



INTERTANKO

**Guide to South Korea's
Vessel Speed Reduction
(VSR) programme**

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Background

The South Korean Ministry of Maritime Affairs and Fisheries (“MOF”) announced a “special act on improvement of air quality in port areas” in December 2019. As part of those special measures, a Vessel Speed Reduction (VSR) programme is now in operation.

Following Member feedback and questions, further guidance from the authorities in South Korea was sought in order to provide the comprehensive information detailed within this guide.

1. General

From 1 December 2019, the Vessel Speed Reduction (VSR) programme became effective. This programme is voluntary. The objective is to encourage ships to lower their navigating speed in port areas, thereby reducing air pollutants emitted from ships including particulate materials (PM).

Port fees will be discounted for ships which voluntarily lower their speeds to set targets defined in the VSR programme Sea Areas when moving from starting point to an end point within a Sea Area. For tankers, the target is 10 knots.

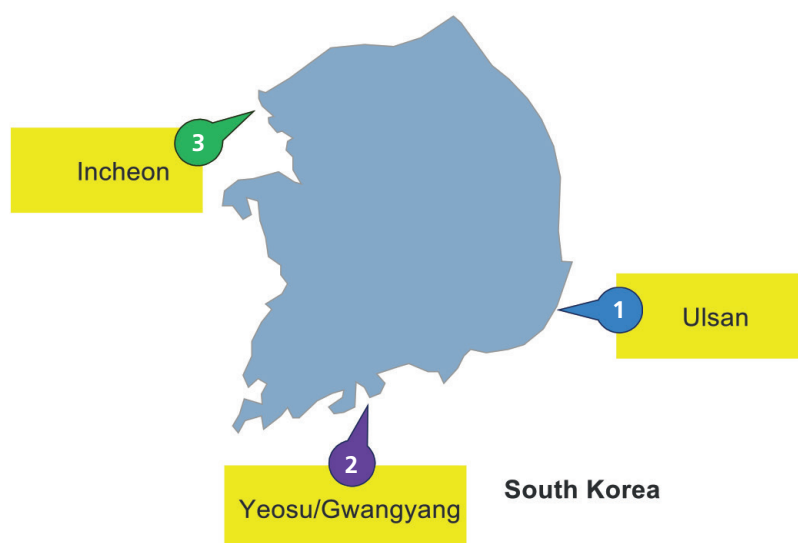
2. Scope of application

Ocean-going ships of no smaller than 3,000 tonnes (GT) of all nationalities in Busan, Ulsan, Yeosu-Gwangyang and Incheon. No tankers are applicable in Busan. Therefore, this guide addresses the remaining three ports only.

The programme does not apply to a ship, if

1. the ship stopped its voyage temporarily within the designated port areas,
2. the ship’s average speed per five minutes exceeded [130%][150%]* of the recommended reduced speed more than once within the areas, or
3. the ship reported a delay to its arrival at the anchorage point or the pilotage point.

3. Three (3) Port Areas



* 130%: Incheon Port Authority
150%: Ulsan Port Authority and Yeosu Gwangyang Port Authority

4. VSR programme Sea Areas

The four port areas selected are designated as “VSR programme Sea Areas”. Each Sea Area will span 20 nautical miles in radius, measured from a specific lighthouse in each port. Ships should navigate no faster than a maximum speed as shown below.

For the designation of VSR programme sea areas, see Annex 1.

5. Eligible Tanker types (source: three Port Authorities)

Ulsan			Yeosu/Gwangyang			Incheon		
Ship type	Speed to be reduced to(knot)*	Fee reduction rate	Ship type	Speed to be reduced to (knot)*	Fee reduction rate	Ship type	Speed to be reduced to (knot)*	Fee reduction rate
Car Carrier	12	30%	Car Carrier	N.A	N.A	Car Carrier	12	30%
Container	12	30%	Container	12	30%	Container	12	30%
Dry cargo	N.A	N.A	Dry cargo	10	15%	General Cargo**	10	15%
Crude Oil	10	15%	Crude Oil	N.A	N.A	Crude Oil	N.A	N.A
Product (refined)	10	15%	Product (refined)	N.A	N.A	Product (refined)	N.A	N.A
Chemical	10	15%	Chemical	N.A	N.A	Chemical	N.A	N.A
LNG Carrier	N.A	N.A	LNG Carrier	10	15%	LNG Carrier***	10	15%

* The ship's speed: +10% allowance is given. This is an average speed.

