

MSI Self Assessment NAVAREA X

Submitted by Australia (Australian Maritime Safety Authority)

SUMMARY

Executive Summary: Annual report by NAVAREA X for period July 2018 to June 2019.

Action to be taken: Paragraph 12.

Related documents: Nil

1. Background:

1.1 NAVAREA X extends from the Antarctic coast at longitude 080° E thence,

30° 00 S 080° 00 E	30° 00 S 095° 00 E	12° 00 S 095° 00 E
12° 00 S 127° 00 E	10° 00 S 127° 00 E	10° 00 S 141° 00 E
00° 00 S 141° 00 E	00° 00 S 170° 00 E	29° 00 S 170° 00 E
45° 00 S 160° 00 E		

thence to the coast of the Antarctic continent at longitude 160° 00 E.

Outline maps of NAVAREA X are available from the Seafarers Handbook for Australian Waters (AHP20) and the UK Hydrographic Office publication ALRS Volume 5.

1.2 NAVAREA X broadcasts are made via the satellite service provider, Inmarsat, through Burum LES. Messages are transmitted to Burum LES via SMTP (TLS+DKIM) and messages are received from Burum via SMTP (TLS). Messages sent to Burum contain AMSA's DKIM signature, this allows Burum to verify the authenticity of our messages and filter others accordingly. MSI messages are transmitted in a non-interactive manner to Burum LES for broadcast over SafetyNET via the IOR and POR satellites

1.3 AMSA has been modernising its computer infrastructure and as part of that process began sending MSI messages to Burum LES using SMTP (TLS+DKIM) in late June 2019. The new components for receiving Inmarsat messages via SMTP (TLS) were implemented in September 2018.

1.4 NAVAREA X has contractual arrangements with its SafetyNET provider, requiring an availability of 99.5% per calendar month. The availability of the service for July 2018 to June 2019 is provided in Table 1 and averaged 99.93%.

Month	IOR/POR Availability
July 2018	99.69
Aug 2018	99.88
Sep 2018	99.88
Oct 2018	99.97
Nov 2018	99.92

Dec 2018	99.94
Jan 2019	99.97
Feb 2019	99.99
Mar 2019	99.96
Apr 2019	99.99
May 2019	99.99
Jun 2019	100

1.5 All long-range navigational warnings (NAVAREA X) are transmitted via SafetyNET on the IOR and POR satellites at the scheduled times of 0700 and 1900 UTC. Following migration to the latest Inmarsat I4 satellite constellation and due to the associated changes in satellite footprints, Coastal and local warnings (AUSCOAST and Sea Safety Messages) are transmitted on the POR satellite only at the scheduled times of 0700 and 1900UTC. Messages are transmitted within 30 minutes of receipt of information.

1.6 Coastal warnings are transmitted via SafetyNET to nine defined coastal areas. These coastal areas are identified by the letters A to H clockwise around the Australian coast (see Figure 1 below) and area N around New Caledonia. New Caledonia scheduled broadcasts are at 0140 and 1340 UTC.

