Input paper: [1] VTS55-9.1.1

Input paper for the following Committee(s):	check as appropriate		Purpose of paper:
□ ARM	□ ENG	□ PAP	X Input
□ DTEC	X VTS		□ Information

Agenda item[2]	9.1
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Author(s) / Submitter(s)	China Maritime Safety Administration

Proposals on the "Service Specification for VTS Traffic Clearance Service Edition 1.0"

1 SUMMARY

This proposal proposes revisions to Service Specification for VTS Traffic Clearance Service Edition 1.0 from the aspects of improving traffic *clearance* data flow, ECDIS related contents in accordance with MSC.530(106), adding planned route related contents to the functional requirements ,improving service data model, and optimizing spatial patterns and improving spatial schema related contents.

1.1 Purpose of the document

The purpose of this document is to provide input document for the VTS committee to update the Service Specification for VTS Traffic Clearance Service.

1.2 Related documents

IALA VTS54-6.1.1 Draft Task Plan 2023-2027

IALA VTS54-12.2.4 Service Specification for VTS Traffic Clearance_1.0

IALA VTS53-6.3.2 Development of technical service specifications for digital data exchange between VTS and other entities - primarily ships

IALA VTS54 8.3.2 Draft of Service Specification for digital VTS Anchorage Assignment Service_V0.5

1Input document number, to be assigned by the Committee Secretary

2Leave open if uncertain

IMO Resolution MSC.530(106) Performance Standards for Electronic Chart Display and Information System (ECDIS)

2 BACKGROUND

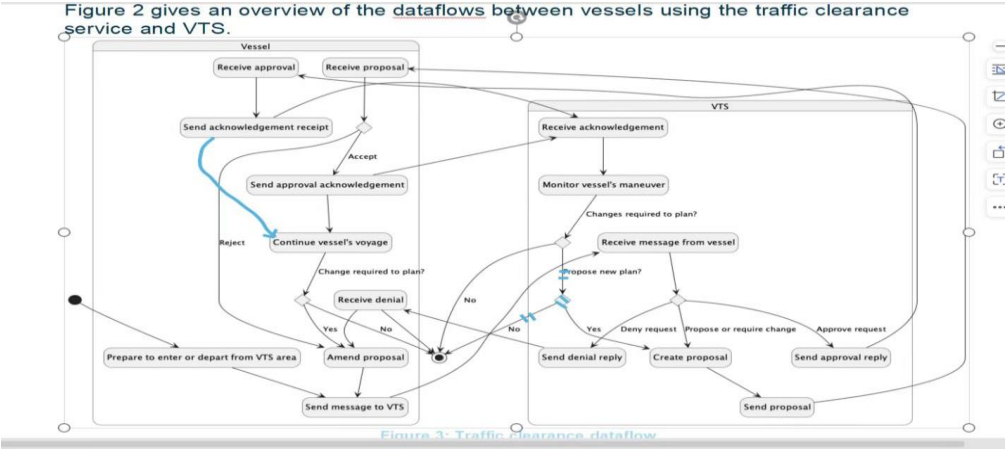
2.1 The IALA VTS Committee Work Plan 2023-2027 raises the task" Development of technical service specifications for digital data exchange between VTS and other entities - primarily ships" (task 2.5.2), and aims to finalize the pioneer technical service specifications before VTS57. Technical Service Specification for VTS Traffic Clearance Edition 1.0.0 and Service Design for VTS Traffic Clearance using SECOM Draft 0.1.0 had been finalized at VTS54 and the intersessional meeting. At the intersessional meeting, the task 2.5.2 indicated that all contents of the Service Specification for VTS Traffic Clearance would be open for discussion and welcome suggestions for revision.

2.2 As the co-sponsor of the new work task proposal (VTS 53-6.3.2) at VTS53, and China MSA continued to submit "proposals on the New Work Task of Developing Technical Service Specifications for Digital Data Exchange between VTS and Other Entities (VTS54 9.1.3) " and " Draft of Service Specification for digital VTS Anchorage Assignment Service_V0.5" (VTS54 8.3.2) at VTS54.