** Port-MIS (Korea's nationwide Port Management System) entry code 21 and 39

*** Port-MIS entry code for LNG carrier: Code 56

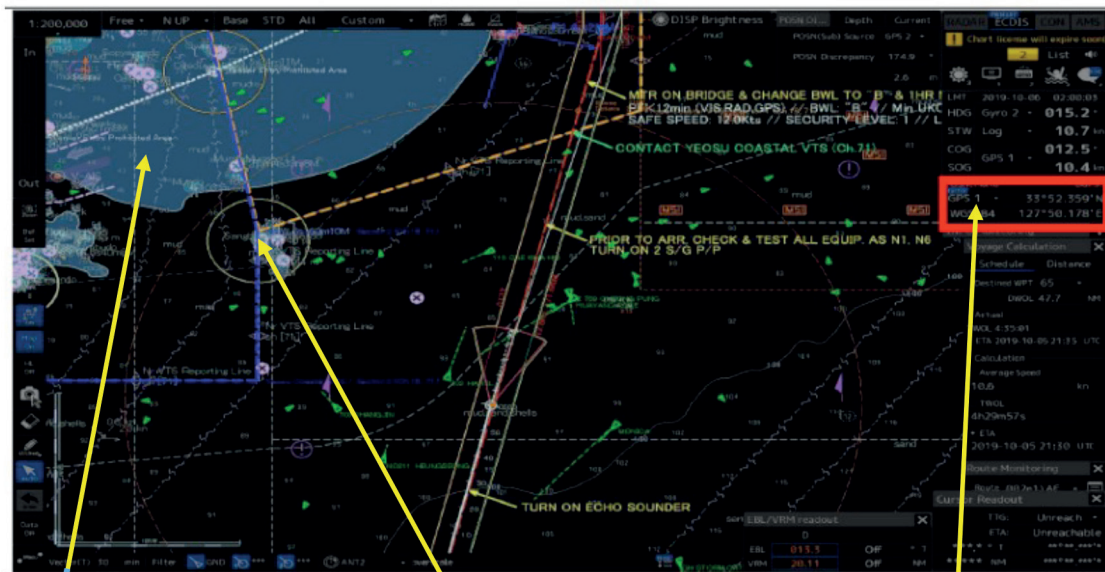
6. Who shall report to whom and how?

Any ship can report her voluntary speed reduction by logging into Korea's Port Management Information System (“Port-MIS”, <https://new.portmis.go.kr/portmis/websquare/websquare.jsp?w2xPath=/portmis/w2/main/intro.xml>). However as the system is built in the Korean language, Members are advised to request their ship Masters to report their tankers' speed reduction details through local agents who have their own login details.

7. When and what to report?

When	Within 48 hours after arrival at the designated port. Reports can be amended for the next seven days.	
What	Application form (cover)	Your local agent will fill in the application form using the ship's reports and submit it to "Port MIS". The tanker's VSR starting time and position, VSR ending point (see para. 8 below) and the average speed during this voyage. See Annex 2 for a sample application form.
	Evidence (attached to the Application form)	VSR Area Entry Point – ECDIS Picture VSR Area Exit Point – ECDIS Picture Capture ECDIS screens, save them in a file and e-mail (or USB) it to local agent.

An example of an ECDIS screen shot – starting point



A designated port VSR area

VSR starting point

ship position (GPS Lat/Longi)

8. What is the VSR starting point and ending point?

Starting point	Any position outside the VSR programme area.
Ending point	The point where a pilot comes on board the ship. In case the ship is not piloted, any pilotage position nearest to the shore line (e.g. No.3 pilot station in Yeosu port. See Annex 1, Yeosu port map).

9. How can I get the travelled distance using the straight line from the VSR starting point and the ending point?

9. How can I get the travelled distance using the straight line from the VSR starting point and the ending point? (source: Incheon Port Authority)

Use the following equation:

$$\text{distance (mile)} = \sqrt{\left(\left(|C - A|\right) \times \frac{111.195}{1.852}\right)^2 + \left(\left(|D - B|\right) \times \frac{x}{1.852}\right)^2}$$

A: latitude of the starting point

B: longitude of the starting point

C: latitude of the ending point

D: longitude of the ending point

x: $\cos\left(\frac{\text{the degree of the latitude of the VSR starting point}}{360 \times 2 \times 3.14} \times 6371.009 \times 2 \times \frac{3.14}{360}\right)$

Or, measure the distance using a typical chart measuring instrument such as a ruler.

10. How to calculate the average speed?

The ship's speed should be calculated by dividing the travelled distance (nm) by time (hour). If the ship's trajectory is difficult to calculate, use the straight line from the VSR starting point to the ending point. The Port Authority's verification program (under development) will identify and filter out the VSR reports that do not meet the average speed requirement.