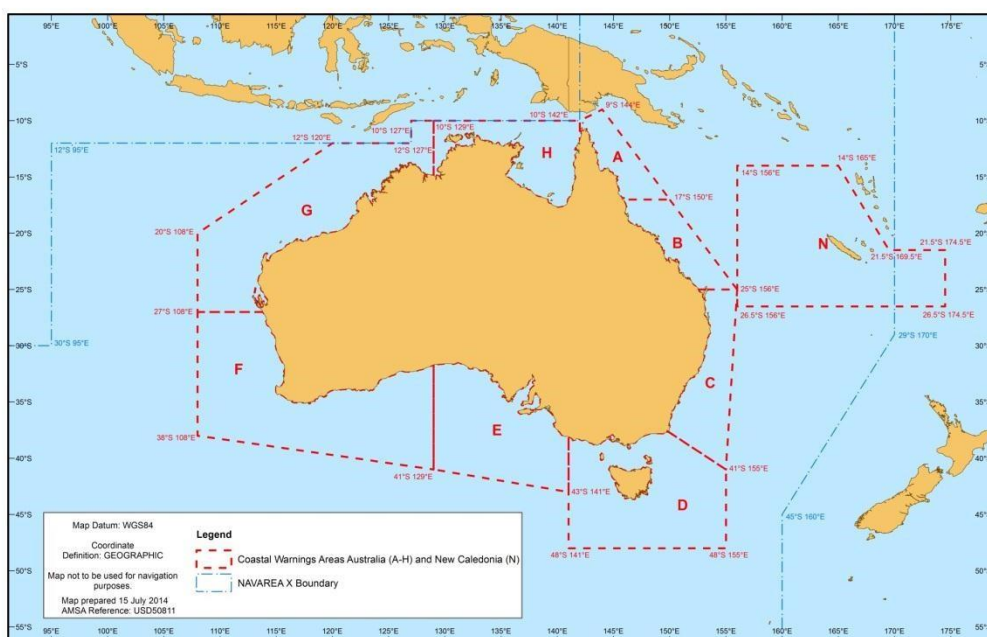


Figure 1: Coastal Warnings Areas

1.7 Weather broadcasts for METAREA X are the responsibility of the Australian Bureau of Meteorology. Details of the SafetyNET broadcasts can be obtained from the website: <http://www.bom.gov.au/marine/radio-sat/bureau-inmarsat.shtml>

1.8 The number of SafetyNET messages promulgated for METAREA X:

2016-2017	12,725
2017-2018	12,654
2018-2019	14,656

1.9 Local weather influences in the METAREA X region typically generate a small variation in the number of reports from year to year. In 2018-19 the Bureau commenced issuing forecasts and ocean wind warnings for a new area 'Southern' extending from 50°S to 65°S, which has significantly increased the total number of messages promulgated.

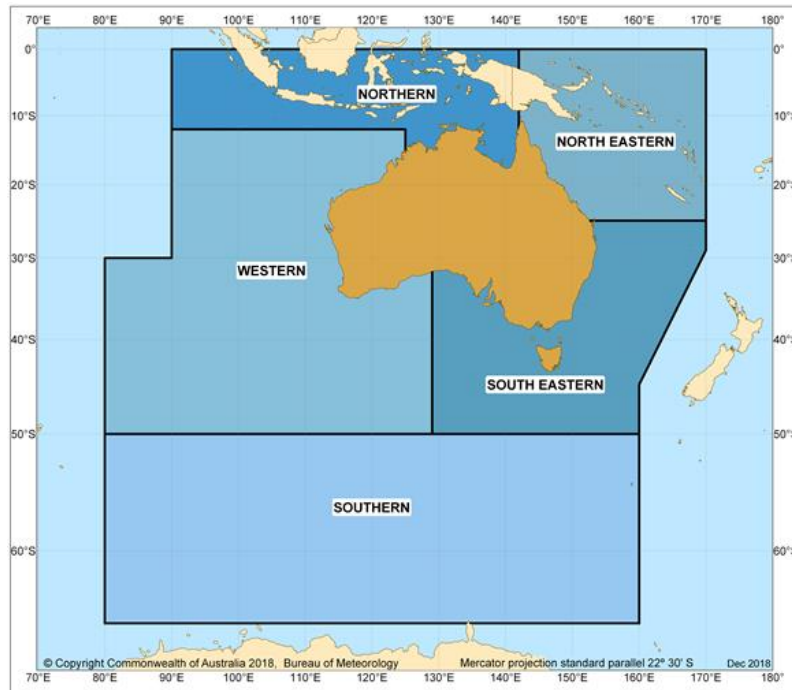


Figure 2: High Seas Forecast Areas

1.10 The Bureau's Marine Weather Services National Program Office was re-certified in 2019 to the ISO 9001:2015 standard for Quality Management Systems. The Bureau is continuing its national implementation of the WMO's Marine Forecaster Competency Framework. Four forecasting offices have been deemed competent to provide marine forecasts.