3 PROPOSAL

3.1 Proposals on improving traffic clearance data flow

In the traffic clearance data flow （Figure 2 in Chapter 3.1）, after vessels sending acknowledgement receipt, the next process should be "Continue vessel's voyage". When VTS monitors vessel's maneuver after receiving acknowledgement, the discussion on whether to change required to plan is too complicated, so it is recommended to keep "NO" or "YES". "NO" points to the end, and "YES" points to "Create proposal." The details are shown in the following figure:



3.2 Proposals on improving ECDIS related contents in accordance with MSC.530(106)

In support of IALA G1128 applications and the implementation of digital maritime services (MS), in December 2022, MSC106 approved the Revised Electronic Chart Display and Information System (ECDIS) Performance Standard (MSC.530(106)), which introduced the

concept of electronic Navigation Data Services (ENDS) and online transmission updates for the first time. In May 2023, the IMO NCSR10 considered and adopted the new amendment of ECDIS performance standard, and will be submitted to MSC108 for approval in June 2024. The amendment will support planned route exchange and secure online data exchange in compliance with S-421/IEC 63173-1 and /IEC 63173-2 SECOM.

Considering the S-100 ECDIS will serve as an important carrier for the landing of G1128 at the end users of the ship, the first recommendation is to optimize and unify the following ECDIS related words in page 6 and 7 of Service Specification for VTS Traffic Clearance Edition 1.0.0, The second is to add relevant industrial standards such as MSC.530(106) and IEC 63173-2 SECOM program route exchange and online data security exchange to “3.3.1Relevant Industrial Standards”.

3.3 Proposals on adding planned route related contents to the functional requirements and service data model

In the description of all 5 user cases for Traffic Clearance in Chapter 3.1and Service Dynamic Behavior in Chapter 6, the data exchanged between ship and shore are "ETA/ETD" or "route plan". But in Chapter 3.2.1, the TCSF001/002/003/004/005/006 functional requirements are only "ETA/ETD", not "the route plan" related content. The TCSF009/010 are also closely related to route plan and S-421. It is recommended to improve the related contents of route plan and S-421 in the above eight functional requirements based on user cases in Chapter 3.1.

Service Data Model in Chapter 5 currently only has S-212 data model related content. According to Chapter 3.1 user cases for Traffic Clearance and Chapter 6 Service Dynamic Behavior, considering that planned routes and other aspects are also very important contents, It is proposed that the planned route exchange and online data security exchange of IEC 63173-1/ S-421 and IEC 63173-2 SECOM be added to Chapter 5 Service Data Model and Chapter 7 References.

3.4 Proposals on improving spatial schema related contents

In Chapter 3.2.1, the TCSF001/002/003/004/005/006 functional requirements require a geographical location referred to with a point, polygon or rectangle. In Chapter 5 Service Data Model, Clearance area is be used to define a geographical location as one of the following: gml:Envelope, gml:Point and gml:Polygon. There is no one-to-one correspondence.

Potential Clearance areas may also defined in rectangles (such as berths), S100_CircleByCenterPoint (anchorage), GM_Composite (such as military exercise areas), GM_CompositeCurve (such as planned routes or historical tracks or submarine cables), and so on. At present, the spatial objects referred can not be effectively expressed, and the GML version used is not declared yet.

VTS Digital Information Service (VTS-DIS) features are encoded as vector entities which conform to S-100 geometry configuration level 3b (S-100 clause 7-5.3.5), and clearly supports geographical entities such asS100_ArcByCenterPoint(S-100 clause 7-4.2.20) and S100_CircleByCenterPoint(S-100 clause 7-4.2.21).

To sum up, it is recommended to refer to the "spatial schema" in Chapter 7 of S-100 edition 5.2.0 to improve the relevant text description of spatial object levels, such as adding support

for S-100_ArcByCenterPoint and S100_CircleByCenterPoint,to better define standard spatial objects related to clearance areas in a manner consistent with the S-100 spatial schema and VTS-DIS.

4 REFERENCES

[1] **VTS53-12.5.2.9** VTS Digital Information Service Product SpecificationV0.6.5(WP)

[2] **S-100WG Letter 3/ 2023** Review S-100 Edition 5.2.0

5 ACTION REQUESTED OF THE COMMITTEE

The Committee is requested to consider the proposals in this document and take actions as appropriate.