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oSIST prEN IEC 63132-5:2022

01-maj-2022

Navodila za postopke vgradnje in tolerance hidroelektričnih strojev - 5. del: Turbine z žarnicami in generatorji

Guide for installation procedures and tolerances of hydroelectric machines - Part 5: Bulb turbines and generators

iTeh STANDARD
PREVIEW

Lignes directrices des procédures et tolérances d'installation des machines hydroélectriques - Partie 5: Turbines bulbes et alternateurs

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Ta slovenski standard je istoveten z: **prEN IEC 63132-5:2022**

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ICS:

27.140	Vodna energija	Hydraulic energy engineering

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4/432/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER:	
IEC 63132-5 ED1	
DATE OF CIRCULATION:	CLOSING DATE FOR VOTING:
2022-03-18	**2022-06-10**
SUPERSEDES DOCUMENTS:	
4/387/NP, 4/401A/RVN	

IEC TC 4 : HYDRAULIC TURBINES	
SECRETARIAT:	SECRETARY:
Canada	Mrs Christine Geraghty
OF INTEREST TO THE FOLLOWING COMMITTEES:	PROPOSED HORIZONTAL STANDARD: ☐
	Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: ☐ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☐ SAFETY	
☒ SUBMITTED FOR CENELEC PARALLEL VOTING	☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING
Attention IEC-CENELEC parallel voting The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting. The CENELEC members are invited to vote through the CENELEC online voting system.	

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TITLE:

Guide for installation procedures and tolerances of hydroelectric machines - Part 5: Bulb turbines and generators

PROPOSED STABILITY DATE: 2025

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DRAFT

GUIDANCE FOR INSTALLATION PROCEDURES AND TOLERANCES OF HYDROELECTRIC MACHINES

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Part 5: Bulb turbines and generators

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

GUIDANCE FOR INSTALLATION PROCEDURES AND TOLERANCES OF HYDROELECTRIC MACHINES

Part 5: BULB TURBINES AND GENERATORS

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This Guide has been prepared by IEC technical committee No.4: Hydraulic turbines.XX:

The text of this guide is based on the following documents:

FDIS	Report on voting
XX/XX/FDIS	XX/XX/RVD

Full information on the voting for the approval of this guide can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 63132 series, published under the general title *Guidance for installation procedures and tolerances of hydroelectric machines*, can be found on the IEC website.

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The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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- withdrawn,
- replaced by a revised edition, or
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GUIDE FOR INSTALLATION PROCEDURES AND TOLERANCES OF HYDROELECTRIC MACHINES-

Part 5: Bulb turbines and generators

1 Scope

The purpose of this guide is to establish, in a general way, suitable procedures and tolerances for the installation of bulb turbine and generator. This guide presents a typical assembly and whenever the words “turbine” and “generator” are used in this part, it refers to bulb turbine and generator. There are many possible ways to assemble a unit. The size of the machine, the design of the machine, the layout of the powerhouse, the sequence of concreting or the delivery schedule of the components are some of the elements that could result in additional steps, or the elimination of some steps and/or assembly sequences.

It is understood that a publication of this type will be binding only if, and to the extent that, both contracting parties have agreed upon it.

The guide excludes matters of purely commercial interest, except those inextricably bound up with the conduct of installation. It also excluded to specifications of the civil works but this aspect of the work should be taken into consideration during the assembly of the units.

Wherever the guide specifies that documents, drawings or information is supplied by a manufacturer (or by manufacturers), each individual manufacturer will furnish the appropriate information for their own supply only.

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2 Normative reference

There are no normative references in this document.

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3 Terms and definition

No terms and definitions are listed in this document.

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- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

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4 Installation flowchart

4.1 Turbine and generator embedded parts

Figure 1 shows generic installation flowchart for bulb turbine and generator embedded parts.

