

17th S-123 Marine Radio Services Task Group (S-123TG) Meeting August 24, 2023 – Worldwide

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1.0 Opening Remarks

BG opened the meeting and welcomed the participants.

- JY invited his colleague from UKHO, Daniel Fairhurst, as an observer to the meeting.
- BG invited all participants in attendance to briefly introduce themselves.

2.0 Approval of Agenda

The agenda was adopted with no modifications.

3.0 Approval of S-123TG16 Minutes

The group approved the first draft of the meeting minutes as the final version.

Action Item 01: BG to send finalized S-123TG16 minutes to the group.

Action Item 02: RM to upload finalized S-123TG16 minutes to the NIPWG Wiki.

Action Item 03: BG to send finalized S-123TG16 minutes to be uploaded to the NIPWG website.

4.0 Review of Action Items from S-123TG16

Action Item	Action Description	Status
TG9/04	JP to provide an updated description for the DCEG regarding GMDSSArea (emphasis on administrative boundaries) (Wait for discussion at S-100WG in regard to overlapping coverage issue)	Ongoing
TG16/01	BG to send finalized S-123TG15 minutes to the group.	Completed 2023-07-28
TG16/02	RM to upload finalized S-123TG15 minutes to the NIPWG Wiki.	Completed 2023-08-09
TG16/03	BG to send finalized S-123TG15 minutes to be uploaded to the NIPWG website.	Completed 2023-08-15
TG16/04	BG to update feedback document with NIPWG decision regarding informationConfidence.	Completed 2023-08-22
TG16/05	SJC to provide the definitions and sources for “TransmissionDetails” and “BroadcastDetails.”	Completed 2023-08-02
TG16/06	BG to consult with NIPWG chair (EM) where data quality checks fit in the larger scheme of all Product Specifications.	Completed 2023-08-09
TG16/07	BG to update feedback document regarding the addition of a data quality chapter for the next edition (2.0.0) of the S-123 Product Specifications.	Completed 2023-08-22
TG16/08	BG to bring up at a future S-123TG meeting the review of the DQWG recommended template to determine which sections apply to S-123.	Ongoing
TG16/09	BG to include in the next S-123TG update presentation the findings from the task group regarding the gap analysis by SHOM.	Completed 2023-08-23

Action Item	Action Description	Status
TG16/10	SJC to prepare the list of enumerated values from the current Category of Maritime Broadcast that will not be used in the proposed remodelling of the radiocommunications complex attribute.	Completed 2023-08-02
TG16/11	BG to reply to S-412WG regarding changes to definitions of specific enumerated values currently under Category of Maritime Broadcast.	Completed 2023-07-31
TG16/12	JY to look into more details regarding the timing of the ratification of the definition of GMDSS Sea Area A3.	Completed 2023-08-24
TG16/13	BG to send the latest version of the cumulative feedback document to the group.	Completed 2023-07-28
TG16/14	For everyone to review via correspondence the cumulative feedback document to make sure it clearly captures the changes to be done to move to the next version of the S-123 Product Specifications.	Completed 2023-08-24
TG16/15	BG to consult with NIPWG chair (EM) on how to prepare and present the List of Changes.	Completed 2023-08-09
TG16/16	BG to send an email to the task group to schedule S-123TG17.	Completed 2023-08-01
TG16/17	BG to send a first draft of the S-123TG16 minutes to the group for review.	Completed 2023-07-28

TG16/05: The task group will move forward with the definitions as proposed by SJC.

- BG has updated the feedback document accordingly.

TG16/06: Regarding where data quality checks fit in the larger scheme of all Product Specifications:

Data quality checks will cover various aspects such as the up-to-dateness of the data to the likelihood of receiving a signal.

The first layer would be focused on the quality of the data content, while the second layer would be the quality of the dataset itself, which would be compared to the standards (product specifications) and whether or not it is compliant.

Data validation checks are part of data quality, and therefore these two aspects should be done in parallel and updated as changes are made.

EM recommended to cross-check with what S-127 and S-131 has regarding data quality and to use it as a starting point on what would apply to S-123.

- S-127 and S-131 could provide some guidance, but has not been well vetted.

NIPWG will recommend someone to the DQWG to think about data quality.

TG16/07: EM specified that the addition of a data quality chapter should be for the next **version** of the S-123 Product Specifications (Edition 1.1.0).

- The sooner it is included, the sooner it can be tested.
- BG has updated the feedback document accordingly.

