

Irish Standard I.S. EN 62616:2010

Maritime navigation and radiocommunication equipment and systems - Bridge navigational watch alarm system (BNWAS) (IEC 62616:2010 (EQV))

© NSAI 2010

No copying without NSAI permission except as permitted by copyright law.

Incorporating amendments/corrigenda issued since publication:			

# The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces:	This document is based on:	<i>Publish</i>	ned:
	EN 62616:2010	16 Apri	il, 2010
This document was published under the authority of the NSAI and comes into effect on: 4 May, 2010			ICS number: 47.020.70

NSAI 1 Swift Square, Northwood, Santry Dublin 9 T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie

T +353 1 857 6730 F +353 1 857 6729 W standards.ie

Sales:

W NSAI.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

**EUROPEAN STANDARD** 

EN 62616

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2010

ICS 47.020.70

English version

# Maritime navigation and radiocommunication equipment and systems Bridge navigational watch alarm system (BNWAS)

(IEC 62616:2010)

Equipements et systèmes de navigation et de radiocommunication maritimes - Système d'alarme pour la surveillance de l'activité de navigation sur le pont (CEI 62616:2010)

Navigations- und Funkkommunikationsgeräte und -systeme für die Seeschifffahrt -Wachalarmsystem für die Kommandobrücke (BNWAS) (IEC 62616:2010)

This European Standard was approved by CENELEC on 2010-04-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

# **CENELEC**

European Committee for Electrotechnical Standardization Comité Européen de Normalisation Electrotechnique Europäisches Komitee für Elektrotechnische Normung

Management Centre: Avenue Marnix 17, B - 1000 Brussels

EN 62616:2010

- 2 -

## **Foreword**

The text of document 80/577/FDIS, future edition 1 of IEC 62616, prepared by IEC TC 80, Maritime navigation and radiocommunication equipment and systems, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62616 on 2010-04-01.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

 latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement

(dop) 2011-01-01

 latest date by which the national standards conflicting with the EN have to be withdrawn

(dow) 2013-04-01

Annex ZA has been added by CENELEC.

## **Endorsement notice**

The text of the International Standard IEC 62616:2010 was approved by CENELEC as a European Standard without any modification.

- 3 - EN 62616:2010

# Annex ZA (normative)

# Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	EN/HD	<u>Year</u>
IEC 60945	-	Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results	EN 60945	-
IEC 61162	Series	Maritime navigation and radiocommunication equipment and systems - Digital interfaces	EN 61162-1	Series
IEC 61162-1	-	Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 1: Single talker and multiple listeners	EN 61162-1	-
IEC 62288	-	Maritime navigation and radiocommunication equipment and systems - Presentation of navigation-related information on shipborne navigational displays - General requirements, methods of testing and required test results		-
IMO Resolution A.694(17)	-	General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids	-	-
IMO Resolution A.813(19)	-	General requirements for electromagnetic compatibility (EMC) for all electrical and electronic ship's equipment	-	-
IMO Resolution A.830(19)	-	Code on alarms and indicators	-	-
IMO MSC/Circular 982	-	Guidelines on ergonomic criteria for bridge equipment and layout	-	-
IMO Resolution MSC.128(75)	-	recommendation on performance standards for a bridge navigational watch alarm system (BNWAS)	-	-

This is a free page sample. Access the full version online.

I.S. EN 62616:2010

This page is intentionally left BLANK.