<i>Type of product broadcast on the GMDSS SafetyNet satellite service</i>	<i>Count for 2018/19</i>
Coastal waters	6,551
High Seas forecasts	3,684
Ocean Wind Warnings (including TC warnings)	4,421
TOTAL	14,656

1.11 Operational Points of Contact for National Coordinators within NAVAREA X have been checked and confirmed as follows:

Table 2: Points of Contact for NAVAREA X National Coordinators

COUNTRY	INSTITUTION	TELEPHONE	FACSIMILE	EMAIL
New Caledonia	MRCC Noumea	+687 292121	+687 292303	operations@mrcc.nc
	SHOM	+33 2 56312303		alain.paire@shom.fr
Papua New Guinea	PNG MRCC	+675 3212969/ +675 73517071	+675 3210484	PNGMRCC@nmsa.gov.pg
Solomon Islands	MRCC Honiara	+677 21609	+677 23798	mrcc@solomon.com.sb

Vanuatu	Vanuatu – Dept of Ports & Maritime	+678 33600 +678 22475	No Fax Service	trobson@vanuatu.gov.vu
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2. Comments:

2.1 The details for Australia reported in the GISIS GMDSS module have been updated and checked in accordance with IMO Circular GMDSS.1/Circ.23.

2.2 POR Warnings are monitored automatically via 2 MES units one located in Canberra and the other in Fremantle in almost real time using special EGC monitoring software which precludes the need to power down and reboot the MES at regular intervals. AMSA's EGC broadcast receiver software has recently been re-developed and re-written from C to Java. The original EGC broadcast receiver was developed nearly 2 decades ago. The benefits of the redevelopment are:

- the EGC broadcast receiver is now part of AMSA's IT infrastructure high availability architecture
- the software has been re-written in a modern programming language which is easier to support
- the new software incorporates better system monitoring

The only noticeable change visible to clients who receive forwarded EGC messages are the recipient and sender addresses have changed.

MSI traffic received on the POR satellite by the NAVAREA X EGC monitors is provided to USA, Canadian and New Zealand authorities in almost real time. The equipment and software is listed below.

Equipment Type	Software Version	Date of Up-date
Thrane & Thrane TT 3022A (Primary) Inmarsat C transceivers with TT3020B (Standby)	EMON Version 1.1	1990

2.3 Due to the migration of Inmarsat SafetyNET services from I3 to I4 satellites in Q4 2018 and the associated change of the IOR satellite footprint. NAVAREA X was no longer able to monitor all NAVAREA X MSI transmissions directly from Australia or its external territories. Technical discussions took place with Inmarsat, Burum LES and two MES equipment providers however despite extensive discussions no adequate technical solution for the monitoring of IOR broadcasts been forthcoming.

The new POR satellite footprint technically has adequate coverage for all of the NAVAREA X region. However to ensure that ships transiting into the NAVAREA X region from the western boundary can have adequate time to receive MSI prior to entering the region the decision was taken to promulgate all NAVAREA X long-range broadcasts via both the new Inmarsat I4 POR and IOR satellites. Coastal warnings are not impacted by the same issue due to the geographic extent of the NAVAREA X region and only require to be promulgated via POR satellite.

2.4 Over the past three calendar years, the following number of messages regarding MSI matters were received:

2016				2017				2018			
E-mail	Fax	Phone	Text	E-mail	Fax	Phone	Text	E-mail	Fax	Phone	Text
922	-	67	-	778	-	79	-	1508	-	89	-

2.5 Over the past three calendar years the following number of navigational warnings were issued over SafetyNET with average elapsed times:

2016		2017		2018	
Total	Average elapsed time	Total	Average elapsed time	Total	Average elapsed time
424	14.5 min	419	12.0 min	466	9.8 min

2.6 Specifics of Requests for In-Force bulletins;

2016		2017		2018	
Total	E-mail	Total	E-mail	Total	E-mail
2	2	28	28	92	92

Note that the latest NAVAREA X In-force bulletin is available from the current MSI Webpage or via automated email and is included in the list of current navigational warnings. Figures for accessing MSI via webpage are contained in Section 9 of this report. It is not possible to determine what percentage of users are accessing the web-page specifically for the In-force bulletin.