11. How many times should a frequently visiting ship report?

The incentives are offered to a ship that has participated in the VSR for more than 60%* of the total number of entries to the port counting from 01/01/2020 to 31/12/2020. If the ship entered the port only once in year 2020, the ship should have participated in the VSR programme for that particular voyage.

* This 60% requirement shall be met in order for the ship to be entitled to port fee discounts.

$$60\% = \frac{\text{the number of speed reduction port entries}}{\text{the total number of port entries}} \times 100\%$$

For example, if the ship entered the port 3 times in 2020, she should have joined the VSR programme at least twice for this particular port. Note that if one or two VSR reports of the ship were found to have not met the average speed requirement, the ship would not be qualified for the port fee discounts. See para.14 for the 90% target.

12. Once reported, when and how are the port fee discounts provided?

The Port Authority will verify a particular ship's VSR reports submitted throughout the year 2020 and if they qualify, offer the port fee discounts to the ship (a lump-sum payment) through the ship's local agents during the first half of year 2021.

For verification of VSR reports and assessment of environmental effect, the Ministry and the four Port Authorities will carry out a research project during 2020.

13. What happens if the ship's local agent (or the ship's management company) is changed during the reporting period?

The VSR reports and port fee discounts will first be assessed on a ship-by-ship basis. The discounts will then be attributed to the local agent (or the management company). For example, if the ship S joins the VSR programme for 6 voyages out of total 10 voyages in 2020, 4 voyages with the agent company A and 2 voyages with the agent company B, the discounts will be offered to A and B agent companies with the ratio of 4:2.

14. Shall we participate or not?

As the VSR programme was developed to reduce air pollution from visiting ships, the Ministry and the four Port Authorities are encouraging the ships to become active participants. We are informed that the Ministry is also planning to increase the size of incentives if the programme in year 2020 is found to be successful. They have set a 90% participation rate* total target.

Members are therefore encouraged to volunteer to join the VSR programme for the remaining period of year 2020 and onwards.

* This 90% target is construed to apply to individual ships and should be read in conjunction with the 60% reporting requirement in para.11. With more experience gained in the implementation of the programme, the Authorities will plan to further develop the VSR programme with an incremental increase of the 60% reporting requirement up to 90% reporting in future.

Sources

- South Korea Ministry of Oceans and Fisheries (Click here)
<http://www.mof.go.kr/eng/article/list.do?menuKey=485&boardKey=41>
- Ulsan Port Authority (Click here)
https://www.upa.or.kr/bbs/view.do?bbsId=BBS_000000000000060&mId=00100500200000000&dataId=9750
- Yeosu Gwangyang Port Authority (Click here)
https://www.ygpa.or.kr/kr/yeosu_gwangyang_port/port_mis/incentive_program/
- Incheon Port Authority (Click here)
<https://www.icpa.or.kr/article/view.do?menuKey=397&boardKey=213&articleKey=15928>

Acknowledgements

INTERTANKO is grateful to the following organisations for their assistance in developing this guide:

