

9th CSPCWG MEETING

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Hovercraft and WIG effect craft routes

Submitted by:	Korea
Executive Summary:	According to establishing commercialization plan for WIG craft in Korea, it is needed to discuss whether to put sea route on the chart, and how to express it on that.
Related Documents:	None
Related Projects:	None

Introduction / Background

According to establishing commercialization plan for WIG craft in Korea, it is needed to discuss the necessity of new symbol relating to WIG craft, and if the new one is used, it should be decided to the kinds and location of new symbol. WIG craft which is generally a boat that cruises just above the water surface is different from hovercraft in the way to use ground effect above the water or some other surface at a high speed in technical side. Although WIG craft is faster than hovercraft, they have one thing in common in the way to fly over the water at a high speed. Therefore, IMO classified WIG craft into a ship as a type of hovercraft in the late 1990's. WIG craft can be divided into 3 types. Type A and B which are a craft that is certified for operation only in ground effect, or to temporarily increases its altitude to a limited height outside the influence of ground effect but not exceeding 150 m above the surface can be classed as a ship. Type C which is a craft that is certified for operation outside of ground effect and exceeding 150 m above the surface can be classed as an aircraft which is subject to the rules and regulations of ICAO. It is planned for WIG craft which can offer 50 places and flies by 97 knots to go into some routes for passenger such as Pohang-Ullengdo at the east sea and Gunsan-Aewol(Jejudo) at the yellow sea. (It is pending now by safety problem of WIG craft)

Analysis / Discussion

There are some considerations to discuss the necessity of symbol. One is the issue of possibility for collision between existing ships and WIG craft. The other is the issue whether it is necessary for marking the route and take off area for WIG craft to operate the ship. (Both existing ships and WIG craft)

WIG craft is known for various sizes of ships to be operated in Russia from 1965 in practical. Although there are no reports of a full-scale ship collision accident until now, two cases of accident by inexperienced operation are reported in the Soviet Union before. WIG craft is designed to have a turning radius within 1km. It is also designed to consider the route for avoiding obstacles on horizontal ocean surface by gaining height in case of emergency. The speed of taking off vertically is more than 2-5m/s.

The marine collisions are usually occurred by being concentrated into cramped route owing to lack of having proper depths in offshores and carelessness of forward looking and lack of communication between ships in open seas.

In the case of open seas, other ships are no better than being stop in the point of WIG craft view. Therefore, WIG craft is supposed to avoid all other ships in international regulations. It also can trace other ships from outside of 2~30km taking into account radar and AIS technology lately. According to IMO it is recommended to set up object detection and avoiding system additionally.

The followings are the regulations relating to object avoiding system from Interim Guidelines For Wing-In-Ground (WIG) Craft of IMO.

12.13 Obstacle detection and avoidance system

WIG craft should be provided with an obstacle detection and avoidance system, if required by the Administration, which is capable of at least:

- .1 processing data of the craft's position, heading and speed;
- .2 locating all fixed, floating and semi-submerged obstacles relative to the craft position, and the predicted course;
- .3 calculating a collision avoiding trajectory, including crash stop;
- .4 giving alarm to the operating compartment crew, if a collision-avoiding manoeuvre is necessary; and
- .5 displaying the collision-avoiding trajectory in the operating compartment

In the case of offshores, it can be possible to plan the route which is not overlapped within existing route because there is no limit to WIG craft on the depths. Although it also uses existing harbours jointly with others, WIG craft does not take off within the harbour, but take off at outside of harbour like around anchorage.

Conclusions

Considering these facts, if there is enough preparation on route planning and operational regulations, WIG craft does not threaten the safety of general ships or does not need to take further steps additionally. However, chart is also used in WIG craft for route planning and operational regulations, and it is necessary for route to be marked on the chart to find locations and planned route to set the route for avoiding obstacles. In addition, it is needed for general ships particularly small ships which are in a blind spot of AIS and radar system to use cautions to WIG craft through symbol or note in the overlapped route area for emergencies.

Recommendations

It is recommended to discuss marking route, take off area and an anchorage of WIG craft and proper symbols on the chart at CSPCWG. In addition, there are symbols not only general route for ships but also submarine exercise area and transit lanes (S-4 B-441.5, N33). If new symbols are decided, it should be considered the possibility of confusion with Seaplane operation area (S-4 B-449.6(INT N13, N14)).

Justification and Impacts

To prepare the symbols on an airship that cruises just above the water surface such as WIG craft and hovercraft.

Action required of CSPCWG.

To decide whether the symbols relating to WIG craft and hovercraft is necessary or not.