- 2 -

# 62616 © IEC:2010(E)

# **CONTENTS**

1 Scope         Normative references           3 Performance requirements           3.1 Functionality           3.1.1 Operational modes           3.1.2 Operational sequence of indications and alarms           3.1.3 Reset function           3.1.4 Emergency call facility and transfer of alarms           3.2 Accuracy           3.3 Security           3.4 Malfunctions, alarms and indications           4 Ergonomic criteria requirements           4.1 Operational controls           4.2 Presentation of information           4.2.1 Operational mode           4.2.2 Visual indications           4.2.3 First stage bridge audible alarm           4.2.4 Second and third stage remote audible alarm           4.2.5 General           5.1 General           5.2 Specific requirements           5.2.1 System physical integrity           5.2.2 Reset devices           5.3 Power supply           5.4 Installation documentation           6 Interfacing requirements           6.1 Inputs           6.2 Outputs           7 Methods of testing and required test results           7.1 General           7.2 General requirements           7.3 Display of information           7.4.1 Operational modes           <	FΟ	REW(	ORD		4
3 Performance requirements  3.1 Functionality.  3.1.1 Operational modes.  3.1.2 Operational sequence of indications and alarms.  3.1.3 Reset function.  3.1.4 Emergency call facility and transfer of alarms.  3.2 Accuracy.  3.3 Security.  3.4 Malfunctions, alarms and indications.  4 Ergonomic criteria requirements.  4.1 Operational controls.  4.2.1 Operational mode  4.2.2 Visual indications.  4.2.3 First stage bridge audible alarm.  4.2.4 Second and third stage remote audible alarm.  5 Design and installation requirements.  5.1 General.  5.2 Specific requirements.  5.2.1 System physical integrity.  5.2.2 Reset devices.  5.3 Power supply.  5.4 Installation documentation.  6 Interfacing requirements.  6.1 Inputs.  6.2 Outputs.  7 Methods of testing and required test results.  7.1 General.  7.2 General requirements.  7.3 Display of information.  7.4 Operational tests.  7.4.1 Operational modes.  7.4.2 Dormant period.  7.4.3 Alarms.  7.4.4 Alarm alternatives.  7.4.5 Description of reset function.  7.4.6 Initiation of reset function.  7.4.7 Continuous activation.  7.4.8 Emergency call facility and transfer of alarms.  7.4.9 Accuracy.  7.4.10 Security.  7.4.11 Malfunction.	1	Scop	e		6
3.1 Functionality 3.1.1 Operational modes. 3.1.2 Operational sequence of indications and alarms. 3.1.3 Reset function 3.1.4 Emergency call facility and transfer of alarms. 3.2 Accuracy. 3.3 Security 3.4 Malfunctions, alarms and indications.  4 Ergonomic criteria requirements. 4.1 Operational controls. 4.2 Presentation of information. 4.2.1 Operational mode. 4.2.2 Visual indications. 4.2.3 First stage bridge audible alarm. 4.2.4 Second and third stage remote audible alarm. 5 Design and installation requirements. 5.1 General. 5.2 Specific requirements. 5.2.1 System physical integrity 5.2.2 Reset devices. 5.3 Power supply. 5.4 Installation documentation. 6 Interfacing requirements. 6.1 Inputs. 6.2 Outputs. 7 Methods of testing and required test results. 7.1 General 7.2 General requirements. 7.3 Display of information. 7.4 Operational modes. 7.4.1 Operational modes. 7.4.2 Dormant period. 7.4.3 Alarms 7.4.4 Alarm alternatives. 7.4.5 Description of reset function. 7.4.7 Continuous activation. 7.4.8 Emergency call facility and transfer of alarms. 7.4.9 Accuracy. 7.4.10 Security. 7.4.11 Malfunction.	2	Normative references			
3.1.1 Operational modes 3.1.2 Operational sequence of indications and alarms 3.1.3 Reset function 3.1.4 Emergency call facility and transfer of alarms 3.2 Accuracy 3.3 Security 3.4 Malfunctions, alarms and indications 4 Ergonomic criteria requirements 4.1 Operational controls 4.2 Presentation of information. 4.2.1 Operational mode 4.2.2 Visual indications 4.2.3 First stage bridge audible alarm 4.2.4 Second and third stage remote audible alarm 5 Design and installation requirements 5.1 General 5.2 Specific requirements 5.2.1 System physical integrity 5.2.2 Reset devices 5.3 Power supply 5.4 Installation documentation 6 Interfacing requirements 6.1 Inputs 6.2 Outputs 7 Methods of testing and required test results 7.1 General 7.2 General requirements 7.3 Display of information 7.4 Operational modes 7.4.1 Operational modes 7.4.2 Dormant period 7.4.3 Alarms 7.4.4 Alarm alternatives 7.4.5 Description of reset function 7.4.6 Initiation of reset function 7.4.7 Continuous activation 7.4.8 Emergency call facility and transfer of alarms 7.4.9 Accuracy 7.4.10 Security 7.4.11 Malfunction.	3	Perfo	ormance	e requirements	7