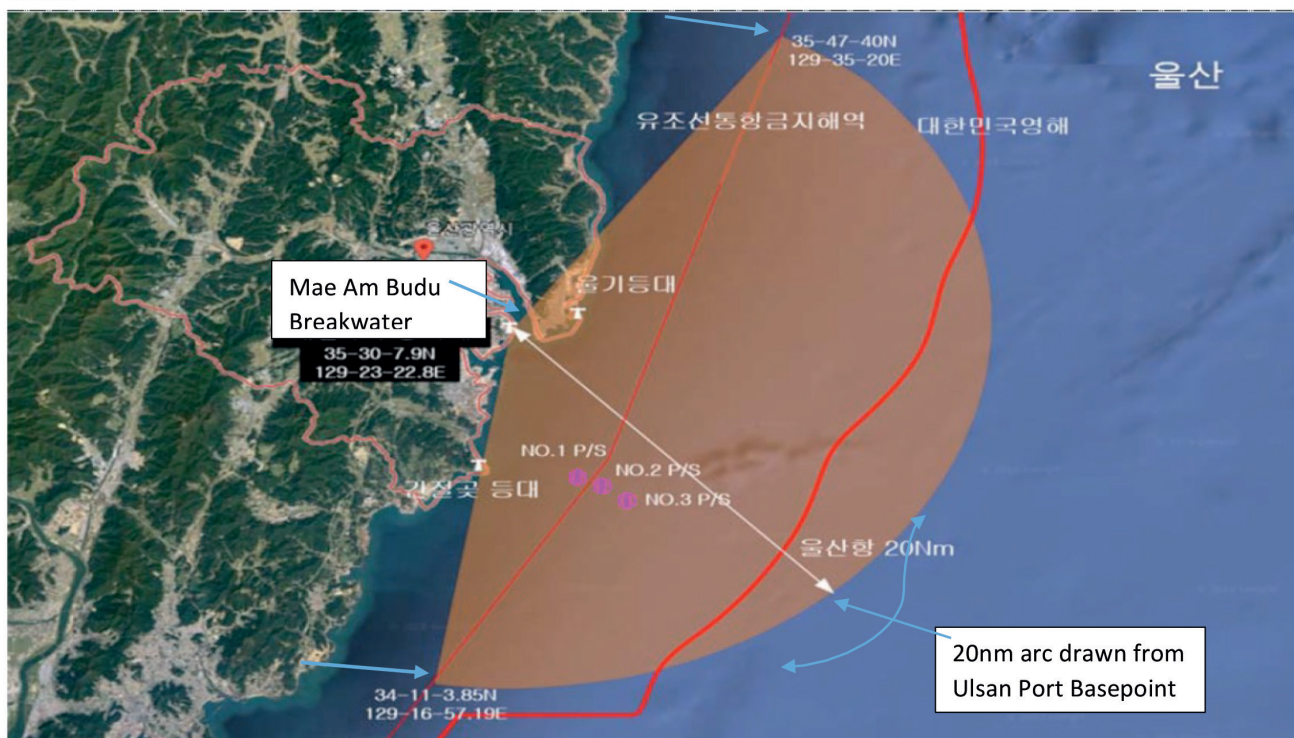
- Ulsan Port Authority,
- Yeosu Gwangyang Port Authority,
- Incheon Port Authority,
- HMM Co. Ltd.(Busan), and
- Dongkuk Marine Co Ltd (Busan).

This guide updates our previous notice issued on 18 May 2020. Any enquiries regarding this guidance should be sent to us via gilyong.han@INTERTANKO.com

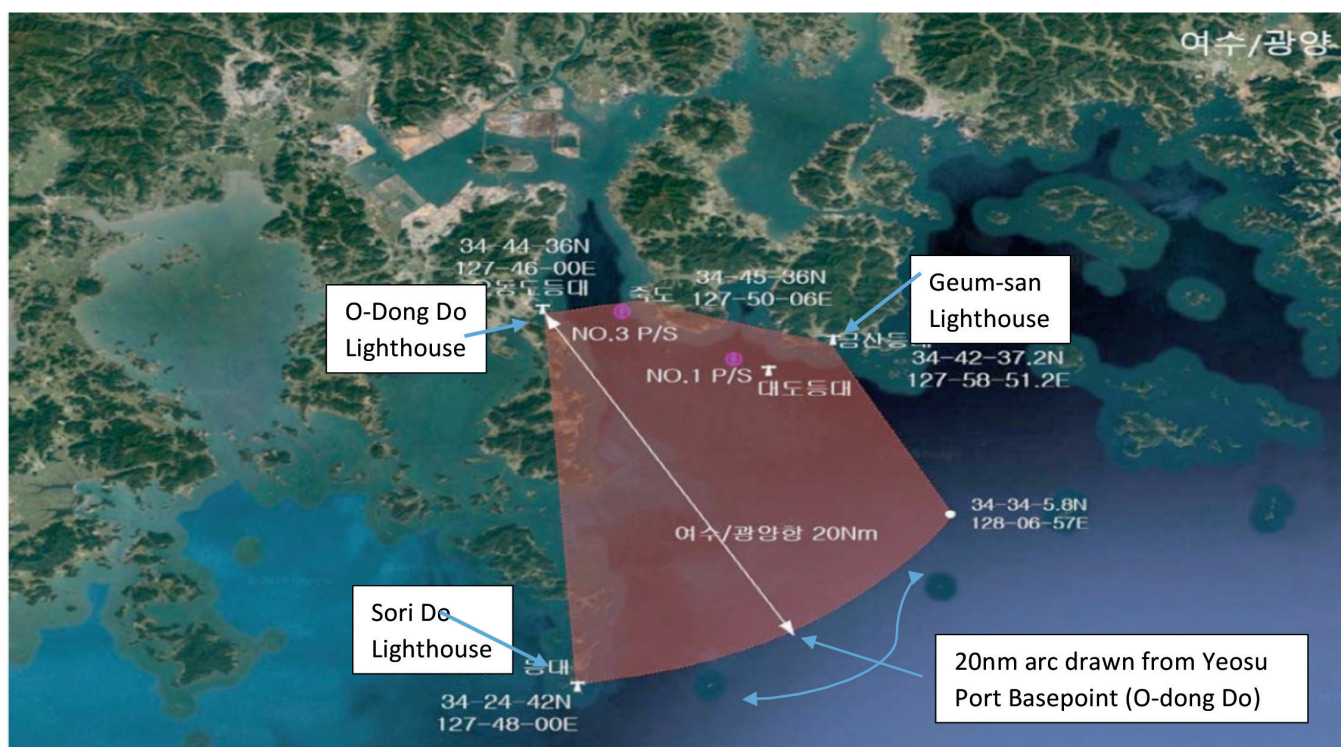
Annex 1

Designation of VSR programme sea areas (excluding Busan)

