DRAFT AMENDMENT

IEC/IEEE 80005-1:2019/DAM 1

ISO/TC **8**/SC **3**

Secretariat: **ANSI**

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Utility connections in port —

Part 1:
High voltage shore connection (HVSC) systems — General requirements

AMENDMENT 1: Utility connections in port

ICS: 47.020.60

This draft is submitted to a parallel vote in ISO and in IEC.

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This amendment has been prepared by IEC technical committee 18: Electrical installations of ships and of mobile and fixed offshore units, in cooperation with:

- IEC subcommittee 23H: Plugs, socket-outlets and couplers for industrial and similar applications, and for Electric Vehicles, of IEC technical committee 23: Electrical accessories;
- ISO technical committee 8: Ships and marine technology, subcommittee 3: Piping and machinery; and
- IEEE IAS Petroleum and Chemical Industry Committee.

This document is published as a triple logo (IEC, ISO and IEEE) standard.

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

FDIS	Report on voting
18/XX/FDIS	18/XX/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table. In ISO, the amendment has been approved by XXX P members out of YYY having cast a vote.

The language used for the development of this Amendment is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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5.1 Voltages and frequencies

Replace the existing fourth paragraph with the following new paragraph:

The phase sequence shall be L1-L2-L3 or A-B-C or R-S-T, counter-clockwise. A phase sequence indicator shall indicate correct sequence prior to energizing or paralleling HVSC [see Figure 2a)]. Figure 2b) illustrates the balanced three-phase voltages in the time domain.

Add, after the existing fifth paragraph, the following new paragraph and note:

A phase sequence indicator shall indicate correct sequence prior to energizing or paralleling HVSC. Figure 2 illustrates the balanced three-phase voltages in the time domain.

NOTE See ship specific annexes for phase assignment of the pins in the connector. The respective contact assignment figures show solid circles as pins and open circles as sockets.

5.2 Quality of HV shore supply

Delete, in item c) of the existing second paragraph, the last sentence.

Figure 3 – Single harmonic distortion limits

Delete the existing figure, including its title.

Replace, after Figure 3, the existing note with the following new note:

NOTE Additional recommendations are provided in IEEE Std 519™, MIL STD 1399-680, and IEC 60092-101.

6.2.1 Circuit-breaker, disconnector and earthing switch

Replace the existing first paragraph with the following new paragraph and note:

The shore connection switchgear and control gear shall be designed and tested in accordance with IEC 62271-200 or ANSI/UL Metal-Clad Switchgear (IEEE Std C37.20.2). Switching devices and their combination shall be properly interlocked, to provide safe isolation before earthing and during operation.

NOTE 1 Switching devices and their combination for isolation and earthing can be part of different switchgear functional units (see definition IEC 60050-441:2000, 441-13-04).

Replace, in the existing note, the word "NOTE" with "NOTE 2".

7.3.4 Fibre-optic connection

Delete the existing subclause, including its title.

Annex B – Additional requirements for Roll-on Roll-off (Ro-Ro) cargo ships and Ro-Ro passenger ships

B.1 General

Delete, in the existing first paragraph, the words "excluding pure car carriers".

B.4.1 System description

Replace key 2 and 3 of Figure B.1 with:

2 Power ship connector (shore-side) and ship inlet (onboard)

3 Fibre optic communication for control and monitoring (integrated in power cable); socket-outlet (shore-side) and plug (on-board). (This standard does not specify requirements for optic communication)

B.5.1 Voltages and frequencies

Replace the existing second paragraph with:

Nominal voltage of 6,6 kV AC may be used for facilities dedicated to pure car carriers.

B.7.1 General

Replace the existing paragraph with::

For 6,6 kV systems, one cable shall be used for HVSC system up to a power demand of 3,5 MVA. For 11 kV systems, one cable shall be used for HVSC system up to a power demand of 6,5 MVA.

B.7.3.1 General

Replace the first paragraph with:

General arrangement of ship connector and ship inlet shall be in accordance with IEC 62613-2:2016, Annex J, and Figure B.3 below.