3.1.1 Operational modes 3.1.2 Operational sequence of indications and alarms 3.1.3 Reset function 3.1.4 Emergency call facility and transfer of alarms 3.2 Accuracy 3.3 Security 3.4 Malfunctions, alarms and indications 4 Ergonomic criteria requirements 4.1 Operational controls 4.2 Presentation of information. 4.2.1 Operational mode 4.2.2 Visual indications 4.2.3 First stage bridge audible alarm 4.2.4 Second and third stage remote audible alarm 5 Design and installation requirements 5.1 General 5.2 Specific requirements 5.2.1 System physical integrity 5.2.2 Reset devices 5.3 Power supply 5.4 Installation documentation 6 Interfacing requirements 6.1 Inputs 6.2 Outputs 7 Methods of testing and required test results 7.1 General 7.2 General requirements 7.3 Display of information 7.4 Operational modes 7.4.1 Operational modes 7.4.2 Dormant period 7.4.3 Alarms 7.4.4 Alarm alternatives 7.4.5 Description of reset function 7.4.6 Initiation of reset function 7.4.7 Continuous activation 7.4.8 Emergency call facility and transfer of alarms 7.4.9 Accuracy 7.4.10 Security 7.4.11 Malfunction.		3.1	Function	onality	7
3.1.2 Operational sequence of indications and alarms 3.1.3 Reset function 3.1.4 Emergency call facility and transfer of alarms 3.2 Accuracy 3.3 Security 3.4 Malfunctions, alarms and indications 4 Ergonomic criteria requirements 4.1 Operational controls 4.2 Presentation of information. 4.2.1 Operational mode 4.2.2 Visual indications 4.2.3 First stage bridge audible alarm 4.2.4 Second and third stage remote audible alarm 4.2.5 Specific requirements 5.1 General 5.2 Specific requirements 5.2.1 System physical integrity 5.2.2 Reset devices 5.3 Power supply 5.4 Installation documentation 6 Interfacing requirements 6.1 Inputs 6.2 Outputs 7.1 General 7.2 General requirements 7.3 Display of information 7.4 Operational tests 7.4.1 Operational modes 7.4.2 Dormant period 7.4.3 Alarms 7.4.4 Alarm alternatives 7.4.5 Description of reset function 7.4.6 Initiation of reset function 7.4.7 Continuous activation 7.4.8 Emergency call facility and transfer of alarms 7.4.9 Accuracy 7.4.10 Security 7.4.11 Malfunction.				•	
3.1.3 Reset function 3.1.4 Emergency call facility and transfer of alarms 3.2 Accuracy 3.3 Security. 3.4 Malfunctions, alarms and indications 4 Ergonomic criteria requirements 4.1 Operational controls 4.2 Presentation of information. 4.2.1 Operational mode 4.2.2 Visual indications 4.2.3 First stage bridge audible alarm. 4.2.4 Second and third stage remote audible alarm 5 Design and installation requirements 5.1 General 5.2 Specific requirements. 5.2.1 System physical integrity. 5.2.2 Reset devices. 5.3 Power supply. 5.4 Installation documentation 6 Interfacing requirements 6.1 Inputs. 6.2 Outputs 7 Methods of testing and required test results 7.1 General 7.2 General requirements. 7.3 Display of information. 7.4 Operational tests 7.4.1 Operational modes 7.4.2 Dormant period. 7.4.3 Alarms 7.4.4 Alarm alternatives. 7.4.5 Description of reset function 7.4.6 Initiation of reset function 7.4.7 Continuous activation 7.4.8 Emergency call facility and transfer of alarms 7.4.9 Accuracy 7.4.10 Security. 7.4.11 Malfunction.			3.1.2	·	
3.2 Accuracy 3.3 Security 3.4 Malfunctions, alarms and indications 4 Ergonomic criteria requirements 4.1 Operational controls 4.2 Presentation of information 4.2.1 Operational mode 4.2.2 Visual indications 4.2.3 First stage bridge audible alarm 4.2.4 Second and third stage remote audible alarm 5 Design and installation requirements 5.1 General 5.2 Specific requirements 5.2.1 System physical integrity 5.2.2 Reset devices 5.3 Power supply 5.4 Installation documentation 6 Interfacing requirements 6.1 Inputs 6.2 Outputs 7 Methods of testing and required test results 7.1 General 7.2 General requirements 7.3 Display of information 7.4 Operational tests 7.4.1 Operational modes 7.4.2 Dormant period 7.4.3 Alarms 7.4.4 Alarm alternatives 7.4.5 Description of reset function 7.4.6 Initiation of reset function 7.4.7 Continuous activation 7.4.8 Emergency call facility and transfer of alarms 7.4.9 Accuracy 7.4.10 Security 7.4.11 Malfunction			3.1.3	·	