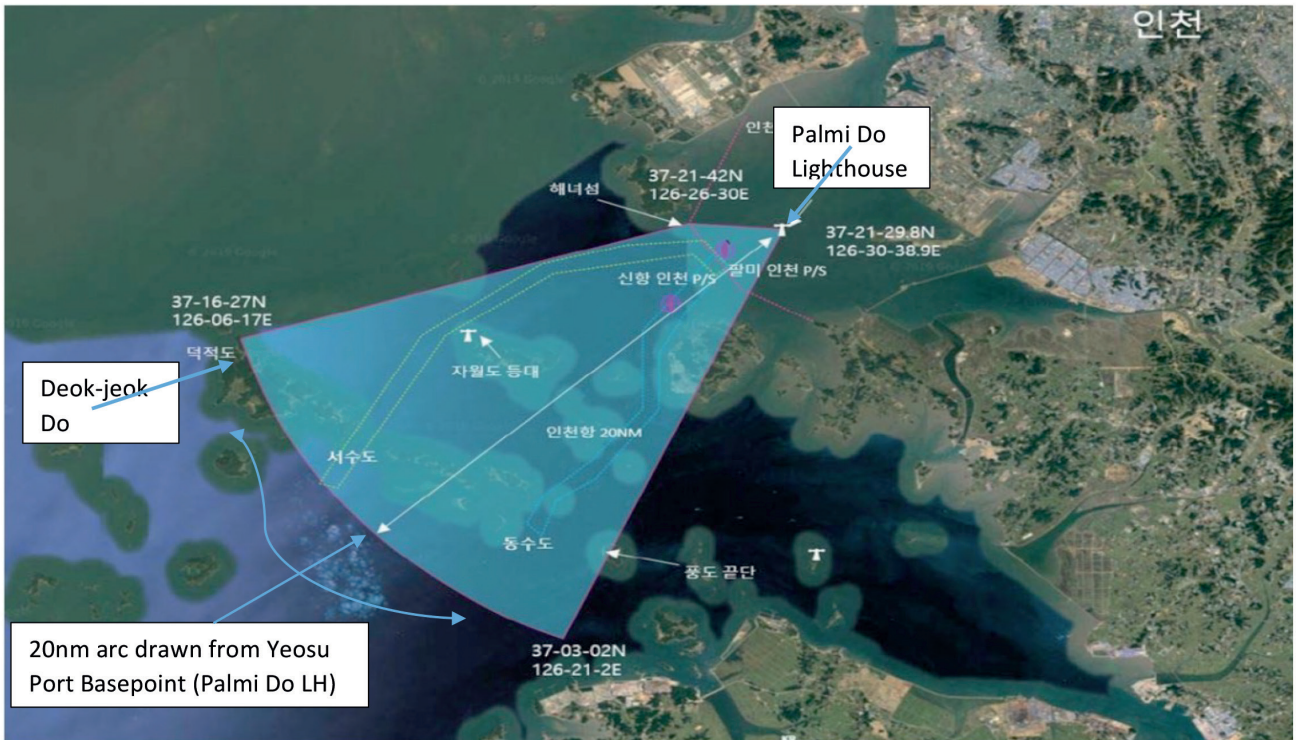
Ulsan



Yeosu/Gwangyang



Incheon



Annex 2

선박저속운항 프로그램 증빙자료

Vessel Speed Reduction (VSR) program Application

Vessel	Call Sign		Arrival Date	
	Vessel Name		Nationality	
	Type		Gross Tonnage	

Details	VSR Point	Start	N ()° ()' ()''	End	N ()° ()' ()''
	Time		E ()° ()' ()''		E ()° ()' ()''
			2020.00.00 00:00		2020.00.00 00:00
	AVG Speed	() knots			

VSR Area Entry	
GICOMS or ECDIS Picture 1	GICOMS or ECDIS Picture 2

VSR Area Exit	
GICOMS or ECDIS Picture 3	GICOMS or ECDIS Picture 4

(Source: Incheon Port Authority)

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