



TECHNICAL AND COMPLIANCE COMMITTEE

Seventeenth Regular Session

Electronic Meeting 22 – 28 September 2021

VESSEL MONITORING SYSTEM TRANSPONDER VMS 100S TRANSMISSION STUDY

WCPFC-TCC17-2021-DP08

24 September 2021

Paper submitted by Philippines



Republic of the Philippines
Department of Agriculture
BUREAU OF FISHERIES AND AQUATIC RESOURCES
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23 September 2021

MR. FELETI P. TEO, OBE

Executive Director

Western and Central Pacific Fisheries Commission (WCPFC)

Pohnpei, FSM

Attention : **MR. MAT KERTESZ**
Chair, Technical Compliance Committee

MS. LARA MANARANGI-TROTT
Technical Compliance Manager

Dear **Executive Director Teo**:

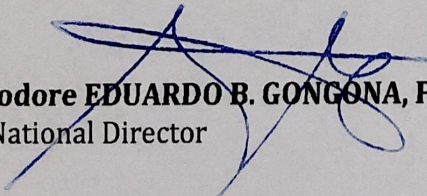
This refers to application for the inclusion of the SRT VMS-100S as WCPFC Type-approved ALC/MTU, in accordance with requirements/standard set in CMM 2014-02.

In view of the importance of this matter for the Philippines, we are submitting the attached Vessel Monitoring System Transponder VMS-100S Transmission Study as a Delegation Paper of the Philippines to the TCC17 regarding the results of the tests of the VMS-100S transponder conducted by this Office to verify its performance and accuracy at-sea conditions.

The result was based on observations made from the 1,000 devices that are currently installed in PH-flagged vessels that were installed by certified installers. Half of these ALCs were selected at random and the tracking and transmission data compiled over a two-month period, from May to June, 2021.

We hope that the results of this study will facilitate the moving forward action on the above subject concern.

Very truly yours,


Commodore EDUARDO B. GONGONA, PCG (Ret.)
BFAR National Director



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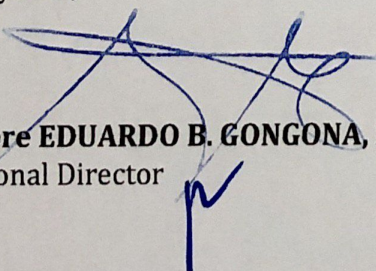
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Vessel Monitoring System Transponder VMS-100S Transmission Study

**The Bureau of Fisheries and Aquatic Resources
Philippines**

1. Introduction

BFAR's Integrated Fisheries Monitoring and Management System has now been commissioned and the Agency is now monitoring all vessels in its EEZ.

In addition, BFAR has thus far equipped 1,000 vessels in its fleet with the VMS-100S and now tracks them in the high seas and in the WCFPC area to ensure compliance and enforcement and control.

In its efforts to sustainably manage marine resources and monitoring, the WCFPC wants accurate and reliable vessel position data. This requires a reporting frequency that is sufficient for detecting vessels fishing in restricted areas or engaged in other activities such as transshipment. This also requires a low error rate, to have reliable data.

To this end, BFAR decided to conduct tests of the VMS-100S transponder, to verify its performance and accuracy in at-sea conditions.

Of the approximately 1,000 devices installed by certified installers, half of them were selected at random and the tracking and transmission data compiled over a two-month period, from May to June, 2021.

2. Summary:

As can be seen from the heat map below, the Philippines is now effectively monitoring vessels in its EEZ and its flagged vessels wherever they are fishing with no gaps in coverage. The heat map below clearly shows that Philippine fishing vessel trajectories and activity in the WCFPC are being fully and continuously monitored.

