies and practices. Failure to do this will restrict the pace at which improvement opportunities for operations and maintenance costs can be identified and implemented.

IEA Wind TCP Task 33

Recommended Practice 17 (May 2017) is the final result of IEA Wind TCP Task 33 focusing on reliability data. The author team consisted of experts from 11 countries with experience in data acquisition, reliability modeling, and data analysis from research and industry applications.

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Key Recommendations for Wind Farm Data Collection (IEA Wind TCP)

Developers / owners / operators	<p>1. Make sure you get access to all relevant data</p> <p>Consider reliability data to be of high value from the early stages of wind asset development. Ensure that access to reliability data and required data are factored into all contractual negotiations.</p>
	<p>2. Identify your use-case and be aware of the resulting data needs</p> <p>Identify use cases linked to your organizational reliability ambitions and use these to define data collection requirements.</p>
	<p>3. Map all WT components to one taxonomy / designation system</p> <p>Map all wind asset components and maintenance activities to one of the taxonomies / designation systems identified in the IEA Wind RP17.</p>
	<p>4. Align operating states to IEC 61400-26</p> <p>Align operating states with those specified in IEC 61400-26 [4], the standard for a time- and production-based availability assessment for wind turbines.</p>
	<p>5. Train your staff understanding, what data collection is helpful for</p> <p>All staff should be educated on the strategic significance of reliability data and empowered to improve related business processes and practices.</p>
	<p>6. Support data quality by making use of computerized means</p> <p>Whenever practical, seek to automate the data collection / collation process as a means of reducing efforts and the risk of human error as well as improving data quality.</p>
	<p>7. Share reliability data to achieve a broad statistical basis</p> <p>Engage in the external, industry-wide sharing of reliability and performance data to achieve statistically significant populations of data .</p>
Development of standards for the wider wind industry	<p>8. Develop comprehensive wind-specific standard based on existing guidelines/standards</p> <p>Develop a comprehensive wind specific standard based on ISO 14224 [2], FGW ZEUS [3], and other existing guidelines/standard.</p>
	<p>9. Develop component- / material-specific definition of faults, location, and severity</p> <p>As a longer-term recommendation, there is a need to develop standard definitions for damage classification and severity for structural integrity issues.</p>

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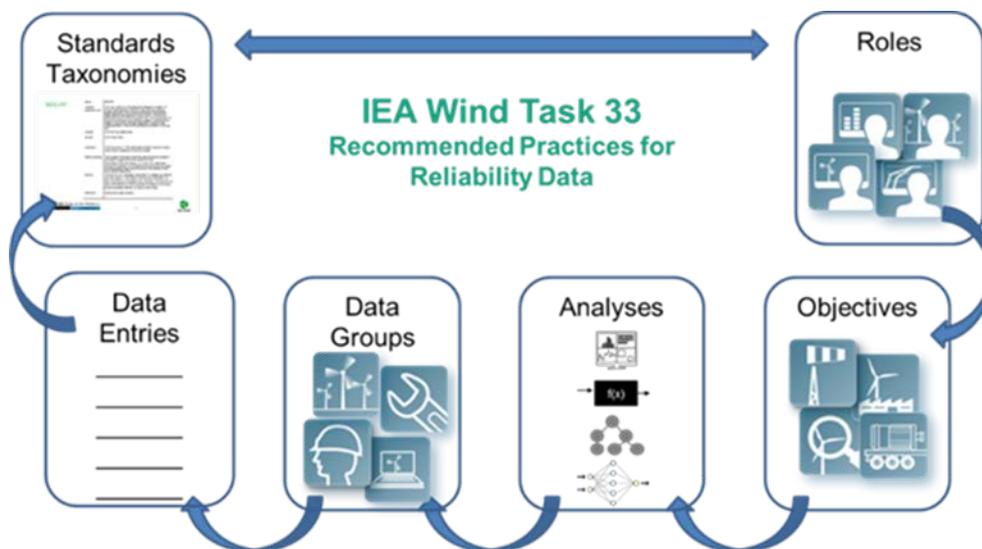


Figure1: Process for Wind Farm Data Collection and Reliability Assessment for O&M Optimization
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