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IEC 61400-3-2: 2019

DRAFT TANZANIA STANDARD

(Draft for comments only)

Wind energy generation systems - Part 3-2: Design requirements for floating offshore wind turbines

Draft for Stakeholders Comments

TANZANIA BUREAU OF STANDARDS

1. National Foreword

This draft Tanzania Standard is being prepared by the Renewable Energy Technical Committee, under the supervision of the Electrotechnical Divisional Standards Committee (EDC)

This draft Tanzania Standard is an adoption of the International Standard IEC **61400-3-2:2019**, *Wind energy generation systems - Part 3-1: Design requirements for floating offshore wind turbines*, which has been prepared by the International Electrotechnical Commission (IEC).

2. Terminology and conventions

Some terminologies and certain conventions are not identical with those used in Tanzania Standards; Attention is drawn especially to the following:

- 1) The comma has been used as a decimal marker for metric dimensions. In Tanzania Standards, it is current practice to use “full point” on the baseline as the decimal marker.
- 2) Where the words “International Standard(s)” appear, referring to this standard they should read “Tanzania Standard(s)”.

Draft for Stakeholders Comment

3. Scope

This draft Tanzania Standard, which is a technical specification, specifies additional requirements for assessment of the external conditions at a floating offshore wind turbine (FOWT) site and specifies essential design requirements to ensure the engineering integrity of FOWTs. Its purpose is to provide an appropriate level of protection against damage from all hazards during the planned lifetime.

This document focuses on the engineering integrity of the structural components of a FOWT but is also concerned with subsystems such as control and protection mechanisms, internal electrical systems and mechanical systems. A wind turbine is considered as a FOWT if the floating substructure is subject to hydrodynamic loading and supported by buoyancy and a station-keeping system. A FOWT encompasses five principal subsystems: the RNA, the tower, the floating substructure, the station-keeping system and the on-board machinery, equipment and systems that are not part of the RNA.

The following types of floating substructures are explicitly considered within the context of this document:

- a) ship-shaped structures and barges,
- b) semi-submersibles (Semi),
- c) spar buoys (Spar),
- d) tension-leg platforms/buoys (TLP / TLB).

In addition to the structural types listed above, this document generally covers other floating platforms intended to support wind turbines. These other structures can have a great range of variability in geometry and structural forms and, therefore, can be only partly covered by the requirements of this document. In other cases, specific requirements stated in this document can be found not to apply to all or part of a structure under design. In all the above cases, conformity with this document will require that the design is based upon its underpinning principles and achieves a level of safety equivalent, or superior, to the level implicit in it. This document is applicable to unmanned floating structures with one single horizontal axis turbine. Additional considerations might be needed for multi-turbine units on a single floating substructure, vertical-axis wind turbines, or combined wind/wave energy systems.