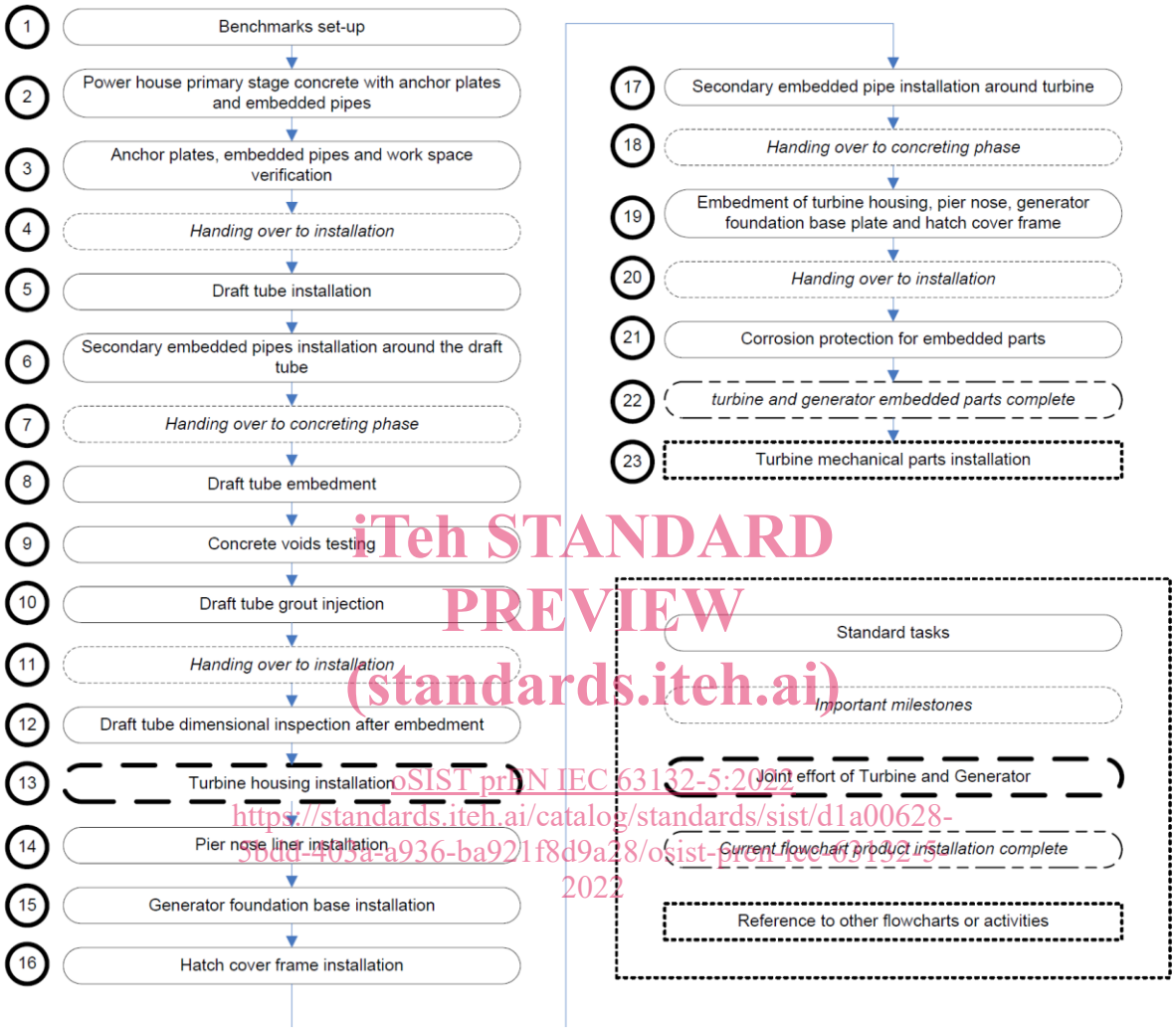

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Figure 1 – Generic installation flowchart – Bulb turbine and generator embedded parts

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4.2 Turbine and generator mechanical parts

Figure 2 shows generic installation flowchart for bulb turbine and generator mechanical parts.