3.2 Accuracy 3.3 Security 3.4 Malfunctions, alarms and indications 4 Ergonomic criteria requirements 4.1 Operational controls 4.2 Presentation of information 4.2.1 Operational mode 4.2.2 Visual indications 4.2.3 First stage bridge audible alarm 4.2.4 Second and third stage remote audible alarm 5 Design and installation requirements 5.1 General 5.2 Specific requirements 5.2.1 System physical integrity 5.2.2 Reset devices 5.3 Power supply 5.4 Installation documentation 6 Interfacing requirements 6.1 Inputs 6.2 Outputs 7 Methods of testing and required test results 7.1 General 7.2 General requirements 7.3 Display of information 7.4 Operational tests 7.4.1 Operational modes 7.4.2 Dormant period 7.4.3 Alarms 7.4.4 Alarm alternatives 7.4.5 Description of reset function 7.4.6 Initiation of reset function 7.4.7 Continuous activation 7.4.8 Emergency call facility and transfer of alarms 7.4.9 Accuracy 7.4.10 Security 7.4.11 Malfunction			3.1.4	Emergency call facility and transfer of alarms	9
3.4 Malfunctions, alarms and indications		3.2	Accura	·	
4 Ergonomic criteria requirements  4.1 Operational controls		3.3 Security			
4.1 Operational controls       1         4.2 Presentation of information       1         4.2.1 Operational mode       1         4.2.2 Visual indications       1         4.2.3 First stage bridge audible alarm       1         4.2.4 Second and third stage remote audible alarm       1         5 Design and installation requirements       1         5.1 General       1         5.2 Specific requirements       1         5.2.1 System physical integrity       1         5.2.2 Reset devices       1         5.3 Power supply       1         5.4 Installation documentation       1         6 Interfacing requirements       1         6.1 Inputs       1         6.2 Outputs       1         7 Methods of testing and required test results       1         7.1 General       1         7.2 General requirements       1         7.3 Display of information       1         7.4 Operational modes       1         7.4.2 Dormant period       1         7.4.3 Alarms       1         7.4.4 Alarm alternatives       1         7.4.5 Description of reset function       1         7.4.6 Initiation of reset function       1         7.4.8		3.4	Malfun	nctions, alarms and indications	10
4.2       Presentation of information         4.2.1       Operational mode         4.2.2       Visual indications         4.2.3       First stage bridge audible alarm         4.2.4       Second and third stage remote audible alarm         5.1       General         5.2       Specific requirements         5.1       General         5.2.1       System physical integrity         5.2.2       Reset devices         5.3       Power supply         5.4       Installation documentation         6       Interfacing requirements         6.1       Inputs         6.2       Outputs         7       Methods of testing and required test results         7.1       General         7.2       General requirements         7.3       Display of information         7.4       Operational tests         7.4.1       Operational modes         7.4.2       Dormant period         7.4.3       Alarms         7.4.4       Alarm alternatives         7.4.5       Description of reset function         7.4.6       Initiation of reset function         7.4.8       Emergency call facility and transfer of alarms	4	Ergo	nomic c	riteria requirements	10