3. NAVTEX Coverage:

Australia does not broadcast navigational warnings on NAVTEX and no other National Coordinators use NAVTEX within NAVAREA X. Australian Coastal (AUSCOAST) warnings are broadcast via SafetyNET using the relevant C codes.

4. Operational Issues:

4.1 NAVAREA X issues “In Force warnings” Bulletins.

4.2 NAVAREA X broadcasts navigational warnings whilst in force. The Australian Hydrographic Service no longer compiles Section III of the Australian Notices to Mariners (Navigation Warnings) and directs Mariners to the AMSA MSI Website.

4.3 NAVAREA X continues to engage National Coordinators to enhance the provision of MSI services within the region.

Coastal State/Country	Number of MSI messages	Topics/Subjects of messages
New Caledonia	113	Gunnery Exercises
Papua New Guinea	28	Nav Aids
Solomon Islands	--	--
Vanuatu	2	Nav Aids/Port Infrastructure

5. Quality Management Survey

NAVAREA	ISO 9001 - 2008	Promulgate "In-Force" Bulletins	Promulgate "NoWarning" Messages	Monitor Broadcast in almost real time	24/7 contact information provided	Promulgate two scheduled broadcasts	IMO Master Plan updated
X	YES	YES	YES	YES	YES	YES	YES

6. Contingency Planning

6.1 The NAVAREA X Coordinator's primary work place within JRCC Australia in Canberra is supported by a disaster recovery facility (DRF), 13 kilometres north of the primary site. The DRF provides all the functionality of the primary site, including computing and communication systems in an almost "hot standby" state. In the past year, JRCC Australia/NAVAREA X Coordinator duty staff have regularly exercised transfer of systems to the DRF site. Work continues to develop AMSA's IT infrastructure as part of a modern high availability architecture approach with a migration of computer systems to virtual Data Centre hosted environments.

6.2 NAVAREA X Coordinator functionality can also be carried out by the manual submission of MSI information via an authenticated email account direct to Burum LES, using an internet connected laptop/desktop, with webmail functionality. This was exercised during August 2019.

7. Capacity Building:

7.1 A regional MSI Capacity Building training for National Coordinators was hosted by NAVAREA XIV in Wellington, New Zealand in August 2018 with representation from all four NAVAREA X National Coordinators. NAVAREA X provided an instructional staff member to assist in this training and funded an additional student from Papua New Guinea to attend as part of enhancing the National Coordinator capability in the region.

7.2 A further regional MSI Capacity Building training course is scheduled for August 2020 in Fiji. This course is being coordinated by LINZ and will be in conjunction with NAVARA XIV. The intent is that NAVAREA X will provide an instructor to assist with the training delivery.

7.2 Following recommendations made at WNWNS9 and following consultations with the SafetyNET panel chair work has been conducted to develop a pathway for Papua New Guinea to enhance its MSI capabilities so that it can fully meet its National Coordinator responsibilities. It is proposed to have a three-phase implementation;

7.3 *Phase 1 – Train Papua New Guinea National Coordinator staff in the dissemination of MSI.* Two suitable PNG NMSA staff were identified and are undergoing training at the IHO SWPHC MSI Capacity Building. One staff member was funded by IHO CB funding and one under Australia-Papua New Guinea Transport MOU funding. This was delivered in August 2018.

7.4 *Phase 2 – Deliver Papua New Guinea – effective long-range MSI warning capability via NAVAREA X Coordinator.*
Implement 24/7 capability for Papua New Guinea to receive, assess and draft, in S-53 format, MSI broadcasts for promulgation by AMSA.

7.5 *Phase 3 – Deliver Papua New Guinea – effective Coastal MSI warning capability*
Implement 24/7 capability for Papua New Guinea to receive, assess and draft, in S-53 format, MSI Coastal broadcasts via SafetyNET through national arrangements.

7.6 NMSA have increased the Maritime Safety Information available locally. Further work around delivery of the capabilities under Phase 2 of programme remains ongoing due to staffing constraints. NMSA have conducted a recruitment programme and have indicated that they wish to continue with the programme of work.

