



9th Meeting of the Nautical Information Provision Working Group

Suggestions for Changes to the Encoding of Restricted Area Navigational in S-127 Maritime Traffic Management Product Specification (1.0.0)

NIPWG-9, Niteroi, Brazil- Hybrid Event, 13 – 16 September 2022



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BACKGROUND

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1. China Maritime Safety Administration have been producing S-127 test data in navigational areas under the jurisdiction of the Guangdong MSA by following S-127 Maritime Traffic Management Product Specification (1.0.0).
2. Traffic management regulations entered into the test data are sourced from "Regulations on Safe Navigation of Vessels under the Jurisdiction of Guangdong Maritime Safety Administration, Guangdong MSA File No.100/2021 "



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PROBLEMS OR ISSUES

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1. The value of speed limit cannot be encoded in S-127 Digital Classification and Encoding Guide (DCEG).
2. It cannot be done using Feature/Attributes from the S-127 DCEG (1.0.1) to structurally encode some maritime traffic rules such as Berthing Restricted, Berthing Prohibited.



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ANALYSIS/DISCUSSION

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Why is it required to encode the exact speed value in S-127 DCEG?

1. Speed is often limited and also assigned an explicit speed limit inside harbors.
2. The machine-readable speed limits are helpful for a vessel, especially an autonomous vessel to accurately plan its passage.



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ANALYSIS/DISCUSSION

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Geo Feature: Restricted area navigational

S-101 DCEG	S-127 DCEG
Restriction 27 : speed restricted	Restriction 27 : speed restricted
vessel speed limit speed limit vessel class	not listed in S-127 DCEG. Recommend adding complex attribute vessel speed limit, sub-attribute speed limit



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ANALYSIS/DISCUSSION

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Why is it recommended to add complex attribute vessel speed limit, sub-attribute speed limit to S-127 DCEG from S-101 DCEG?

1. Speed limits cases are more common in maritime traffic management rules.
2. When making the S-100 based Products, duplicated features are allowed between products.
3. Data model: It is same for speed limits information to be encoded in S-101 and S-127 products.
4. Update speed: Speed limits in S-127 products are likely to be more frequently updated than those in ENC.



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ANALYSIS/DISCUSSION

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In navigational areas under the jurisdiction of the Guangdong MSA, restrictions on berthing restricted or berthing prohibited are common. For example, at some docks, vessels exceeding a certain width are restricted from berthing.



Enumerated value name of the attribute Restriction

«enumeration» restriction
anchoring prohibited = 1
anchoring restricted = 2
entry prohibited = 7
entry restricted = 8
no wake = 13
area to be avoided = 14
stopping prohibited = 25
landing prohibited = 26
speed restricted = 27
overtaking prohibited = 28
overtaking of convoys by convoys prohibited = 29
passing or overtaking prohibited = 30
turning prohibited = 35
restricted fairway depth = 36
restricted fairway width = 37

Code number	Enumerated value Name	Code number	Enumerated value Name
1	Anchoring Prohibited	2	Anchoring Restricted
3	Fishing Prohibited	4	Fishing Restricted
5	Trawling Prohibited	6	Trawling Restricted
7	Entry Prohibited	8	Entry Restricted
9	Dredging Prohibited	10	Dredging Restricted
11	Diving Prohibited	12	Diving Restricted
13	No Wake	14	Area To Be Avoided
15	Construction Prohibited	16	Discharging Prohibited
17	Discharging Restricted	18	Industrial or Mineral Exploration/Development Prohibited
19	Industrial or Mineral Exploration/Development Restricted	20	Drilling Prohibited
21	Drilling Restricted	22	Removal of Historical Artefacts Prohibited
23	Cargo Transhipment (Lightening) Prohibited	24	Dragging Prohibited
25	Stopping Prohibited	26	Landing Prohibited
27	Speed Restricted	28	Overtaking Prohibited
29	Overtaking of Convoys by Convoys Prohibited	30	Passing or Overtaking Prohibited
31	Berthing Prohibited	32	Berthing Restricted
33	Making Fast Prohibited	34	Making Fast Restricted
35	Turning Prohibited	36	Restricted Fairway Depth
37	Restricted Fairway Width	38	Use of Spuds Prohibited
39	Swimming Prohibited	40	SOx Emission Restricted
41	NOx Emission Restricted		

S-127(1.0.1)