4.2       Presentation of information         4.2.1       Operational mode         4.2.2       Visual indications         4.2.3       First stage bridge audible alarm         4.2.4       Second and third stage remote audible alarm         5.1       General         5.2       Specific requirements         5.1       General         5.2.1       System physical integrity         5.2.2       Reset devices         5.3       Power supply         5.4       Installation documentation         6       Interfacing requirements         6.1       Inputs         6.2       Outputs         7       Methods of testing and required test results         7.1       General         7.2       General requirements         7.3       Display of information         7.4       Operational tests         7.4.1       Operational modes         7.4.2       Dormant period         7.4.3       Alarms         7.4.4       Alarm alternatives         7.4.5       Description of reset function         7.4.6       Initiation of reset function         7.4.8       Emergency call facility and transfer of alarms		4.1	Opera	tional controls	10
4.2.1 Operational mode       4.2.2 Visual indications         4.2.3 First stage bridge audible alarm       1         4.2.4 Second and third stage remote audible alarm       1         5 Design and installation requirements       1         5.1 General       1         5.2 Specific requirements       1         5.2.1 System physical integrity       1         5.2.2 Reset devices       1         5.3 Power supply       1         5.4 Installation documentation       1         6 Interfacing requirements       1         6.1 Inputs       1         6.2 Outputs       1         7 Methods of testing and required test results       1         7.1 General       1         7.2 General requirements       1         7.3 Display of information       1         7.4 Operational tests       1         7.4.1 Operational modes       1         7.4.2 Dormant period       1         7.4.3 Alarms       1         7.4.4 Alarm alternatives       1         7.4.5 Description of reset function       1         7.4.6 Initiation of reset function       1         7.4.8 Emergency call facility and transfer of alarms       1         7.4.9 Accuracy       1			•		
4.2.2 Visual indications       1.2.3 First stage bridge audible alarm       1.2.4 Second and third stage remote audible alarm         4.2.4 Second and third stage remote audible alarm       1.5.2 Spage and installation requirements       1.5.2 Specific requirements         5.1 General       1.5.2 Specific requirements       1.5.2 Specific requirements         5.2.1 System physical integrity       1.5.2.2 Reset devices         5.3 Power supply       1.5.4 Installation documentation         6 Interfacing requirements       1.6.2 Outputs         7 Methods of testing and required test results       1.7.1 General         7.1 General       1.7.2 General requirements         7.3 Display of information       1.7.4 Operational tests         7.4.1 Operational modes       1.7.4.2 Dormant period         7.4.2 Dormant period       1.7.4.3 Alarms         7.4.4 Alarm alternatives       1.7.4.6 Initiation of reset function         7.4.5 Description of reset function       1.7.4.6 Initiation of reset function         7.4.8 Emergency call facility and transfer of alarms       1.7.4.9 Accuracy         7.4.10 Security       1.7.4.11 Malfunction					
4.2.3       First stage bridge audible alarm         4.2.4       Second and third stage remote audible alarm         5       Design and installation requirements         5.1       General         5.2       Specific requirements         5.2.1       System physical integrity         5.2.2       Reset devices         5.3       Power supply         5.4       Installation documentation         6       Interfacing requirements         6.1       Inputs         6.2       Outputs         7       Methods of testing and required test results         7.1       General         7.2       General requirements         7.3       Display of information         7.4       Operational tests         7.4.1       Operational modes         7.4.2       Dormant period         7.4.3       Alarms         7.4.4       Alarm alternatives         7.4.5       Description of reset function         7.4.6       Initiation of reset function         7.4.7       Continuous activation         7.4.8       Emergency call facility and transfer of alarms         7.4.9       Accuracy         7.4.10       Security </td <td></td> <td></td> <td>4.2.2</td> <td>•</td> <td></td>			4.2.2	•	