TG16/10: Noted by the group.

- BG has updated the feedback document accordingly.

TG16/11: Follow-up regarding the definitions of enumerated values to be used in S-412:

“In regards to the edits that were made, we didn't delete any of the existing definitions, only expanded upon what was already there. Unfortunately, we submitted the changes a few months ago and they were approved through the DCB (Domain Control Body). I apologize for the inconvenience and I agree that in the future when it comes to weather information and requirements further collaboration between our groups is necessary. Please keep us in the loop as well if you are working with weather information to ensure that everything is up to the WMO standards. Feel free to reach out if you have any questions or concerns.”

Gale warning:

- Definition used in S-123: “warning of winds of Beaufort force 8 or 9”
- Updated definition used in S-412: “Wind speeds between 34 and 47 knots (Beaufort scale wind force 8 and 9) are forecast or occurring.”

Storm warning:

- Definition used in S-123: “warning of winds of Beaufort force 10 or over”
- Updated definition used in S-412: “Wind speeds between 48 and 63 knots (Beaufort scale wind force 10 or 11) are forecast or occurring.”

TG16/12: Still being ratified for January 2024.

Additional information from JY:

Please find the latest document and descriptions that I have been able to find in the IMODOCs store – please see [pages 88-89](#) of the pdf file.

My colleague also came across the following reference within one of the other related IMO documents (apologies, I can't recall the exact one he got it from!):

The amendments to SOLAS , its Protocol of 1988 and related IMO instruments to modernise the requirements to the GMDSS were adopted by MSC 105 (Maritime Safety Committee) and will enter force on 1 January 2024. SOLAS as you know does not apply to all vessels on the sea, it is only Chapter five (often referred to as SOLAS V). SOLAS V is the Safety of Navigation There are at the moment around 160ish flag states that follow SOLAS so a very high proportion of the world fleet (there are exceptions - warships, cargo less than 500 gross tons (GMDSS has a 300 gross tons flag), Pleasure yachts not trading (which can be massive), Fishing vessels. There are no Statutory Instruments involved, that is the Merchant Shipping Radio Regulations which is a different thing altogether. The changes to the EGC Manual were approved at MSC 106.

TG16/14: Will be reviewed in Point 5.0 of this meeting.

5.0 Review of S-123 Feedback Submitted to Date

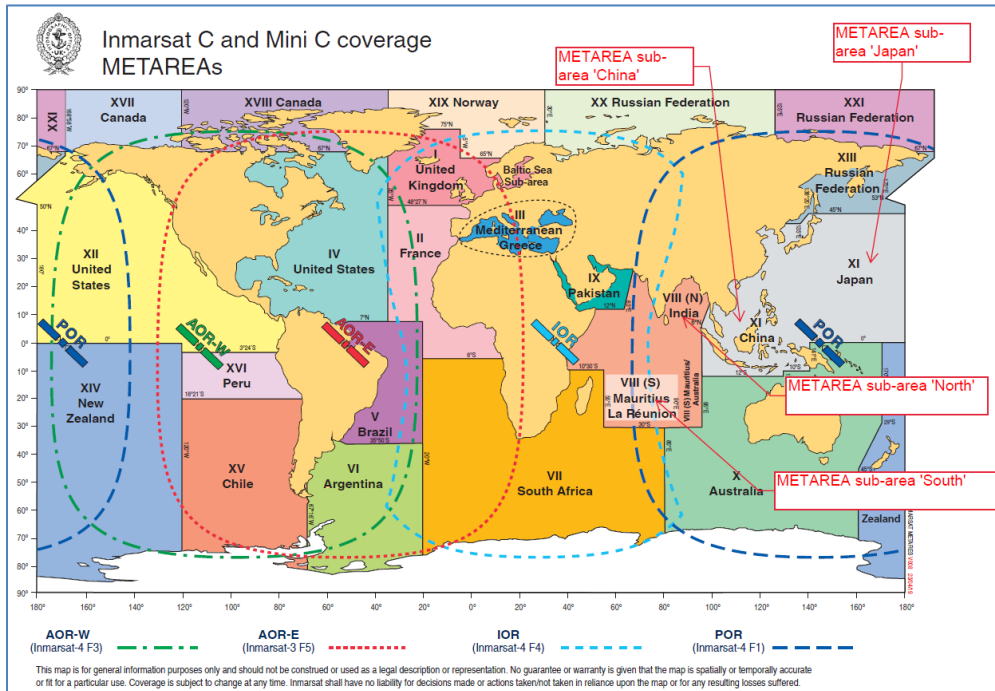
Goal is to review the feedback comment document to ensure that the conclusions are clear in preparation for the List of Changes to create the next version of the S-123 Product Specifications.