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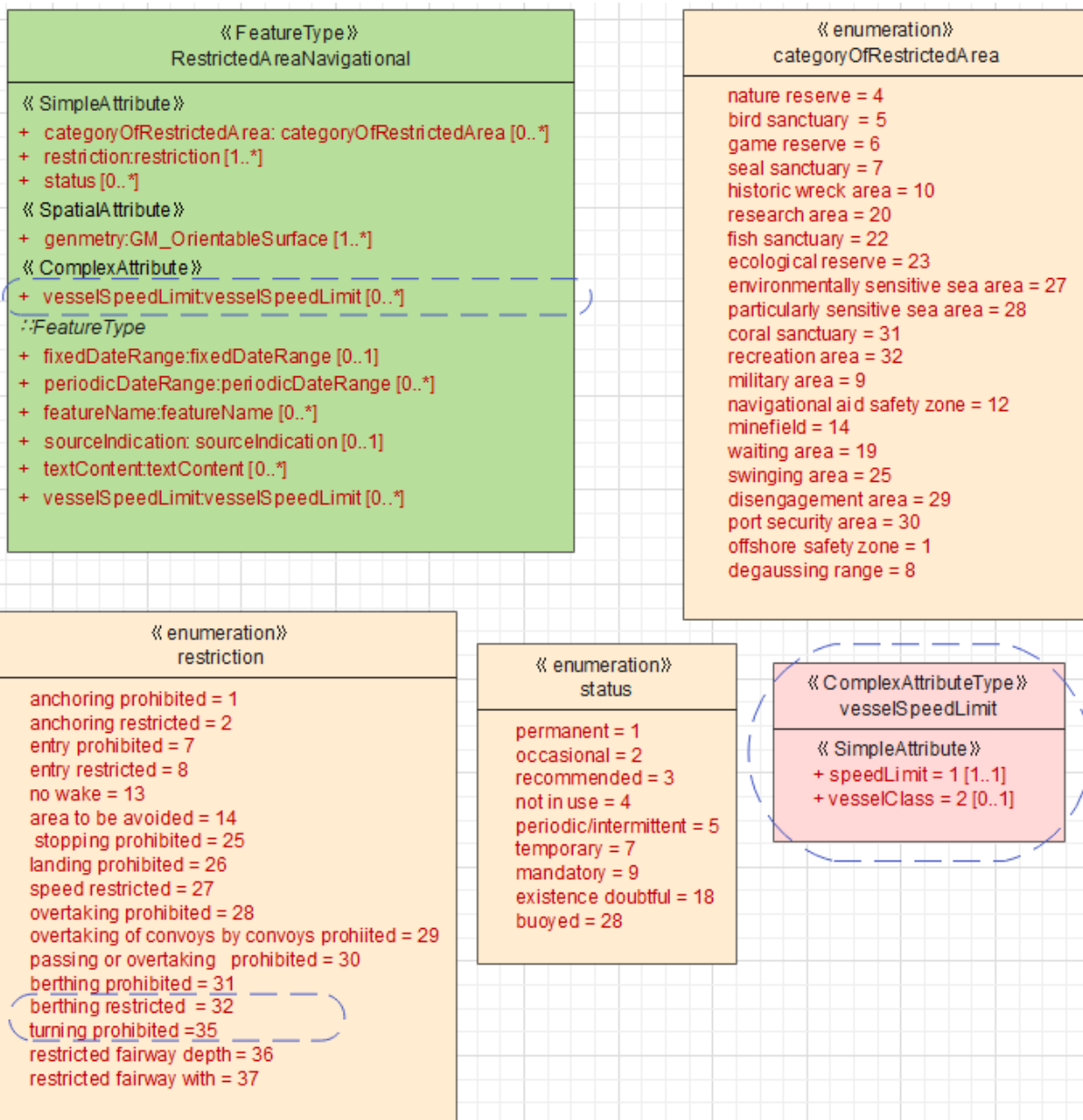
CONCLUSIONS AND RECOMMENDATIONS

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1. If it is required, the speed limit should be encoded in S-127. In order to encode the limit value accurately , it is suggested that the complex attribute vessel speed limit, sub-attribute speed limit should be bound to the feature Restricted Area Navigational in the S-127 DCEG.
2. It is proposed to bind two values, berthing prohibited with code number 31, berthing restricted with code number 32, to enumeration of the attribute restriction of the feature Restricted Area Navigational.



CONCLUSIONS AND RECOMMENDATIONS





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ACTIONS REQUESTED FROM NIPWG

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1. Agree with the proposed changes to the model of Restricted Area Navigational.
2. Note the paper.