4.2.4 Second and third stage remote audible alarm         5 Design and installation requirements         5.1 General         5.2 Specific requirements         5.2.1 System physical integrity         5.2.2 Reset devices         5.3 Power supply         5.4 Installation documentation         6 Interfacing requirements         6.1 Inputs         6.2 Outputs         7 Methods of testing and required test results         7.1 General         7.2 General requirements         7.3 Display of information         7.4 Operational tests         7.4.1 Operational modes         7.4.2 Dormant period         7.4.3 Alarms         7.4.4 Alarm alternatives         7.4.5 Description of reset function         7.4.6 Initiation of reset function         7.4.7 Continuous activation         7.4.8 Emergency call facility and transfer of alarms         7.4.9 Accuracy         7.4.10 Security         7.4.11 Malfunction			4.2.3		
5 Design and installation requirements       1         5.1 General       1         5.2 Specific requirements       1         5.2.1 System physical integrity       1         5.2.2 Reset devices       1         5.3 Power supply       1         5.4 Installation documentation       1         6 Interfacing requirements       1         6.1 Inputs       1         6.2 Outputs       1         7.1 General       1         7.2 General requirements       1         7.3 Display of information       1         7.4 Operational tests       1         7.4.1 Operational modes       1         7.4.2 Dormant period       1         7.4.3 Alarms       1         7.4.4 Alarm alternatives       1         7.4.5 Description of reset function       1         7.4.6 Initiation of reset function       1         7.4.7 Continuous activation       1         7.4.8 Emergency call facility and transfer of alarms       1         7.4.9 Accuracy       1         7.4.10 Security       1         7.4.11 Malfunction       1			4.2.4		
5.2       Specific requirements       1         5.2.1       System physical integrity       1         5.2.2       Reset devices       1         5.3       Power supply       1         5.4       Installation documentation       1         6       Interfacing requirements       1         6.1       Inputs       1         6.2       Outputs       1         7       Methods of testing and required test results       1         7.1       General       1         7.2       General requirements       1         7.3       Display of information       1         7.4       Operational tests       1         7.4.1       Operational modes       1         7.4.2       Dormant period       1         7.4.3       Alarms       1         7.4.4       Alarm alternatives       1         7.4.5       Description of reset function       1         7.4.6       Initiation of reset function       1         7.4.8       Emergency call facility and transfer of alarms       1         7.4.10       Security       1         7.4.11       Malfunction       1	5	Desi	gn and i		
5.2       Specific requirements       1         5.2.1       System physical integrity       1         5.2.2       Reset devices       1         5.3       Power supply       1         5.4       Installation documentation       1         6       Interfacing requirements       1         6.1       Inputs       1         6.2       Outputs       1         7       Methods of testing and required test results       1         7.1       General       1         7.2       General requirements       1         7.3       Display of information       1         7.4       Operational tests       1         7.4.1       Operational modes       1         7.4.2       Dormant period       1         7.4.3       Alarms       1         7.4.4       Alarm alternatives       1         7.4.5       Description of reset function       1         7.4.6       Initiation of reset function       1         7.4.8       Emergency call facility and transfer of alarms       1         7.4.10       Security       1         7.4.11       Malfunction       1		5.1	Genera	al	11
5.2.1       System physical integrity         5.2.2       Reset devices         5.3       Power supply         5.4       Installation documentation         6       Interfacing requirements         6.1       Inputs         6.2       Outputs         7       Methods of testing and required test results         7.1       General         7.2       General requirements         7.3       Display of information         7.4       Operational tests         7.4.1       Operational modes         7.4.2       Dormant period         7.4.3       Alarms         7.4.4       Alarm alternatives         7.4.5       Description of reset function         7.4.6       Initiation of reset function         7.4.7       Continuous activation         7.4.8       Emergency call facility and transfer of alarms         7.4.9       Accuracy         7.4.10       Security         7.4.11       Malfunction		5.2			