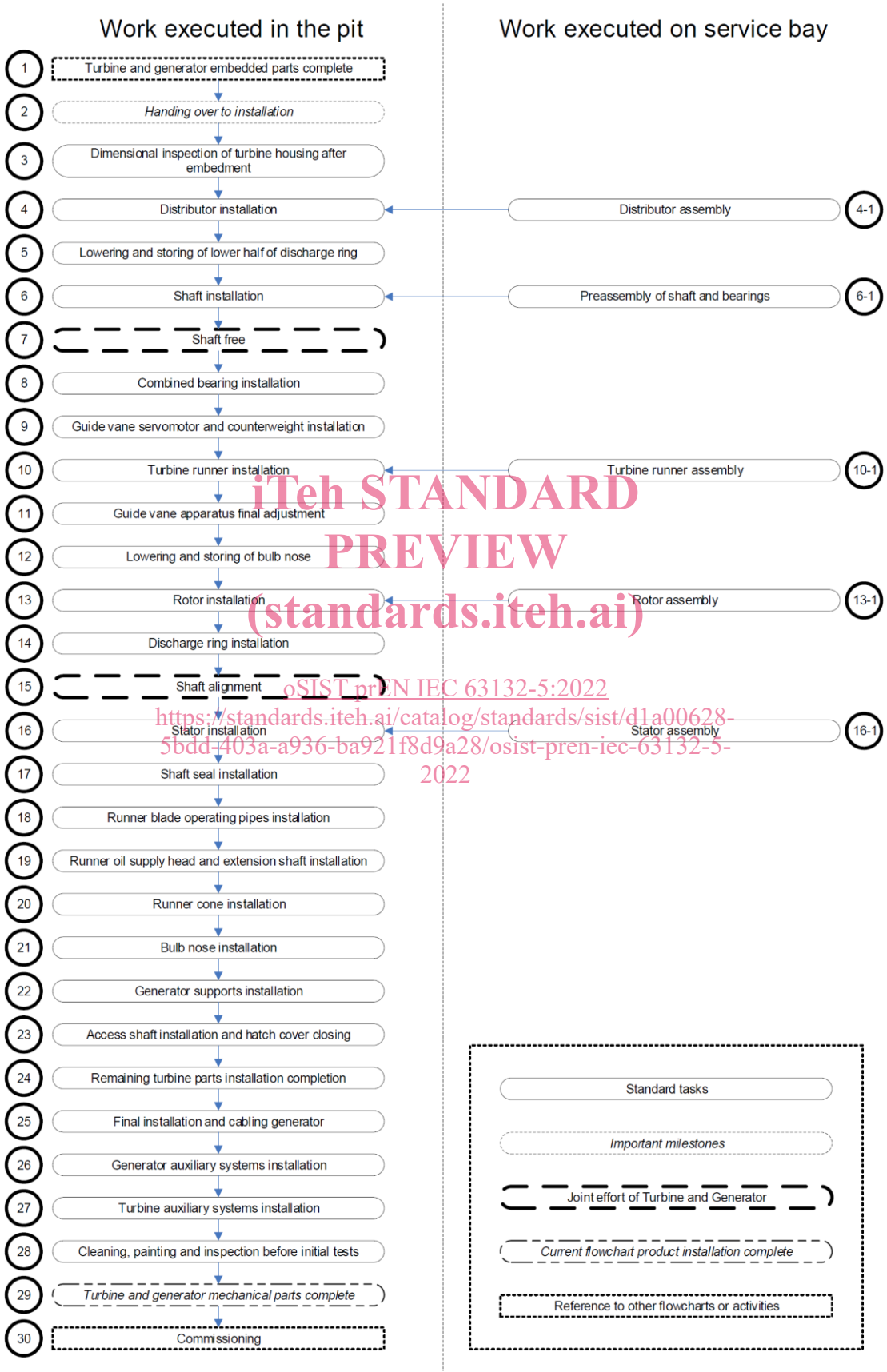

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Figure 2 – Generic installation flowchart – Bulb turbine and generator mechanical parts

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5 Steps

5.1 Turbine and generator embedded parts

5.1.1 Step 1: Benchmarks set-up

a) Objective of work in the step

– Set-up benchmarks to be used for starting proper installation of the turbine and generator.

b) Explanation of work

– Sufficient benchmarks should be provided to establish the unit centreline, axis and elevation.

c) Recommendations

N/A

d) Additional Information

Depending on the project delivery system (EPC, Design Build, etc.), the benchmarks or their reference points could be provided by the owner, civil contractor, etc. Whoever provides the benchmarks or reference points is responsible to make sure they are correct.

The benchmark type (x, y, z coordinates, defining axis and elevations, etc.) should be agreed to prior to the work commencing.

The turbine supplier should take care to transfer the necessary benchmarks throughout the erection and/or concreting processes so that the benchmarks remain accessible as the unit is assembled.

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5.1.2 Step 2: Powerhouse primary stage concrete with anchor plates and embedded pipes

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a) Objective of work in the step

– Install primary embedded pipes, anchor plates and steel foundations in the correct locations.

b) Explanation of work

– Install the primary embedded pipes and supporting systems.

– Install the foundation components of the draft tube liner, servomotor, stay columns and pier nose.

c) Recommendations

Different designs require different tolerances; therefore, it is recommended that the turbine supplier should provide the tolerances. It is considered as a best practice to perform:

– Non-destructive tests as applicable (i.e. Visual inspections, pressure tests of the piping, test of welding seams).

– Measures to prevent the concrete from entering the pipes or contaminating the machined surfaces of foundations during concreting.

d) Additional Information

The contract should define which party is responsible to install the primary embedded pipes and/or the foundation components of draft tube liner, servomotor, stay columns and pier nose.