Action Item 04: BG to review and clean up the feedback document and send to group for review.

Action Item 05: For everyone to review the conclusions regarding the proposed editorial changes captured in the feedback document.

5.1 Clarification Requested on the Handling of METAREA “Sub-Areas”

JY requested clarification on how the METAREAs that have sub-areas would be handled in the new remodelling as that is not clearly captured in the feedback comment document.



SJC confirmed that the remodelling proposal does cover how to indicate the METAREA sub-areas, e.g. “METAREA III (W)” can be indicated in the **metArea** attribute.

- For METAREA XI, the **forecastAreaIdentifier** attribute could also be used to specify whether the “sub-area” in question is under the authority of “China” or “Japan.”
 - o WMO should have the specific coordinates defining the “sub-areas” of METAREA XI.

WeatherForecastWarningArea (remodelled)

- To clearly depict the area coverage of the content referred to in the text, voice or data by using (implicitly hierarchical) identifiers, **metArea**, nationality, **forecastAreaIdentifier** and the name encoded in 'featureName'.

Table 5. WeatherForecastWarningArea (remodelled)

Simple attributes	Feature Binding	Information Binding
categoryOfFrstAndWarningArea	RadioStation	Authority
1. WMO		TransmissionDetails
2. National high seas		BroadcastDetails (including onlineResource)
3. National offshore		
4. National coastal		
5. National inshore		
6. National local		
7. Ice		
metArea (e.g. METAREA III (W))		
nationality		
forecastAreaIdentifier		
(forecastAreaName) featureName		

To encode WMO defined METAREA forecast/warning subareas for MSI (EGC), or the forecast/warning subareas defined by the serving nation for various dissemination options (radio services, including NAVTEX).

In cases where binding with RadioStation is impractical, e.g. dissemination via satellite systems, binding with TransmissionDetails and BroadcastDetails should be useful enough

- BG has updated the feedback document accordingly.

5.2 Email from Ilia Maslov (Bureau Veritas Marine & Offshore):
Possible Integration of the Satcom/4G/LTE/5G Coverages into S-123

Bureau Veritas Marine & Offshore is preparing an input paper to be presented at NIPWG-10 regarding Satcom/4G/LTE/5G coverages and will make a recommendation to NIPWG regarding changes to the S-123 data model to reflect that.

Below is the initial email regarding this topic:

Mark CASEY, Head of Research, Design & Innovation, UKHO, suggested contacting you about the possible integration of the satcom/4G/LTE/5G coverages into the S-123.

Here is a brief recap of the presentation that we would like to prepare for NIPWG S-123.

a) **Issue impacting the safety of navigation of the autonomous ships:**

Mapping of communication coverage allows to identify no-go areas where there is no signal or where the QoS is not guaranteed.

Previously Bureau Veritas Marine & Offshore published “Guidelines for autonomous shipping” [NI641](#), where Sec 3 [2.10.3] and [8.2.3] refer to latency as a the Quality-of-Service (QoS) parameter and to the situational awareness about the range of the communications.

2.10.3 *The remote operators should be aware of the latency due to the communication that cause a delay between his/her action and the actual ship reaction.*

8.2.3 *In the case of remote control, it is the responsibility of remote operators to ensure that the ship remains within the range of its means of communication at all times and under all circumstances. When a ship is no longer within the range of its means of communication allowing its control, this ship should be able to enter into a failure sequence on its own.*

b) **Issue at the level of the communication providers:**

The satcom communication providers are hesitant to provide

- QoS data in a unified format
- Geographic coverage in an ENC format easily compatible with ECDIS

An example of specifying QoS can be taken from the ETSI standards for the cellular networks (LTE, 4G, 5G, etc.)

Here the GBR stands for a Guarantee Bit Rate service where an information transmission path is used for which the capacity, delay and bit error rate are guaranteed by the external communication provider.

