

**OBJECTIVES OF THE INTEREST GROUP AIRBORNE WIND -
WORKING GROUP GRID CONNECTION**

IG AW WG Grid	
FGW Technical Guideline 11 Category B	
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Objective confirmed on	17.01.2022
When does the WG plan to present the results?	Revision 0 or decision that AWES can fall under existing regulation for 2022 planned
What is the problem, what is the content?	<p>The FGW Technical Committee for Electrical Characteristics (TG3, TG 4, TG 8) has adopted generally accepted testing procedures and certification guidelines for generation units and plants at all voltage levels by broad consensus with extensive participation of all interested parties and published them for all grid connection rules applied in Germany. Whether a gradual adaptation of these procedures is necessary for AWES or AWES fall under the existing regulations is the subject of the working group.</p> <p>One problem arising is the requirement to measure the machine constant power output for 10 minutes, as AWES produce energy in cycles of several minutes and their power output isn't as smooth as that of conventional wind turbines. The manufacturers of thermal power stations (cogeneration units, "Blockheizkraftwerke") face a similar challenge with certification bodies, as they handle oscillating load conditions as well.</p> <p>Other possible problems:</p> <ul style="list-style-type: none"> - Taking energy out of the grid to operate - High frequencies
What is the goal, what result does the WG want to work out?	<p>Definition of the gap to wind turbines and all other renewable power generating units (in respect to voltage level).</p> <p>Clarification whether AWES fall under the existing rules and regulations with respect to grid conformity. If so, then development of roadmap for obtaining unit certificates.</p>

	Can AWES go the formal procedure of the certification process according to TG 8 and the VDE-ARN 41xx? Which requirements are necessary for AWES?
Should the document be prepared as a recommendation, test specification or certification specification?	Depending on outcome - recommendation or certification specification
How often does the WG plan to meet (web-meetings)?	The WG intends to meet 6 times each year in two-hour web meetings
What (lists, representations, explanations, recommendations) should the guideline contain specifically at the end?	List of requirements for certain voltage levels
Should the guideline specify other documents?	FGW TG 3, 4, 8 and the corresponding regulatory framework, especially VDE-ARN 41xx.
What content should explicitly not be covered?	Relaxation or tightening of the technical requirements of the grid connection rules
How does the WG proceed, which steps are planned?	<ol style="list-style-type: none"> 1. Identification of deviations from certification process of electrical characteristics. 2. Relevant voltage levels for AWES. Overview of concepts for grid connection and circuit diagrams. 3. Can AWES fulfill the requirements of VDE-ARN 41xx? 4. Can AWES fulfill TG 8? <p>The working group will seek advice from TG 8 experts and certification bodies.</p>
Against which existing standardization does the WG or the result have to distinguish itself?	All previously mentioned
What research is needed regarding the existing regulatory framework, e.g. for the purpose of delineation or clarification?	
Who is the guideline aimed at?	Manufacturer and operator
Which experts or stakeholders are already involved?	Manufacturer, operator, Planning offices
Which experts or stakeholders need to be involved additionally?	Certification bodies, network operators