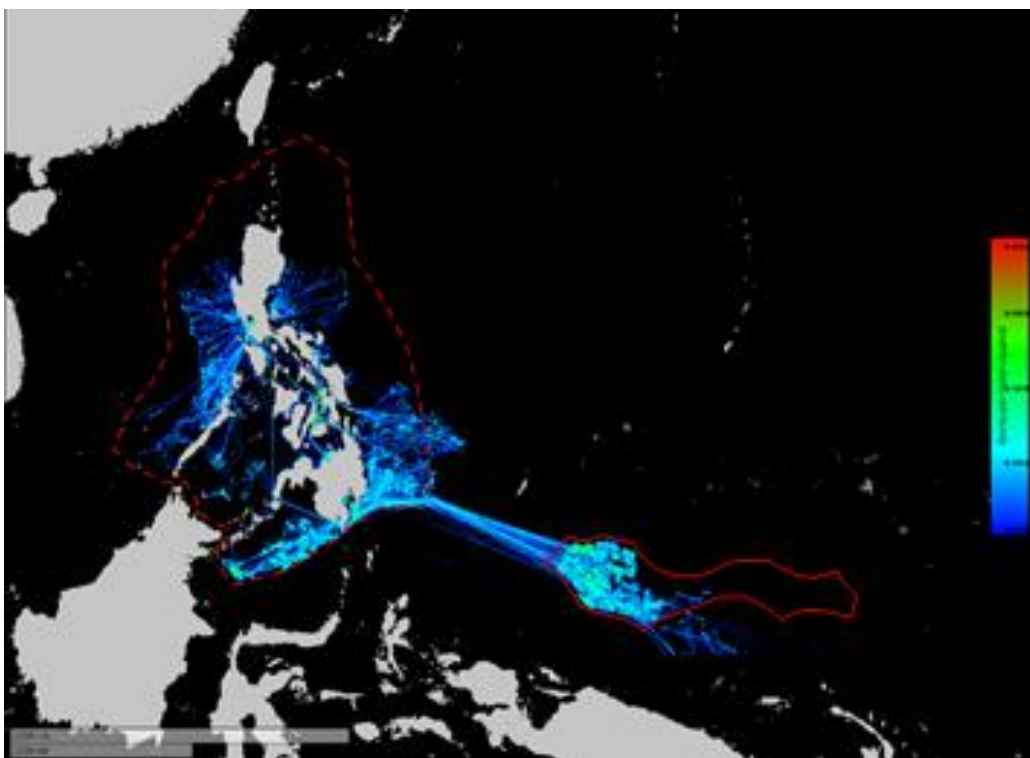


Figure 1 Heat Map Philippine Fishing Vessel Activity

3. Test Results

The table below shows the results of an extensive analysis of 662 vessels equipped with different types of VMS transceivers using one of two transmission methods.

PARAMETER	Iridium (WCFPC certified transponder)	AIS (VMS-100S)
Number of Vessels	194	468
Test Period	30 days (2021)	30 days (2021)
Total Positions Reported	81,140	740,042
Position reports exceeding 60 mins	3.8% (3,105)	1.4% (10,965)

4. Reporting Frequency and Trajectory

The VMS-100s reports on average once every 14 minutes while the median is every 8mn. This increased reporting frequency provides significantly more detailed trajectories than the 1 per hour minimum standard, and thus higher resolution tracks.

This high reporting frequency provides BFAR authorities with more precise information for control and enforcement (see image below).

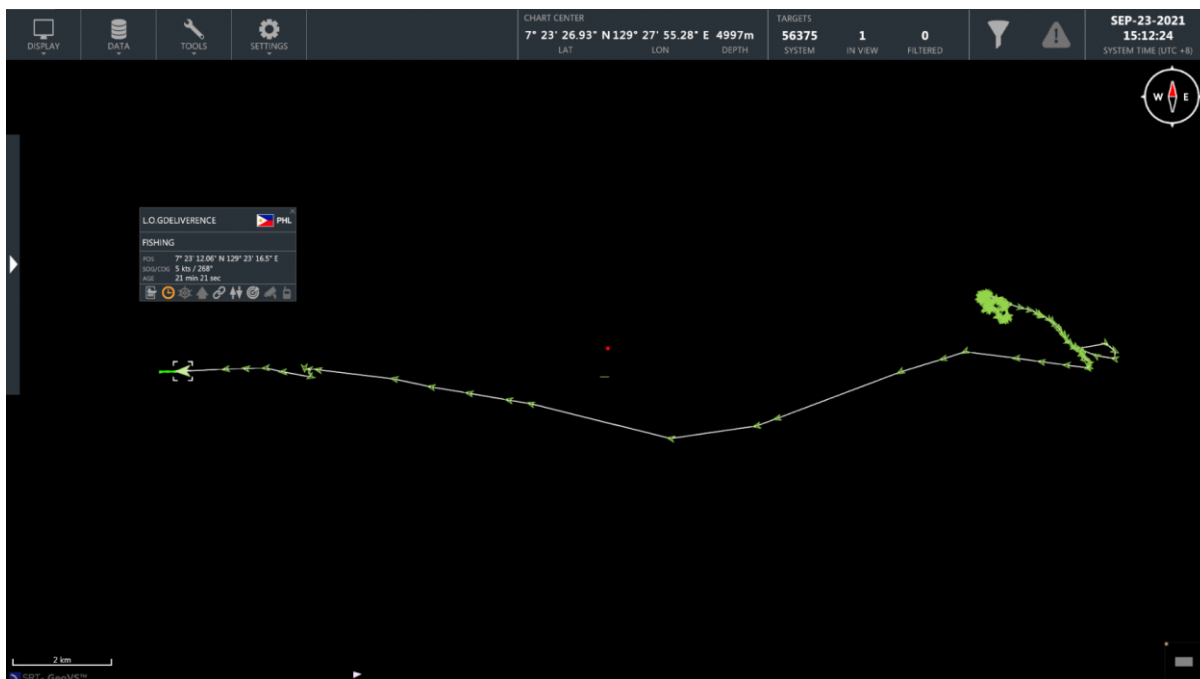


Figure 2 Precise fishing trajectory from a VMS-100S

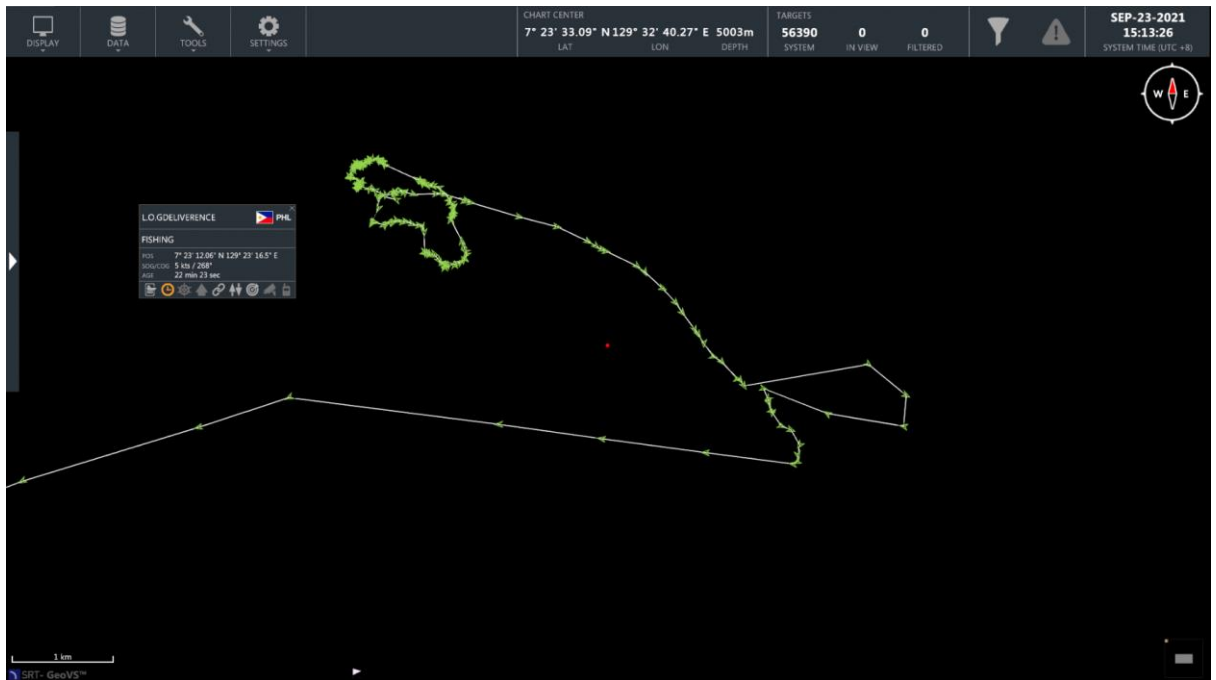


Figure 3 Precise fishing trajectory from a VMS-100S

Another benefit of this approach is that patrol vessels and aircraft at sea can track and monitor vessels in real time.

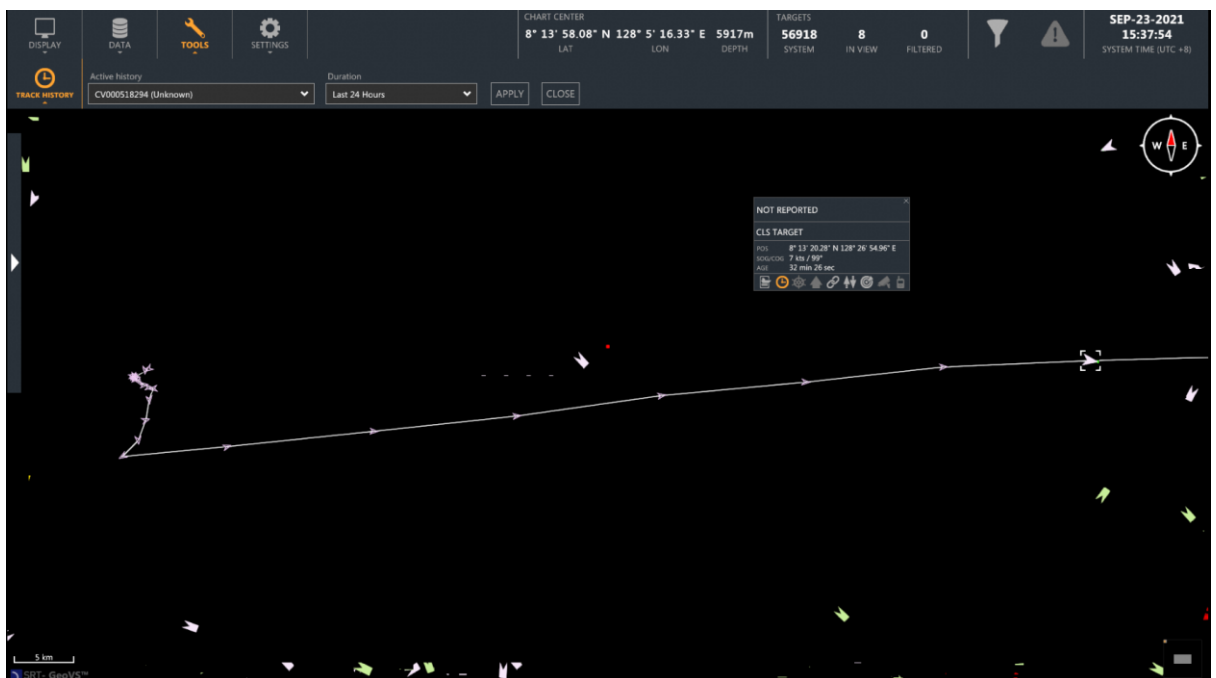


Figure 4 Fishing trajectory from a Iridium



5. Certification

The VMS-100S is certified by the EU and the US.

In addition, in October-December 2019, an extensive trial of the VMS-100S was conducted under WCFPC Secretariat supervision. This two-month trial confirmed that the VMS-100S met all the requirements.