QCI	Resource Type	Priority Level	Packet Delay Budget (NOTE 13)	Packet Error Loss Rate (NOTE 2)	Example Services
1 (NOTE 3)	GBR	2	100 ms (NOTE 1, NOTE 11)	10 ⁻²	Conversational Voice
2 (NOTE 3)		4	150 ms (NOTE 1, NOTE 11)	10 ⁻³	Conversational Video (Live Streaming)
3 (NOTE 3, NOTE 14)		3	50 ms (NOTE 1, NOTE 11)	10 ⁻³	Real Time Gaming, V2X messages Electricity distribution - medium voltage (e.g. TS 22.261 [51] clause 7.2.2) Process automation - monitoring (e.g. TS 22.261 [51] clause 7.2.2)

The lack of detailed and reliable information on the coverage and on QoS forces the Shipowners to measure and plot the signal availability on their own, when the autonomous units perform test runs on the intended route.

c) Issue at the level of the ENC providers:

Satcom and cellular communication coverages are not explicitly mentioned as dedicated vector objects in S-57 or S-123.

The coverage features as listed per S-123 vector model include:

- transmission power (applicable for land-based comms)
- GM_Point, (applicable for land-based comms)
- GM_OrientableCurve, and (applicable for land-based and satellite based comms)
- GM_OrientableSurface (applicable for land-based and satellite based comms)
- Estimated range of transmission (applicable for land-based comms).

d) Discussion with IHO

It is proposed to consider a potential solution at the level of NIPWG that might include:

- Introducing the satellite communication object type in S-123 with the coverage, QoS parameters, frequency ranges, uncertainty level
- Adapting radio station object type in S-123 to reflect the coverage, QoS parameters, frequency ranges, uncertainty level for the cellular network base stations
- Issuing recommendation to satcom providers to regularly share the updates of the coverage with the minimum requirements to the format of data to be shared on the satellite status
- Issuing recommendation to cellular network providers to regularly share the updates of the coverage with the minimum requirements to the format of data to be shared on the network status per base station along the coast or inland waterways.

The group noticed the mention of “uncertainty levels” and concerns on whether the data will actually be available (the source).

- The “uncertainty levels” appear to be related to informationConfidence, which was previously discussed by the group. Authorities may be reluctant to provide a percentage number, unless it is mandated by IMO.

This will most likely to be an ongoing discussion as S-123 cannot capture this information at the moment. It will be discussed at NIPWG whether this can and should be captured in S-123.

- Capturing information in free text would be useless to MASS.

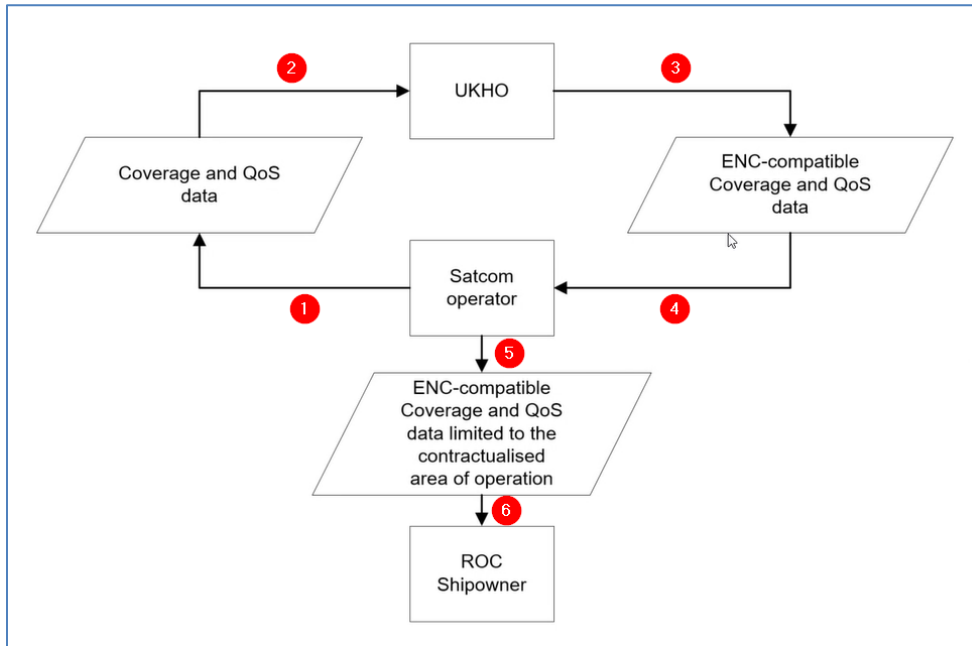
SJC mentioned that what is being brought up is commercial and most likely subscription based, so if you pay more, you will receive a better service. It does not necessarily fall into the service that S-123 is to be providing.