Replace the third and fourth paragraph with:

Each connector and ship inlet shall be fitted with seven pilot contacts.

For design and dimensions, see IEC 62613-1 and IEC 62613-2:2016.

Figure B.3 – Three-phase plug and socket-outlet contact assignment

Replace the existing title with the following new title:

Figure B.3 – Three-phase ship connector and ship inlet contact assignment

Replace the existing keys 1 and key 2 with the following new keys:

1 Ship connector face
2 Ship inlet face

B.7.3.4Fibre-optic connection

Delete the existing subclause, including its title.

Annex C – Additional requirements for cruise ships

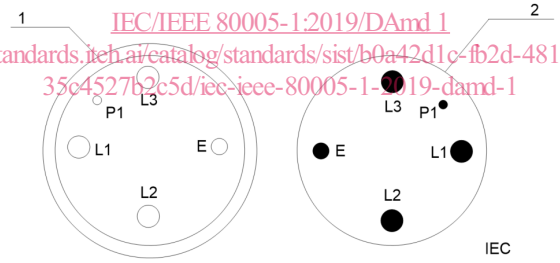
Figure C.1 – General system diagram

Replace the existing key 2 with the following new key:

2 Ship connector (shore side) and ship inlet (onboard), four times

Figure C.4 – Three-phase ship connector and ship inlet contact assignment

Replace the existing figure and key with the following new figure and key:



Key

1 Ship connector face
2 Ship inlet face
E Earth
P1 Pilot line 1 (used for continuity check)
L1 Phase A – phase R
L2 Phase B – phase S
L3 Phase C – phase T

Annex D – Additional requirements of container ships

D.7.3.1General

Replace, in the existing third paragraph, the word "Annex II" with "Annex I".

D.7.3.4Fibre-optic connection

Delete the existing subclause, including its title.

D.4.1 System description

Replace key 3 of Figure D.1 with:

3 Fibre optic communication for control and monitoring (integrated in power cable); plug (shore-side) and socket outlet (on-board). (This standard does not specify requirements for optic communication)

Annex E – Additional requirements of liquefied natural gas carriers (LNGC)

E.4.1 System description

Replace key 2 and 3 of Figure E.1 with:

2 Power ship connector (shore-side) and ship inlet (onboard)

3 Fibre optic communication for control and monitoring (integrated in power cable); socket-outlet (shore-side) and plug (on-board). (This standard does not specify requirements for optic communication)

E.7.3.1 General

Replace, in the existing first paragraph, the words "shore plug and ship socket-outlet" with "ship connector and ship inlet".

Figure E.2 – Three-phase ship connector and ship inlet contact assignment

Replace the existing key 1 and key 2 with the following new keys:

1 Ship connector face
2 Ship inlet face

E.7.3.4 Fibre-optic connection

Delete the existing subclause, including its title.

Annex F – Additional requirements for tankers

F.4.1 System description

Replace the existing key 2, 3 and 4 of Figure F.1 with the following:

2 Power ship connector (shore-side) and ship inlet (onboard)

3 Control and monitoring (separate cable management system with copper wires); plug (shore-side) and socket-outlet (onboard).

4 Pilot wires (integrated in ship connector and ship inlet)

F.7.3.1 General

Replace the existing second and third paragraph with the following new paragraph:

General arrangement of ship connector and ship inlet shall be in accordance with IEC 62613-2:2016, Annex II, and Figure F.2 below.

Each ship connector and ship inlet should be fitted with three pilot contacts

Replace the title of Figure F.2:

Figure F.2 – Three-phase ship connector and ship inlet contact assignment

Replace key 1 and key 2 of Figure F.2 with:

1 Ship connector face
2 Ship inlet face

218 **Bibliography**

219 *Add, after the existing first reference, the following new reference:*

220 IEC 60050-441, *International Electrotechnical Vocabulary – Part 441: Switchgear, controlgear*
221 *and fuses* (available at www.electropedia.org)

222