5.3       Power supply         5.4       Installation documentation         6       Interfacing requirements         6.1       Inputs         6.2       Outputs         7       Methods of testing and required test results         7.1       General         7.2       General requirements         7.3       Display of information         7.4       Operational tests         7.4.1       Operational modes         7.4.2       Dormant period         7.4.3       Alarms         7.4.4       Alarm alternatives         7.4.5       Description of reset function         7.4.6       Initiation of reset function         7.4.7       Continuous activation         7.4.8       Emergency call facility and transfer of alarms         7.4.9       Accuracy         7.4.10       Security         7.4.11       Malfunction					
5.4 Installation documentation. 6 Interfacing requirements. 6.1 Inputs. 6.2 Outputs. 7 Methods of testing and required test results. 7.1 General. 7.2 General requirements. 7.3 Display of information. 7.4 Operational tests. 7.4.1 Operational modes. 7.4.2 Dormant period. 7.4.3 Alarms. 7.4.4 Alarm alternatives. 7.4.5 Description of reset function. 7.4.6 Initiation of reset function. 7.4.7 Continuous activation. 7.4.8 Emergency call facility and transfer of alarms. 7.4.9 Accuracy 7.4.10 Security. 7.4.11 Malfunction.			5.2.2		
5.4 Installation documentation. 6 Interfacing requirements. 6.1 Inputs. 6.2 Outputs. 7 Methods of testing and required test results. 7.1 General. 7.2 General requirements. 7.3 Display of information. 7.4 Operational tests. 7.4.1 Operational modes. 7.4.2 Dormant period. 7.4.3 Alarms. 7.4.4 Alarm alternatives. 7.4.5 Description of reset function. 7.4.6 Initiation of reset function. 7.4.7 Continuous activation. 7.4.8 Emergency call facility and transfer of alarms. 7.4.9 Accuracy 7.4.10 Security. 7.4.11 Malfunction.		5.3	Power	supply	11
6.1 Inputs		5.4		• • •	
6.1 Inputs	6	Inter	facing re	equirements	11
6.2 Outputs 7 Methods of testing and required test results 7.1 General 7.2 General requirements 7.3 Display of information 7.4 Operational tests 7.4.1 Operational modes 7.4.2 Dormant period 7.4.3 Alarms 7.4.4 Alarm alternatives 7.4.5 Description of reset function 7.4.6 Initiation of reset function 7.4.7 Continuous activation 7.4.8 Emergency call facility and transfer of alarms 7.4.9 Accuracy 7.4.10 Security 7.4.11 Malfunction			•	·	
7 Methods of testing and required test results 7.1 General			•		
7.1 General	7		•		
7.2 General requirements 7.3 Display of information 7.4 Operational tests 7.4.1 Operational modes 7.4.2 Dormant period 7.4.3 Alarms 7.4.4 Alarm alternatives 7.4.5 Description of reset function 7.4.6 Initiation of reset function 7.4.7 Continuous activation 7.4.8 Emergency call facility and transfer of alarms 7.4.9 Accuracy 7.4.10 Security 7.4.11 Malfunction					
7.3 Display of information					
7.4 Operational tests 7.4.1 Operational modes 7.4.2 Dormant period 7.4.3 Alarms 7.4.4 Alarm alternatives 7.4.5 Description of reset function 7.4.6 Initiation of reset function 7.4.7 Continuous activation 7.4.8 Emergency call facility and transfer of alarms 7.4.9 Accuracy 7.4.10 Security 7.4.11 Malfunction				·	
7.4.1 Operational modes 7.4.2 Dormant period		·			
7.4.2 Dormant period			•		
7.4.3 Alarms				•	
7.4.4 Alarm alternatives				•	
7.4.5 Description of reset function 7.4.6 Initiation of reset function 7.4.7 Continuous activation 7.4.8 Emergency call facility and transfer of alarms 7.4.9 Accuracy 7.4.10 Security					
7.4.6 Initiation of reset function					
7.4.7 Continuous activation  7.4.8 Emergency call facility and transfer of alarms  7.4.9 Accuracy  7.4.10 Security  7.4.11 Malfunction				·	
7.4.8 Emergency call facility and transfer of alarms					
7.4.9 Accuracy					
7.4.10 Security				·	
7.4.11 Malfunction1				•	
				•	