Action Item 06: BG to add BV suggestion to the feedback document and note that this will be discussed further at NIPWG-10.

Additional notes:

A meeting with Bureau Veritas (BV) Marine & Offshore was held on Wednesday, August 30, 2023. The NIPWG chair group and the S-123 task lead was in attendance. BV presented themselves and the work they do, as well as went over the revised input paper to be submitted for NIPWG-10. BV noted that there are multiple actors involved such as the mobile network operator, satellite operator, ship owner and ECDIS manufacturer.

BV addressed one of the S-123TG's concerns regarding the source of the information. The figure below explains the flow currently being proposed (numbers in the figure added by BG for clarity):



1. Satcom operator to provide the coverage and Quality-of-Service (QoS) data.
2. The coverage and QoS data is provided to a national producing authority (e.g. “UKHO.”)
3. The national producing authority would then convert this data to be ENC compatible.
4. This new converted data would be sent back to the Satcom operator.
5. The Satcom operator will take this data and limit it to the contractualised area of operation.
6. The Shipowner subscribed to the service for this area of operation can then receive this data.

Other questions to be answered are:

- How to make sure that the data gets to the national producing authority?
- How will the data be kept up to date?

If this proposal to expand the S-123 data model to fully capture this information is accepted by NIPWG, then BV will contribute to the work required to modify the data model so it can support this accordingly.

6.0 Preparing the List of Changes to Present to NIPWG Members

If the feedback document has sufficiently captured the conclusions and any changes to the data model is sufficiently captured in a proposal, then the task group can recommend to NIPWG that the work has been completed upon presentation of these documents. If the task group is in agreement, then this recommendation could be made at NIPWG-10.

- Need to verify that all changes are sufficiently captured in the feedback document.
- Data quality will be discussed further at NIPWG-10.
- Portrayal is not yet ready, so S-123 cannot move to Edition 2.0.0 yet.
 - o EM provided updates to the group that the [S-100 timeline](#) has been modified so that the development of Edition 2.0.0 for the S-123 Product Specifications would be pushed to the beginning of 2025 to leave time for the development of portrayal to take place.

EM also mentioned [work done by HSSC ISO 9001 Cell](#) regarding applying ISO 9001 for process management, especially to product specification development.

Action Item 07: SJC to verify that the radiocommunications remodelling proposal presented during NIPWG 2023 VTC 2 in June 2023 includes all aspects to be remodelled.

Action Item 08: BG to repackage the proposals and feedback document together to send to the task group for a final review before submission to NIPWG.

Action Item 09: For everyone to do a final review of the proposals and feedback document before being submitted to NIPWG.

7.0 Next Meeting

7.1 Actions to be Taken by Next Meeting

- **Deadline to submit input papers for NIPWG-10: September 1, 2023**

7.2 Next Meeting Dates:

- Potential dates for **S-123TG18** and **S-123TG19**
 - o Next meeting (S-123TG18) will most likely be in October 2023
- **Holidays:**
 - o *September 4 (CAN, USA), 29 (TWN), 30 (CAN, TWN)*
 - o *October 1 (TWN), 3 (DEU), 7-10 (TWN), 9 (CAN, USA), 31 (DEU)*
- Check IHO calendar: <https://iho.int/en/iho-meetings-and-events-calendar>
 - o **WWNWS15: September 4 to 8, 2023 (EM, NS)**
 - o **S-100 Validation VTC: September 7, 2023 (JP, RM)**
 - o **NIPWG-10: September 12 to 15, 2023**
 - o **ENCWG8/S-101PT11: September 25 to 29, 2023 (JP)**

September							October						
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
					1	2	1	2	3	4	5	6	7
3	4	5	6	7	8	9	8	9	10	11	12	13	14
10	11	12	13	14	15	16	15	16	17	18	19	20	21
17	18	19	20	21	22	23	22	23	24	25	26	27	28
24	25	26	27	28	29	30	29	30	31				

Action Item 10: BG to send an email to the task group to schedule S-123TG18.

Action Item 11: BG to send a first draft of the S-123TG17 minutes to the group for review.

7.3 Topics to Discuss

- Follow-up from NIPWG-10.

7.4 Additional Comments

- SJC will be the S-123TG representative at NIPWG-10.