7.7 Vanuatu has recently requested assistance from NAVAREA X in enhancing its capability. NAVAREA X is investigating options to best develop the capabilities of Vanuatu to meet its requirements as a National Coordinator.

8. Other Activities:

8.1 South West Pacific Hydrographic Commission (SWPHC) Meeting and Workshop

The 16th SWPHC Meeting was held in Niue on 13-15 February 2019. It was attended by 55 participants - representing all 9 Member States of the Commission, all 8 Associate Members, 3 Observer States, international/regional organizations, industry and the IHO Secretariat.

The meeting was preceded by a two-day 'Technical Workshop on Disaster Response Planning & Data Discovery' - being part of the IHO Capacity Building Work Programme (CBWP) for 2019. It was led by Land Information New Zealand (LINZ), with presenters from Australia, Fiji, France, Indonesia, New Zealand, Samoa, United Kingdom, United States of America, IHO, IALA and SPC. The workshop was attended by 50 participants from Australia, Cook Islands, Fiji, France, Indonesia, Kiribati, Marshal Islands, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, United Kingdom, United States of America, Vanuatu, IALA, IHO Secretariat, GEBCO, SPC, EOMAP and IIC Technologies.

The 17th SWPHC Meeting is scheduled to be held in Wollongong, Australia on 12-14 February 2020. It will be preceded by a two-day Technical Workshop on MSI for Managers & Disaster Framework for SWPHC.

8.2 Solomon Islands National Tide Tables

8.2.1 Australia, the Primary Charting Authority (PCA) for Solomon Islands, has produced the Solomon Islands National Tide Tables consisting of tidal information for about 40 ports.

8.3 Miscellaneous

8.3.1 Australia conducted surveys in Papua New Guinea, and also expanded the AusENC service to include the full portfolio of published ENC covering Australian, Papua New Guinea and Solomon Islands waters. The hydrographic training (Category B course) conducted in 2018 included participants from Malaysia, New Zealand and Pakistan. The Australian Hydrographic Office (AHO) has developed a survey planning risk assessment tool based on the methodology adopted by LINZ.

9. NAVAREA Website:

9.1 Current NAVAREA X MSI can be obtained from the AMSA website at:
<http://www.amsa.gov.au/search-and-rescue/about-the-gmdss/msi-information/msi-email/index.asp>

9.2 The webpage allows users to obtain the latest MSI by automatic response on the browser or via an e-mail address. As well as all navigational warnings in force, there is a Summary of Mobile Drilling Rigs locations and a Summary of Special Purpose Vessels, including area of operation, which are no longer available on SafetyNET.

9.3 The MSI webpage is updated in almost real time when warnings are issued and cancelled. Otherwise, it updates every 30 minutes. The date and time of the last update is shown on the website and any download.

9.4 On 8 December 2017 AMSA launched a new website. The changes aimed at providing an easier and better user experience to persons navigating the website. It is noted that there has been a substantial nearly 30% increase in the web page activity this year. It is likely that this is in part due to AMSA's wider regulatory role with Australia's domestic commercial vessel fleet.

9.4 In total, there were 27,367 unique visitors (non-repeat views) for the year 1 July 2018 to 30 June 2019 with users spending an average of 2m 47s on the MSI web pages. A breakdown of the use is detailed below;

Description	Web page content	Unique Visitors/ Unique page views	Average time on page
Maritime safety information 01 Jul 2018 to 30 Jun 2019	MSI arrangements User advice	3,316	1m 45s
Maritime safety information database - 01 Jul 2018 to 30 Jun 2019	NAVAREA X MSI Database	24,051	2m 56s
Total		27,367	2m 47s

10. NAVAREA Contact Information:

No change to that currently promulgated

11. Recommendations:

None

12. Actions requested:

The Sub-Committee is invited to note the report.

13. Summary: The NAVAREA X Self Assessment report highlights MSI activities for the period July 2018 to June 2019.

Annex(es):

A. Self Assessment Spreadsheet (multiple state NAVAREAs only)