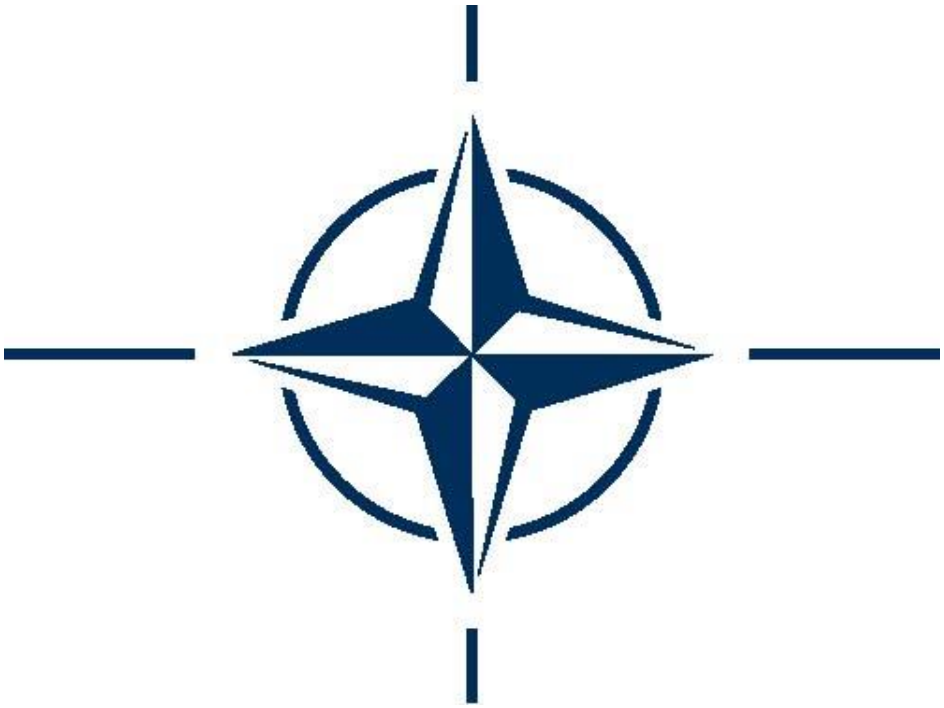
NATO STANDARD

ANEP-92

SHIP/SHORE AND SHIP/SHIP CONNECTION TERMINALS FOR 3-PHASE AC POWER

Edition A Version 1
MAY 2019



NORTH ATLANTIC TREATY ORGANIZATION

ALLIED NAVAL ENGINEERING PUBLICATION

Published by the
NATO STANDARDIZATION OFFICE (NSO)

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NORTH ATLANTIC TREATY ORGANIZATION (NATO)

NATO STANDARDIZATION OFFICE (NSO)

NATO LETTER OF PROMULGATION

10 May 2019

1. The enclosed Allied Naval Engineering Publication ANEP-92, Edition A, Version 1, SHIP/SHORE AND SHIP/SHIP CONNECTION TERMINALS FOR 3-PHASE AC POWER, which has been approved by the nations in the NATO NAVAL ARMAMENT GROUP (NNAG), is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 4143.

2. ANEP-92, Edition A, Version 1, is effective upon receipt.

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4. This publication shall be handled in accordance with C-M(2002)60.

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Brigadier General, HUNAF
Director, NATO Standardization Office

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RECORD OF RESERVATIONS

CHAPTER	RECORD OF RESERVATION BY NATIONS
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

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RECORD OF SPECIFIC RESERVATIONS

[nation]	[detail of reservation]
HRV	Croatian Navy does not have connections exceeding 250A for ships electrical supply. It is necessary to make a reconstruction of a portion of a peer at the Naval Base Split in order to have capacity to install the required 400A connections.
LVA	Latvian Navy ships have different power supplies connection from shore and different amperage and frequency for ships power grid. There is luck of Military ports in Latvia; therefore Navy ships are mooring in Civilian ports, but if necessary Civilian ports can provide power supply for Alliance Navy ships.
POL	The provisions of STANAG will be applied from February 2022 with reference to newly built naval vessels.
ROU	Not all Romanian military ports have the possibility to deliver 3 phase AC power with characteristics as presented in ANEP 92 Ed. A.

Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.

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CHAPTER 1 INTRODUCTION

1.1. PURPOSE AND SCOPE

1. Consideration of low emission trends and civilian legislation prohibits the running of diesels in harbour and therefore the connection to shore supplies becomes necessary. As some shore facilities may not have power regulated to STANAG 1008, it is incumbent on the ships to ensure that they protect from excursions in power quality that can occur. It is assumed that ships should have alternative power supplies on standby in the event of failure of the shore supply.

2. This ANEP does not apply to nuclear vessels, which have their own quality and safety requirements.

3. Standard voltages other than 440V 3-phase may be required, which could affect the connection and maximum ampere requirement, however High Voltage Shore Connections are not covered by this ANEP.

1.1.1. Definitions

1. Hotel Load. Hotel load is defined as any loads required by a naval ship while berthed at a foreign port. This typically includes domestic loads such as heating, lighting / galley services, domestic appliances, as well as emergency services such as firefighting and damage control machinery (including IPMS). It typically excludes services such as power requirements for weapons and weapons sensors systems.

1.1.2. Guidance

1. Typically, shore power is not designed to supply power for flash-up and testing / trialing requirements for weapon systems. If a ship requires this type of power it would normally be supplied from its own power generation system. This is due to the reason that shore power is not guaranteed to meet STANAG 1008 requirements.

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CHAPTER 2 DESIGN CRITERIA

2.1. General

1. The provision of the described facilities at shore establishments to serve visiting ships.

2. The adaptation of appropriate ships to accept power so provided.

3. The adaptation of ships to make provisions for appropriate grounding arrangements between ships, and between ship to shore.

2.2. Design Criteria Details

1. Participating nations agree that all applicable ships shall be capable of receiving power from single or three conductor cables terminated with lugs suitable for fitting to M12 diameter studs and each conductor having a capacity not exceeding 400A.

2. Each nation shall be able to provide power to ships by means of cables fitted with lugs suitable for fitting to M12 diameter studs on the ship. Shore power cables usually fit into shore connection boxes installed aboard all applicable ships. These shore connection boxes are not limited in size to only one single 3-Phase 440V AC shore power connection, but may contain multiples of 400A connections.

3. In the event that a requirement exists for two ships to be berthed together, participating nations agree that all applicable ships will be fitted with at least one bonding stud accessible on either side of the weather deck at a distance not less than half the length of the ship. The bonding studs are to be M12 size and welded to the deck.

4. Each nation shall provide bonding connections to ships by means of the ship’s own flexible copper cable.

ANEP-92(A)(1)