ICS 33.200
CCS M 50

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB 13613-2011

Replacing GB 13613-1992

Electromagnetic environment requirement for sea long range radio navigation stations and monitors

对海远程无线电导航台和监测站电磁环境要求

Issued on: June 16, 2011 **Implemented on: May 1, 2012**

Issued by: General Administration of Quality Supervision, Inspection and Quarantine;
Standardization Administration of the PRC

Table of Contents

Foreword

All the technical contents of this standard is mandatory. This standard replaces GB 13613-1992 "on the sea remote radio navigation station electromagnetic environment requirements." This standard compared with GB 13613-1992 main changes are as follows:

--- Modification of the original standard name;

--- Delete the contents of the relevant medium-range radio beacon (ie Roland A navigation station);

--- Increase 1000kV and above UHV AC overhead power line protection requirements. Appendix A of this standard is a normative appendix, Appendix B and Appendix C are informative appendix. The standard proposed by the Ministry of Industry and Information Technology of the People's Republic of China. The standard by the China Communications Standards Association. This standard was drafted. Twenty Chinese Institute of Electronics Technology Group Corporation. The main drafters of this standard. package Wu Wei, Wang, Zhu Hui, Huyue Hu. Sea navigation station and remote radio stations Electromagnetic environment requirements

1 Scope

GB 13613 sets the electromagnetic environment that has to be preserved around the long-range radio navigation stations serving shipping, and around the monitoring stations that watch them. It fixes the protection distances and the field strength limits that any other emitter must respect in the vicinity, which makes it the document consulted when a transmitter, a power line or an industrial installation is planned near such a station, and the

one an operator cites to object. It was issued on 16 June 2011 by AQSIQ and SAC and has been in force since 1 May 2012, replacing GB 13613-1992. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the edition it replaces are taken from there. The clause text, the tables and the numeric limits are not reproduced on this page - they are in the document itself, which is delivered in full in English translation.

This standard specifies the longwave remote radio beacon (ie, Loran C navigation station) and longwave radio navigation system remote stations (ie, Rom Blue C Stations) electromagnetic environmental requirements. Sets out to provide information in order to ensure normal navigation and navigation station while the active jamming stations and station Restrictions surrounding facilities. This standard applies to long-wave electromagnetic environmental management station and the remote radio navigation stations, and as the navigation station and stations and One of EMC guidelines among other facilities. This standard does not apply to other sea stations and radio navigation stations.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 6113.101 radio disturbance and immunity measuring apparatus and methods - Part 1-1. Radio disturbance and anti- Interference measuring equipment measuring equipment (

GB/T 6113.101-2008, CISPR16-1-1.2006, IDT)

GB 13614 shortwave radio direction finding station (station) Electromagnetic environment requirements

3 Terms and Definitions

The following terms and definitions apply to this standard.

3.1 Protection rate protectionrate It means to ensure that the receiving antenna signal strength and interference field strength minimum ratio that is protected by the navigation station and station equipment is working properly, in order to Decibel (dB) representation.

3.2 Near synchronous interference near-synchronousinterference Refers to the frequency falls Loran C line frequency interference within 0.1Hz.

3.3 Asynchronous interference non-synchronousinterference It means interference Loran C line frequency falls outside the frequency 0.1Hz.

3.4 Remote station fartransmittedstation And refers to our station in a primary and secondary line LMH another Loran C navigation station.

3.5 By monitoring stations monitoredtransmittedstation Loran C stations in charge of monitoring means Loran C navigation station.

3.6 Loran C signal strength Loran-Csignalfieldstrength It refers to Loran C signal standard sample point corresponding to the level of field strength in decibels microvolts per meter [dB (μV/m)].

4 Long Wave Remote Radio beacons

4.1 longwave remote omnidirectional radio beacon was transmitted pulse navigation signal transmission units. To provide the correct navigation information, it will Need to receive distant signals transmitted station. The center frequency of

4.2 longwave remote radio navigation station working for 100kHz, 90kHz ~ 110kHz within the frequency band contains a navigation station radiation More than 99% of the energy.

4.3 longwave remote radio navigation station protected facilities including navigation and site transmitting antenna, receiving antenna and space navigation, other Navigation equipment and affiliated shortwave communications facilities.

4.4 longwave remote radio navigation station receives a remote station Loran C signal minimum signal strength at 25 ° north latitude is 54dB (μV/m), South of latitude 25 ° to 60dB (μV/m).

4.5 in the 70kHz ~ 130kHz frequency bands, longwave remote radio navigation station near continuous wave and continuous wave interference synchronous asynchronous interference The rate of protection should meet the requirements of Figure 1, Loran C line calculation in Appendix A. 1 long-wave remote radio navigation station near continuous wave synchronous and asynchronous interference Protection against interference curve

4.6 in the 70kHz ~ 130kHz frequency bands, longwave remote radio beacon frequency shift keying interference protection should be consistent with FIG.

2 Provisions. Figure 2 longwave remote radio beacon frequency shift keying Protection against interference curve

4.7 longwave remote radio navigation station on industrial, scientific and medical equipment interference from co-channel protection ratio of 9dB, other active jamming Co-channel protection ratio of 15dB.

4.8 When more than one source of interference, the interference level integrated multiple sources of interference calculated in the interference level of each individual rms, calculated See Appendix B.

4.9 to navigate the transmitting antenna as the center, within a radius of 500m may not have the overhead of metal cables, railways, highways, tall buildings and non this station Trees.

4.10 to navigation receiver antenna as the center, within a radius of 60m may not have the overhead wire cable and 10m high above the buildings.

4.11 to navigation receiver antenna as the center, within a radius of 250m and above shall have 1000kV AC UHV overhead power line protection Calculated distance in Appendix C.

4.12 Electromagnetic Environment longwave remote radio navigation station affiliated HF communication facilities shall comply with the relevant provisions of GB 13614.

5 Longwave radio navigation system remote monitoring station

5.1 Loran C stations are receiving station signal. To provide the correct navigation information, the receiving station must be monitored station Loran C Signal transmitted navigation information to the console.

5.2 Stations Protected amenities include a navigation receiver and antenna sites, navigation equipment and other ancillary HF communication facilities.

5.3 monitoring stations receiving station Loran C signal minimum signal strength at 25 ° north latitude is 54dB (μV/m), at latitude 25 ° to South 60dB (μV/m).

5.4 Stations continuous wave within 70kHz ~ 130kHz band near-synchronous interference, asynchronous continuous wave interference and anti-interference frequency shift keying Support rate value based on the

4.5 and 4.6, an additional 5dB; co-channel interference protection to other active rates with

5.5 to navigate the receiving antenna as the center, within a radius of 20m and must not have more than 35kV overhead high voltage transmission lines, antenna over the roots The height of overhead wire cable and over 10m above the foot of the antenna structure.

5.6 to navigate the receiving antenna as the center, within a radius of 250m and above shall have 1000kV AC UHV overhead power line protection Calculated distance in Appendix C.

5.7 Stations electromagnetic environment shortwave communication facilities shall comply with the relevant provisions of GB 13614.

6 Measuring instruments and methods of measurement

6.1 measuring signal strength and interference field strength the instruments should be consistent with GB/T 6113.101 requirements.

6.2 measuring amplitude modulation and frequency modulation continuous wave interference field strength should average detector; measuring the pulse modulated signal