ANNEX A: AGENDA

- 1.0 Opening Remarks
- 2.0 Approval of Agenda
- 3.0 Approval of S-123TG16 Minutes
- 4.0 Review of Action Items from S-123TG16
- 5.0 Review of S-123 Feedback Submitted to Date
 - 5.1 Clarification Requested on the Handling of METAREA “Sub-Areas”
 - 5.2 Email from Bureau Veritas: Possible Integration of the Satcom/4G/LTE/5G Coverages into S-123
- 6.0 Preparing the List of Changes to Present to NIPWG Members
- 7.0 Next Meeting

ANNEX B: LIST OF ATTENDEES

Country / Organization	Participant	Initials
Canada	Bridget Gagné (CCG)	BG
Canada	Eivind Mong (CCG)	EM
Canada	Quinn Arruda (CCG)	QA
Germany	Philipp Schwedas (BSH) Regrets	PS
United Kingdom of Great Britain and Northern Ireland	Jason Youé (UKHO)	JY
United Kingdom of Great Britain and Northern Ireland	Neil Salter (UKHO)	NS
United Kingdom of Great Britain and Northern Ireland	Daniel Fairhurst (UKHO) (Observer)	DF
Caris (Teledyne)	Hugh Astle Regrets	HA
IIC Technologies	Jonathan Pritchard Regrets	JP
National Taiwan Ocean University (NTOU)	Shwu-Jing Chang	SJC
Portolan Sciences	Raphael Malyankar	RM

ANNEX C: LIST OF ACTION ITEMS

Action Item	Action Description
TG9/04 Ongoing	JP to provide an updated description for the DCEG regarding GMDSSArea (emphasis on administrative boundaries) (Wait for discussion at S-100WG in regard to overlapping coverage issue)
TG16/08 Ongoing	BG to bring up at a future S-123TG meeting the review of the DQWG recommended template to determine which sections apply to S-123.
TG17/01	BG to send finalized S-123TG16 minutes to the group.
TG17/02	RM to upload finalized S-123TG16 minutes to the NIPWG Wiki.
TG17/03	BG to send finalized S-123TG16 minutes to be uploaded to the NIPWG website.
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TG17/06	BG to add BV suggestion to the feedback document and note that this will be discussed further at NIPWG-10.
TG17/07	SJC to verify that the radiocommunications remodelling proposal presented during NIPWG 2023 VTC 2 in June 2023 includes all aspects to be remodelled.
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TG17/11	BG to send a first draft of the S-123TG17 minutes to the group for review.

ANNEX D: RELATED DOCUMENTS

TG16/05:

SJC to provide the definitions and sources for “TransmissionDetails” and “BroadcastDetails.”

Definition of “transmission”, ”broadcast” and “broadcast service”:

Source: ITU Terms and Definitions database

Sector	ITU-R Radiocommunication	ITU-T Telecommunication Standardization	ITU-T Telecommunication Standardization
Term	transmission	broadcast	broadcast service
Type	term	term	term
Definition (English)	The transfer of information from one point to one or more other points by means of signals.	A type of communication where a node sends the same frame simultaneously to all other network nodes within a direct range.	A service using broadcast technology to deliver information simultaneously from a single sender to every receiver on the network.
Modified on	2006/3/2	2014/5/31	2014/5/31
Publication	<u>Recommendation ITU-R V.662-3 (2000)</u>	<u>Recommendation ITU-T Y.1903 (01/2014)</u>	<u>Recommendation ITU-T Y.1903 (01/2014)</u>
Status	In force	In force	In force

<https://www.itu.int/pub/R-TER-DB> (online Database)

Definitions proposed for “TransmissionDetails” and “BroadcastDetails”:

“TransmissionDetails”:

Description of the radiocommunication service with respect to the radio method and radio channels for the transfer of information by means of signals.

“BroadcastDetails”:

Description of the content and schedule of a service using broadcast technology of radiocommunications to deliver information (to every receiver within a direct range). Online resource to access the content may also be included.