62616 © IEC:201	0(E) - 3 -	
7.4.13	Operational mode	14
7.4.14	Visual indications	15
7.4.15	First stage bridge audible alarm	15
7.4.16	Second and third stage remote audible alarm	15
7.4.17	Design and installation general	15
7.4.18	System physical integrity	15
	Reset devices	
7.4.20	Power supply	15
	Installation documentation	
	Interfacing	
Annex A (normat	ive) Installation considerations	16
Figure 1 – Alarm	sequence without acknowledgements	7

**-4-**

62616 © IEC:2010(E)

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

# MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – BRIDGE NAVIGATIONAL WATCH ALARM SYSTEM (BNWAS)

#### **FOREWORD**

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international
  consensus of opinion on the relevant subjects since each technical committee has representation from all
  interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62616 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems.

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

FDIS	Report on voting
80/577/FDIS	80/588/RVD

Full information on the voting for the approval of this standard 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.

- 5 -

62616 © IEC:2010(E)

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

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

A bilingual version of this document may be issued at a later date.

**-** 6 **-**

62616 © IEC:2010(E)

# MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – BRIDGE NAVIGATIONAL WATCH ALARM SYSTEM (BNWAS)

#### 1 Scope

This International Standard specifies the minimum performance requirements, technical characteristics and methods of testing, and required test results, for a bridge navigational watch alarm system (BNWAS) as required by Chapter V of the International Convention for the Safety of Life at Sea (SOLAS), as amended. It takes account of the general requirements given in IMO resolution A.694(17) and is associated with IEC 60945. When a requirement in this International Standard is different from IEC 60945, the requirement in this standard takes precedence.

This standard incorporates the parts of the performance standards included in IMO resolution MSC.128(75).

NOTE 1 All text of this standard, whose wording is identical to that of IMO resolution MSC.128(75), is printed in italics, and the resolution and associated performance standard paragraph numbers are indicated in brackets.

(128/A1) The purpose of a bridge navigational watch alarm system (BNWAS) is to monitor bridge activity and detect operator disability which could lead to marine accidents. The system monitors the awareness of the Officer of the Watch (OOW) and automatically alerts the Master or another qualified OOW if for any reason the OOW becomes incapable of performing the OOW's duties. This purpose is achieved by a series of indications and alarms to alert first the OOW and, if he is not responding, then to alert the Master or another qualified OOW. Additionally, the BNWAS may provide the OOW with a means of calling for immediate assistance, if required. The BNWAS should be operational whenever the ship is underway at sea (SOLAS V/19.2.2.3).

NOTE 2 BNWAS may not, in practice, be realised as a stand alone equipment. It may be integrated in other equipment such as radar, ECDIS, etc.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60945, Maritime navigation and radiocommunication equipment and systems – General requirements – Methods of testing and required test results

IEC 61162 (all parts), Maritime navigation and radiocommunication equipment and systems – Digital interfaces

IEC 61162-1, Maritime navigation and radiocommunication equipment and systems – Digital interfaces – Part 1: Single talker and multiple listeners

IEC 62288, Maritime navigation and radiocommunication equipment and systems – Presentation of navigation-related information on shipborne navigational displays – General requirements – Methods of testing and required results

IMO Resolution A.694(17), General requirements for shipborne radio equipment forming part of the Global maritime distress and safety system and for electronic navigational aids



This is a free preview	<ul> <li>Purchase the entire</li> </ul>	e publication at the link below:
------------------------	---	----------------------------------

**Product Page** 

- Dooking for additional Standards? Visit Intertek Inform Infostore
- Dearn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation