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REPORT ON VMS TRANSITION

WCPFC13-2016-IP11¹
17 September 2016

Paper by the Secretariat

¹ This paper is the same version of the Report on the VMS Transition that was provided to TCC12



TECHNICAL AND COMPLIANCE COMMITTEE

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REPORT ON VMS TRANSITION

WCPFC-TCC12-2016-14

17 September 2016

Paper prepared by Secretariat

Purpose

1. This paper presents a report of progress on the transition of the Commission vessel monitoring system from the Pole Star system to TrackWell as Pacific Islands Forum Fisheries Agency changed its VMS service provider.

Background

2. The Commission VMS was established pursuant to Article 24 of the Convention, specifically paragraph 8-10. A Service Level Agreement was concluded in December, 2008 with the Pacific Island Forum Fisheries Agency (FFA) for provision of VMS services, and Commission VMS services commenced in April 2009.

3. The Commission VMS services was previously supplied through the FFA Pacific VMS infrastructure on a system supported by Pole Star (ex-Absolute) and hosted in the Macquarie Telecom data center in Sydney, Australia.

4. In 2012 FFA issued a “Request for Proposal” (RFP) of Vessel Monitoring System (VMS) services. FFA invited WCPFC Secretariat to nominate a staff member for the FFA VMS Tender Panel established to review and provide a recommendation on the responses to the RFP. The Compliance Manager was the official WCPFC Secretariat representative on the VMS Tender Panel; she was supported by WCPFC VMS Manager and WCPFC IT Manager. From 2013 – 2014 the FFA VMS Tender Panel met on three occasions:

- 11-12 February 2013 in Rarotonga, Cook Islands
- 14-18 April 2013 in Honolulu, Hawaii
- 2 April 2014 in Honiara, Solomon Islands

5. A final report of the FFA VMS Tender Panel was provided to FFA Executive, to assist its consideration of a decision on the RFP. In 2015 FFA took a decision to change FFA’s VMS service provider in support of the decision by the FFA VMS Tender Panel and FFA notified TrackWell that it had been awarded the VMS tender.

6. In the third quarter of 2015 WCPFC Secretariat received briefing on the proposed process of implementation for a transition of VMS services, and preliminary discussions occurred between FFA/TrackWell and WCPFC Secretariat to clarify the functionality of the Commission VMS. In November 2015 WCPFC received formal advice and notification from of the planned changes to the Pacific VMS following the change of FFA VMS service provider.

7. FFA and WCPFC Secretariat held a SLA meeting in the margins of WCPFC12 Regular Session in Bali to clarify some of the specific details of the arrangements for the transition of Commission VMS services from Pole Star to the new VMS service provider TrackWell. The Secretariat requested a period up to 30 June 2016 as adequate minimum time for the transition and to conduct thorough system testing and acceptance before the cut-over to the new Commission VMS. That was put to WCPFC12 as a joint paper by the two secretariats and adopted by the Commission. Annex 1 provides the excerpts from WCPFC12 Summary Report related to the VMS transition.

Current status

8. The new Commission VMS from TrackWell was officially launched on 1st July 2016 following the retirement of the Pole Star VMS on 30th June 2016. As part of the planning and noting that the application was new the Secretariat had anticipated that at the cutover period WCPFC VMS clients would encounter some problems and issues. The Secretariat confirms that problems and issues encountered during the cut-over were addressed, some have been rectified others are being worked on by both the Secretariat and TrackWell VMS support team. As of 8th September 2016 a total 2,444 MTUs reported to WCPFC VMS.

Figure 1. Number of MTUs reporting by Channel

Channel	MTUs reporting
Argos	111
CLS	283
Faria	9
FFA Position Transfer	1,268
Inmarsat C	773
Total	2,444

Transition Process and Testing

9. Following WCPFC12, a workshop took place at the WCPFC headquarters on 19-20 December involving staff from Trackwell, FFA and WCPFC. FFA and Trackwell presented a complete overview of the new VMS environment and status of the FFA VMS relative to its cut-over on 1 April 2016. An Excel document on the proposed timelines for delivering the WCPFC VMS for cut-over on 1 July 2016 was also presented by Trackwell. That document became the main focus of the Pohnpei meeting with a final version submitted to WCPFC on 6 January 2016.

10. The WCPFC VMS team produced its “VMS Milestones and Implementation Work Plan” based on the Trackwell document, and that was used by both WCPFC and Trackwell to manage the transition phases. In addition to constant email and skype communications there were scheduled fortnightly “VMS Progress Update Skype Meetings” to track progress and particularly to address critical issues. The transition to the

new VMS occurred as planned on 1 July 2016 and reflects the awesome efforts put in by the Trackwell team with good support from FFA.

11. Ideally, it would have been preferable to setup a VMS test site with dummy data so as to test the functionality of the TrackWell VMS, prior to using live data. However the short timeframes for the VMS transition did not allow for this. Consequently, live data was used in the testing process with the involvement of certain CCMs. Data was either pulled or pushed from the MCSPs in phases, Argos units were the first ones to test mainly to test the gateway to receive and process position data. TrackWell had to setup a gateway to receive position reports from these MTUs as they are not FFA type approved and the gateway was not available on FFA VMS.

12. During the transition period arrangements were made with the MCSPs to provide simultaneous data feed of position reports to both Pole Star and TrackWell VMSs. Data feeds to TrackWell was done in phases to minimize the air-time costs. In the month of May all position reports from different channels were reporting to both systems.

Figure 2. Number of vessels reporting to WCPFC TrackWell VMS during Jan-Sep 2016

Channel	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Argos				86	95	99	92	94	86
CLS						252	242	266	260
Faria				2		1	8	8	8
FFA Position Transfer				169	234	1,185	1,149	1,166	1,016
Inmarsat C				58	655	716	657	639	580
Total	0	0	0	315	984	2,253	2,148	2,173	1,950

Costs associated with transition and associated testing

13. CCMs will recall that during WCPFC12, the Secretariat had provided some cost-estimates for the VMS transition. However, it was noted that the Secretariat had not been advised of the additional costs that are likely to be charged by the airtime service providers for the direct reporting vessels, and a rough estimate for additional costs was the basis of the 2016 budget for VMS airtime costs.

14. The Secretariat advises that during 2016 the Secretariat needed to pay some additional air-time costs during the VMS transition for maintaining duplicate feeds of WCPFC VMS data during the live testing. Costs differed between the satellite airtime providers:

- For Inmarsat c through Satcomms the charge are the same for a duplicate feed (\$0.035 per packet)
- For Faria units the Secretariat was charged \$11.00 for a copy of the data per MTU per month.
- CLS Argos provided this secondary data feed during the transition period at half the normal cost.

Consequently current projection of VMS costs for 2016 indicate that the “VMS Airtime” charges for 2016 will exceed approved budget.

	2016 Budget	Spending to Date	Projected Spending for 2016	Difference
VMS airtime costs	131,125	116,865	244,664	(113,539)

Testing and training

15. The WCPFC VMS Manager and IT Manager attended the first VMS administrator training at FFA headquarters, Honiara in February 2016. As reported under the “Project Planning and Scheduling” section, that opportunity also enabled WCPFC staff and the Trackwell project manager to develop the first draft of its VMS implementation plan. All the key milestones with associated tasks, resources and timelines were identified. There was unanimous agreement that a training plan should also cover testing, and therefore required full involvement of as many CCMs and using live position data.

16. One important agreed item was the visit by the WCPFC VMS Manager to the Trackwell premises. During that visit, the “Level zero date was set, when the key reference datasets such as the WCPFC RFV and MTU data from PoleStar system get their initial load. This date was set to 24 May 2016, and effectively became the live date for the new VMS. A tentative scheduling plan was agreed to, with full awareness, that the FFA VMS cut-over would occur within the same 6-month window and both systems required the services and support of the Trackwell project team. The Secretariat documentation of these features are set out in the final version of the “VMS Milestones and Implementation Work Plan”.

17. Federated States of Micronesia, Chinese Taipei, Japan and the United States of America were selected to be part of the WCPFC VMS testing team. WCPFC VMS Manager visited Chinese Taipei and Japan to provide training and testing of TrackWell VMS features. WCPFC IT Manager visited Honolulu for the same purpose of training and testing with the US team. Training of staff of Federated States of Micronesia was provided at the Secretariat’s office in Kolonia, Pohnpei.

18. In-country training was provided to certain Members by WCPFC VMS Manager and WCPFC IT Manager. Based on advice from FFA Secretariat, the WCPFC Secretariat understood that CCMs that are members of FFA would have access to a group training which was held in Suva from 25-29 April 2016. Training was not provided to Canada and Cooperating Non Members.

Table 1. VMS trainings conducted on new WCPFC VMS system

CCM	Number of Participants	Trainer
China	5	WCPFC VMS Manager
European Union (Spain & Portugal)	9	WCPFC VMS Manager
Federated States of Micronesia	6	WCPFC IT & VMS Mangers
French Polynesia	5	WCPFC VMS Manager
Indonesia	9	WCPFC IT Manger
Japan	2	WCPFC VMS Manager
Korea	9	WCPFC IT Manger
New Caledonia	5	WCPFC VMS Manager
Philippines	11	WCPFC VMS Manager
Chinese Taipei	4	WCPFC VMS Manager
United State of America	5	WCPFC IT Manger
Vanuatu	5	WCPFC VMS Manager
FFA Members	22	TrackWell

Costs associated with training and associated testing

19, CCMs will recall that during WCPFC12, the Secretariat had proposed a USD20,000 increase to the VMS training budget. This was approved by the Commission. Current projection of VMS training costs

for 2016 indicate that costs for 2016 will be within the approved budget. Current projections have VMS Capital and Redundancy costs under budget.

	2016 Budget	Spending to Date	Projected Spending for 2016	Difference
Training	60,000	59,346	59,346	654
VMS capital	20,000	1,600	1,600	18,400
VMS redundancy	18,700	18,700	-	18,700

SLA FFA/WCPFC Amendments

20. The FFA/WCPFC Service Level Agreement and associated schedules are presently based on costings for the previous VMS services provider Polestar. To date, two quarterly invoices covering January 1 – Jun 30 have been received and paid by the Secretariat for Commission VMS SLA services.

21. In respect of forecasted VMS SLA costs, the joint-WCPFC12 paper on VMS transition (WCPFC12-2015-29) said:

VMS SLA Costs: FFA has indicated that some cost-savings can be anticipated under the SLA during the 2016 period, once both FFA VMS and Commission VMS services are being provided by TrackWell. However, until the SLA fee schedule is formally revised, it is prudent to assume that the costs to the Commission for VMS SLA services would at least be maintained. In addition, some charges should also be anticipated through the present SLA, for the necessary technical work to establish a mechanism that will ensure continuation of FFA Position Transfer Service from the new FFA VMS within the TrackWell system to the Commission VMS within the Pole Star/Absolute system.

- *Estimated financial implications for 2016:* + \$35,000

22. As was prefaced at WCPFC12, the move to the new VMS service provider TrackWell, VMS service costings have changed. FFA has provided WCPFC Secretariat with the “Change Order” as provided for under the SLA (see Annex II). Changes proposed by FFA are:

- The FFA Director-General agreed to review the VMS charges as stipulated in Schedule 3 of the SLA effective from 1 September 2016 and backdated to 1 January 2016.
- The recurring VMS service fee charges have been revised to be charged to WCPFC at a fixed cost on quarterly basis as advance payment.
- Any additional monthly costs related to enhancement costs (development, installation, testing), support and contingency will be invoiced separately as post payments.
- A revised Schedule 3 of the SLA

23. A detailed breakdown of the above costs was provided by FFA. A SLA meeting is planned in the margins of TCC12 to review these proposed changes.

Table 2. 2016 VMS SLA costs – current and proposed under the new “Change Order”

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
PoleStar/FFA VMS Services									
Quarterly Charges			\$109,560.00			\$92,220.50			
Total PoleStar/FFA			\$109,560.00			\$92,220.50			
TrackWell/FFA VMS Services									
Transition/Enhancement Costs (development, installation, testing)			\$11,712.00	\$9,472.00	\$22,208.00	\$34,432.00	\$21,600.00	\$5,000.00	\$5,000.00
Total hosting support and maintenance, software licences			\$40,000.00			\$40,000.00			\$40,000.00
Additional Support and/or contingency.									
Total Costs TrackWell/FFA	\$-	\$-	\$51,712.00	\$9,472.00	\$22,208.00	\$74,432.00	\$21,600.00	\$5,000.00	\$45,000.00
Grand Total for PS & TW	\$-	\$-	\$161,272.00	\$9,472.00	\$22,208.00	\$166,652.50	\$21,600.00	\$5,000.00	\$45,000.00

Costs associated with VMS SLA

23. Based on the above proposal, the charges under the SLA between FFA and WCPFC are expected to go over budget in 2016. These costs are in part due to costs of enhancement of the WCPFC VMS under the agreed workplan with Trackwell from March -June 2016. There are also charges for Trackwell’s staff time to implement the agreed testing procedures used by the Secretariat to complete the VMS transition. There are some essential and remaining tasks from the agreed workplan that the Secretariat would like to complete before the end of 2016. The Secretariat did not envision these costs at the time of providing the revised 2016 budget cost estimates, as the Secretariat’s understanding was costs incurred during the transition period, apart from air time charges would be covered by FFA Secretariat.

	2016 Approved Budget	2016 Spending to Date	Projected Spending for 2016	Difference
VMS SLA Costs	450,000	201,781	518,101	68,101

Suggested Additional features for WCPFC VMS

24. While the TrackWell VMS has more features than the previous system, from training provided to CCMs some suggestion were made for additional feature they wanted to include in the new VMS. The Secretariat is compiling these requests and will be submitting it to FFA and TrackWell for implementation.

25. Some of the suggested features raised by CCMs during the course of training and testing include:

1. Drag and drop vessels onto map
2. Vessel view - set colour by speed
3. Vessel symbol by gear type

4. Show track of all vessels in the "Live Map"
5. Different symbol for manual position reports
6. Users should only see and access only the Issues related to their flag vessels or their areas of jurisdiction
7. Show users online - to allow texting/messaging each other on VMS issues
8. Additional map layers - closed areas (archipelagic, territorial water,
 - contiguous zone,
 - marine charts
9. Data report format to include kml file
10. Object labeling options

Acknowledgements

26. The WCPFC secretariat acknowledges the involvement of its SLA partners, BMC of Pohnpei, Eighty Options and Taz-e of Australia. Their technical expertise was required to deliver on the secure network connections and configurations and the data exchange between the VMS and WCPFC IMS databases. Equally important was the role and support of third party development partners such as the Mobile Communications Service Providers (MCSPs) whose contribution had to come together in a coordinated manner to ensure all vessels on the new WCPFC VMS were reporting as expected.

27. The Secretariat would also like to thank the CCMs, who were involved in the “Control and Full VMS Deployment and Training” project phases from April – June 2016. During those phases, WCPFC vessels were reporting live positions to both the old VMS and new VMS. The CCMs were responsible for the ‘like to like’ testing, checking the system reports and data forwards from the old VMS against the results from the new VMS. They also identified issues that had to be fixed, such as some vessels fishing in another ocean region whose positions were appearing inside EEZs of some WCPFC members. Many of their suggestions and improvements to the system were implemented before the official cut-over on 1 July.

Table 3. Summary of projected VMS costs for 2016

	2016 Approved Budget	2016 Spending to Date	Projected Spending for 2016	Difference	2017 Indicative Budget	2018 Indicative Budget
VMS SLA Costs	450,000	201,781	518,101	68,101	265,000	265,000
VMS airtime costs	131,125	116,865	244,664	(113,539)	105,000	105,000
CCM/staff Training	60,000	59,346	59,346	654	40,000	40,000
VMS capital	20,000	1,600	1,600	18,400	40,000	40,000
VMS redundancy	18,700	18,700	-	18,700	18,700	18,700

Recommendation

28. TCC12 is invited to consider and note the report.

Excerpts from WCPFC12 Summary Report

18.1 Update on WCPFC VMS

751. The Compliance Manager and the Deputy Director General of the FFA, W. Norris, presented WCPFC12-2015-29, an update on the status of the Commission VMS. The Compliance Manager noted the purpose of the agenda item was to update the Commission on changes to the Commission VMS system which would take place in 2016. The working paper outlined the process which FFA undertook to change its VMS service provider, and the background to this decision including participation by the WCPFC Secretariat in the tender process. The Commission VMS is provided by FFA under a Service Level Agreement. Currently almost 3500 vessels report to the Commission VMS. The cost to the Commission of the system has remained stable in recent years at around \$400,000 per annum (para. 9). Other costs include those for airtime services, training and redundancy.

752. The Deputy Director General of the FFA advised the Commission about the tender process FFA undertook in 2015 to test the market for alternative VMS providers. This was done for a number of reasons: a) the current VMS provider had been the provider for 5 years and it is good business practice to test the market, b) the cost of the current service provider was seen by FFA as too high and c) FFA were concerned that the VMS technology was not being developed by the current provider at the pace they wanted. The tender review panel, on which the WCPFC Secretariat sat, met three times in 2013-2014. During this time the panel reviewed the expressions of interest and created a shortlist, invited the three shortlisted firms to present and then provided a recommend to the FFA Executive. That went to the decision making body of the FFA, the Forum Fisheries Committee, in May 2015 and FFA received approval to change service providers. The new provider is Trackwell, an Icelandic company which provides VMS services to a number of fisheries agencies. WCPFC has been given formal notice of the change and meetings are planned to assist the technical work of transitioning to the new system and ensure the project plan is in place.

753. The Compliance Manager noted that FFA will switch over to the new system a little earlier than WCPFC and the Secretariat is taking steps to make sure that when the Commission switches over, all the boats that can be seen on one system are also seen on the other system. FFA has arranged for services through the current VMS to continue until 30 June 2015 after which WCPFC plans to have transitioned fully to the Trackwell system. Members will receive advice on this. The Compliance Manager referred to the paper noting that the paper includes some indicative costs which would need to be included in the Commission budget under VMS SLA costs to cover the use of two systems for one full quarter (USD\$35,000). It was noted that the Secretariat has not yet been advised of the additional costs that are likely to be charged by the airtime service providers for the direct reporting vessels, and an estimate for additional costs is also proposed. The Compliance Manager commented that some members may need assistance with using the new VMS system, so the VMS training budget was proposed to be increased by \$20,000. It was noted that Commission staff would be able to conduct the testing of the system in-house for no additional cost to the Commission. Finally the Compliance Manager noted that the Secretariat would keep Commission members updated over the next six months.

754. Australia was glad to see the work going ahead and the Secretariat taking steps to maintain the service. It was noted that some time ago the Secretariat had raised the idea of having extra staff for this work.

755. The Compliance Manager confirmed there was no formal proposal to increase the number of VMS staff, but as was noted by the Executive Director earlier in the meeting the Secretariat was giving consideration to formally recruiting the IT Network Administrator position. This would allow the Commission IT Manager to focus more of his time during the first half of the year to working alongside the WCPFC VMS Manager and FFA VMS staff on implementing and testing the new VMS system and ensuring current IMS and website linkages are unaffected.

756. Chinese Taipei requested the Secretariat to provide additional information including the budget implication to TCC12 and to report to members on the system once the switch is made to the new provider as an update on whether the system represents any issues for the operation of the Commission VMS. This CCM asked the Secretariat to consider placing provisions in the SLA with FFA that the service provider give prior notice next time a change of this magnitude is undertaken.

757. The Deputy Director of the FFA noted these as good suggestions. A report on how the switch went, when it happens, was considered to be a good idea. The Commission was assured that the FFA Secretariat had taken the design elements seriously, and the data rules and other elements are adequately respected. It was noted that the Secretariat was taking extra time with the system switch to be absolutely certain. In response to a question about the budget, the Deputy Director of the FFA provided an assurance that the cost savings will be very significant with the new system, USD\$150,000 a year or more.

758. The Chair thanked the FFA and WCPFC Secretariats for their work on changes to the Commission VMS.

759. The Commission noted WCPFC12-2015-29 on the WCPFC VMS, noting budgetary implications would be considered by FAC9.

ANNEX 2

Schedule 4 – Change Order

This Change Order (including its attachments, if any) serves to vary this Agreement in accordance with the terms set out below. Unless specifically stated in this Change Order, all terms and conditions of this Agreement continue unaffected.

Change Order number	005
Raised by	Director-General, Pacific Islands Forum Fisheries Agency (FFA)
Details of change (use attachments if required)	<p>In August 2016, FFA Director-General reviewed the VMS services charges as stipulated in Schedule 3 of the WCPFC VMS SLA. The details of the revised services approved by the FFA Director-General regarding the WCPFC VMS 2016 and 2017 charges are as follows:</p> <p>Refer Schedule 3: Payment and Charges in the WCPFC SLA.</p> <ul style="list-style-type: none"> • The FFA Director-General agreed to review the VMS charges as stipulated in Schedule 3 of the SLA effective from 1 September 2016 and backdated to 1 January 2016. • The recurring VMS service fee charges have been revised to be charged to WCPFC at a fixed cost on quarterly basis as advance payment. • Any additional monthly costs related to enhancement costs (development, installation, testing), support and contingency will be invoiced separately as post payments. • A revised Schedule 3 of the SLA with only the recommended changes is provided as Attachment 1.
Implementation date of Change Order	1-Sep-2016 or earlier (if mutually agreed) at a date yet to be determined.
Effect on Services	No change.
Plan for implementing the change	The changes will be reflected through exchange of letters between FFA and WCPFC and invoices sent by FFA.
Effect on Service Charges	Revised service charges as proposed.
Effect on Service Level Requirements	No change.
Effect on Documentation	Relevant changes to Schedule 3: Payment and Charges in the WCPFC SLA.
Impact on end users	No negative impact on end users. The proposed changes will reduce the cost paid by WCPFC and further streamline the VMS services charges.
Other relevant matters (eg transitional impacts)	Mutual agreement between FFA and WCPFC to determine agreed charges that will be effective from 01-Sep-2016 and backdated to 01-Jan-2016.

FFA Name: JAMES T. MOVICK Position: DIRECTOR-GENERAL Signature: Date: 31 August 2016	COMMISSION Name: Feleti Penitala Teo Position: EXECUTIVE DIRECTOR Signature: Date: 31 August 2016
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Appendix 1

Proposed Changes to the WCPFC VMS SLA with FFA

Item in SLA	Proposed changes
Schedule 3	Schedule 3 – Payments and Charges
3.1	<p style="text-align: center;">Schedule of Payments</p> Monthly recurring costs shall be payable quarterly in advance as a fixed cost on receipt of invoice.
3.2	Any additional monthly costs related to system enhancement (development, installation, testing), support and contingency shall be invoiced separately as post payments.

Pacific VMS Pricing Schedule

Pricing schedules listed in Tables 1-4 in the WCPFC VMS SLA to be replaced with **Table 1** and **Table 2** indicated below.

Table 1 – Pacific VMS Data Centre Services (Monthly Recurring).

Services	USD
WCPFC VMS services monthly recurring costs payable quarterly in advance as a fixed cost on receipt of invoice (total hosting support and maintenance, software licences).	\$40,00.00 per quarter

Table 2 – Pacific VMS Data Centre Services (Additional).

Services	USD
WCPFC VMS services additional monthly costs related to system enhancement (development, installation, testing), support and contingency invoiced separately as post quarterly payments.	As applicable per quarter.