-----Supplementary information-----

Related definitions in IHO GI Registry – Concept Register

Name	Definition	Reference Source
Radiocommunications	Detailed radiocommunications description with channels, frequencies, preferences and time schedules.	IHO Nautical Information Provision Working Group
Category of Radio Methods	Categories of radiocommunications based on frequency band and radio traffic method	IHO Nautical Information Provision Working Group
Broadcast	Communication by radio intended for reception at any point within a specified area.	Hydrographic Dictionary, Part I Volume I, English
Category of Maritime Broadcast	Classification of maritime broadcast based on the nature of information conveyed	IHO Nautical Information Provision Working Group
Category of Broadcast/Communication	Classification of broadcast or communications based on public availability and commercial/non-commercial nature	IHO Nautical Information Provision Working Group
Transmission Content	Content of transmission	IHO Nautical Information Provision Working Group
Transmission Power	The maximum power the radio service uses (or is authorized to use) for radio transmission	IHO Nautical Information Provision Working Group

Another kind of definitions and source:

<https://www.geeksforgeeks.org/types-of-transmission-technology/>

“Transmission”: the process of sending and propagating analog or signals of digital information.

Transmission technology generally refers to physical layer protocol duties like modulation, demodulation, line coding, and many more. It might also include higher-level protocol duties such as digitizing analog signals, data compression, etc.”

“Broadcasting”: a method of transferring messages to all the recipients simultaneously.

TG16/10:

SJC to prepare the list of enumerated values from the current Category of Maritime Broadcast that will not be used in the proposed remodelling of the radiocommunications complex attribute.

Regarding the question from S-412, code number 11, 12, 13, 17, 18 of ‘Category of Maritime Broadcast’ will not be used in the proposed remodeling. Those are grouped into ‘Meteorological warnings and forecasts’, similar to the subject grouping of NAVTEX.

I think, S-123 datasets describe related services in terms of access/delivery, while S-412/S-41x datasets provide the actual content.

There are radio services (or channels) provided specifically for ice report, and there is the S-411 Ice Information data product specification. It might be better to include ‘Ice report’ (Code number 3) into the ‘typeOfBroadcastContent’, otherwise it could be entered in subjectDescription (text) in addition to the general grouping.

=====Reference Information=====

Table: listed values of the current ‘Category of Maritime Broadcast’

Code number	Enumerated value Name	Definition (S-123 FC)
1	<u>Navigational Warning</u>	message containing urgent information relevant to safe navigation broadcast to ships in accordance with the provisions of the International Convention for the Safety of Life at Sea, 1974, as amended
2	<u>Meteorological Warning</u>	warning of adverse weather conditions
3	<u>Ice Report</u>	report of the ice situation and restrictions to shipping
4	<u>SAR Information</u>	broadcast message with information about an ongoing SAR operation
5	<u>Pirate Attack Warning</u>	warning of possible attack by pirates
6	<u>Meteorological Forecast</u>	broadcast message containing meteorological forecast
7	<u>Pilot Service Message</u>	broadcast message about pilot service
8	<u>AIS Information</u>	broadcast message about AIS information
9	<u>LORAN Message</u>	broadcast message about the LORAN service
10	<u>SATNAV Message</u>	broadcast message about Satellite Navigation service
11	<u>Gale Warning</u>	warning of winds of Beaufort force 8 or 9
12	<u>Storm Warning</u>	warning of winds of Beaufort force 10 or over
13	<u>Tropical Revolving Storm Warning</u>	warning of hurricanes in the North Atlantic and eastern North Pacific, typhoons in the Western Pacific, cyclones in the Indian Ocean and cyclones of similar nature in other regions

Code number	Enumerated value Name	Definition (S-123 FC)
14	<u>NAVAREA Warning</u>	navigational warning or in-force bulletin promulgated as part of a numbered series by a NAVAREA coordinator (Maritime Safety Information Manual 2009)
15	<u>Coastal Warning</u>	navigational warning promulgated as part of a numbered series by a National coordinator (Maritime Safety Information Manual 2009)
16	<u>Local Warning</u>	warning which covers inshore waters, often within the limits of jurisdiction of a harbour or port authority (Maritime Safety Information Manual 2009)
17	<u>Low Water Level Warning/Negative Tidal Surge</u>	warning of actual or expected low water level
18	<u>Icing Warning</u>	warning of accretion of ice on ships
19	<u>Tsunami Broadcast</u>	broadcasts about tsunamis, including watches, advisories, and other types of messages relating to tsunamis or potential tsunamis

Related remodeling as presented previously is as follow:

broadcastContent (Complex Attribute)

- typeOfBroadcastContent
 - Navigational warnings
 - Meteorological warnings and forecasts
 - Search and rescue information
 - Security or Piracy warnings
 - Tsunamis and other natural phenomena warnings
 - Pilot and VTS service messages
 - Other application specific messages
- subjectIndicatorCharacter
- subjectDescription [text]

TG16/12:

JY to look into more details regarding the timing of the ratification of the definition of GMDSS Sea Area A3.

2022 AMENDMENTS TO THE INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974 - RESOLUTION MSC.496(105)

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**CHAPTER IV
RADIOCOMMUNICATIONS**

4 The text of chapter IV is replaced by the following:

**"Part A
General**

Regulation 1 – Application

1 Unless expressly provided otherwise, this chapter applies to all ships to which the present regulations apply and to cargo ships of 300 gross tonnage and upwards.

2 This chapter does not apply to ships to which the present regulations would otherwise apply while such ships are being navigated within the Great Lakes of North America and their connecting and tributary waters as far east as the lower exit of the St Lambert Lock at Montreal in the Province of Quebec, Canada.

3 No provision in this chapter shall prevent the use by any ship, survival craft or person in distress, of any means at their disposal to attract attention, make known their position and obtain help.

Regulation 2 – Terms and definitions

1 For the purpose of this chapter, the following terms shall have the meanings defined below:

- .1 *AIS-SART* means an automatic identification system search and rescue transmitter capable of operating on frequencies dedicated for AIS (161.975 MHz (AIS1) and 162.025 MHz (AIS2)).
- .2 *Bridge-to-bridge communications* means safety radiocommunications between ships from the position from which the ships are normally navigated.
- .3 *Continuous radio watch* means that the radio and listening watch concerned shall not be interrupted other than for brief intervals when the ship's receiving capability is impaired or blocked by its own communications or when the facilities are under periodical maintenance or checks.
- .4 *Digital selective calling (DSC)* means a technique using digital codes which enables a radio station to establish contact with, and transfer information to, another station or group of stations, and complying with the relevant recommendations of the International Telecommunication Union Radiocommunication Sector (ITU-R).
- .5 *Emergency position-indicating radio beacon (EPIRB)* means a transmitter operating in the frequency band 406.0-406.1 MHz capable of transmitting a distress alert via satellite to a rescue coordination centre and transmitting signals for on-scene locating.
- .6 *General radiocommunications* means communications other than distress, urgency and safety communications.
- .7 *Global Maritime Distress and Safety System (GMDSS)* means a system that performs the functions set out in regulation 4.1.1.

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- .8 *GMDSS identities* means information which may be transmitted to uniquely identify the ship or its associated rescue boats and survival craft. These identities are the ship's call sign, Maritime Mobile Service Identity (MMSI), EPIRB hexadecimal identity, recognized mobile satellite service identities and equipment serial numbers.
- .9 *Locating* means the finding of ships, aircraft, survival craft or persons in distress.
- .10 *Maritime safety information (MSI)* means navigational and meteorological warnings, meteorological forecasts and other urgent safety-related messages broadcast to ships.
- .11 *Radar SART* means a search and rescue transponder operating on radar frequencies in the frequency band 9.2-9.5 GHz.
- .12 *Radio Regulations* means the Radio Regulations complementing the Constitution and Convention of the International Telecommunication Union which is in force at any given time.
- .13 *Recognized mobile satellite service* means any service which operates through a satellite system and is recognized by the Organization, for use in GMDSS.
- .14 *Satellite service on 406 MHz* means a service operating through a satellite system having global availability designed to detect EPIRBs transmitting in the frequency band 406.0-406.1 MHz.
- .15 *Sea area A1* means an area within the radiotelephone coverage of at least one very high frequency (VHF) coast station in which continuous DSC alerting is available, as may be defined by a Contracting Government.
- .16 *Sea area A2* means an area, excluding sea area A1, within the radiotelephone coverage of at least one medium frequency (MF) coast station in which continuous DSC alerting is available, as may be defined by a Contracting Government.
- .17 *Sea area A3* means an area, excluding sea areas A1 and A2, within the coverage of a recognized mobile satellite service supported by the ship earth station carried on board, in which continuous alerting is available.
- .18 *Sea area A4* means an area outside of sea areas A1, A2 and A3.

2 All other terms and abbreviations which are used in this chapter and which are defined in the Radio Regulations and in the International Convention on Maritime Search and Rescue, 1979, as may be amended, shall have the meanings as defined in those Regulations and the SAR Convention.

Regulation 3 – Exemptions

1 The Contracting Governments consider it highly desirable not to deviate from the requirements of this chapter; nevertheless, the Administration may grant partial or conditional exemptions to individual ships from the requirements of regulations 7 to 11 provided: