THIRD E-REPORTING AND E-MONITORING WORKING GROUP MEETING
(ERandEMWG3)
Busan, Republic of Korea
6 - 7 August 2018

DRAFT SUMMARY REPORT

AGENDA ITEM 1. Welcome and Opening

1.1 Opening

1 The ERandEMWG Chair, Ms Kerry Smith called the meeting to order and asked Mr Naiten Bradley Phillip Jr (Federated States of Micronesia) to open the meeting with a prayer.

2 The Executive Director, Mr Feleti P. Teo OBE delivered some opening remarks noting that the working group was established in 2014 in recognition of the fact that members had commenced or were considering the implementation of electronic technologies to better support their fisheries monitoring, management, compliance and enforcement activities. He reminded the working group that the objective according to its terms of reference is "to consider how E-monitoring and E-reporting technologies could benefit the work of members and the Commission in supporting the objectives and implementation of the Commission. A copy of his opening remarks is provided as **Attachment 1**.

3 The Chair welcomed participants to the third meeting of the ERandEMWG, and provided some opening remarks recalling the outcomes from ERandEMWG1 and 2 and overviewing the provisional agenda for the third meeting of the working group. The Chair noted that it was her expectation that the concept paper (**WCPFC-2018-ERandEMWG3-04**) would form the basis for discussions on electronic monitoring technologies at the working group meeting. She emphasized that the concept paper was not a formal proposal and it was provided for discussion only. The format of the concept paper draws on a number of decisions of the Commission that may be relevant to the development of an EM programme and includes placeholders where further discussion is required.

4 The following members, cooperating non-members and participating territories (CCMs) attended ERandEMWG3: Australia, China, Cook Islands, European Union, Federated States of Micronesia (FSM), Fiji, Indonesia, Japan, Kiribati, Republic of Korea, Republic of the Marshall Islands (RMI), Nauru, New Zealand, Palau, Papua New Guinea (PNG), Philippines, Samoa, Solomon Islands, Chinese Taipei, Thailand, Tonga, Tokelau, Tuvalu United States of America (USA), and Vanuatu.

5 The following Intergovernmental Organisations, the Food and Agriculture Organisation of the United Nations (FAO), Pacific Islands Forum Fisheries Agency (FFA), the Parties to the Nauru Agreement (PNA) Office, and the Secretariat of the Pacific Community (SPC), attended EMandERWG3.

6 Observers representing Birdlife International, Environmental Defense Fund, International Seafood Sustainability Foundation (ISSF), Pacific Islands Tuna Industry Association, PEW Charitable Trusts, The Nature Conservancy (TNC), World Wildlife Fund (WWF) also attended ERandEMWG3.

7 A list of EMandERWG3 meeting participants is at **Attachment 2.**

1.2 Adoption of agenda

8 The Chair introduced the agenda **WCPFC-2018-ERandEMWG03-01** *Provisional Agenda and Indicative Schedule* and confirmed that national presentations could be provided by any interested Members under agenda item 2.3. The agenda was adopted (**Attachment 3**).

1.3 Meeting arrangements

9 The Compliance Manager, Dr Lara Manarangi-Trott, overviewed the internet and meeting document arrangements for the ERandEMWG3 meeting. The Chair confirmed that the intention was for an agreed outcomes document containing the substantive recommendations to be finalized and adopted before the end of the meeting, this would form the basis of her report to SC14 on afternoon of Wednesday 8th August, during the Data and Statistics Theme Session. The Secretariat would be rapporteur for the meeting. A draft Summary Report containing the agreed outcomes from ERandEMWG3, would be circulated to participants and cleared out of session.

AGENDA ITEM 2. Background and Review of E-Reporting and E-Monitoring technologies in WCPO

2.1 Update from Chair on background and progress against ERandEMWG Terms of Reference

10 The Chair delivered a presentation that reviewed progress to date by the ERandEMWG. Key points made in the presentation included that the working group commenced in 2014, following the adoption of terms of reference including a workplan by the Commission (WCPFC12 Summary Report, paragraph 539). At that time the Commission had also noted that "a decision to report electronically in future be captured by an amendment to the relevant CMM" (WCPFC12 Summary Report, paragraph 542) and in respect of E-monitoring the Commission encouraged development of E-monitoring in areas where there are data gaps, eg longline and transshipment (WCPFC12 Summary Report para 543). Since the establishment of the ERandEMWG, the Commission has adopted E-reporting Standards, Specifications and Procedures (SSPs) for operational catch and effort data, and for observer data. At WCPFC13, the Commission agreed to extend the terms of reference for the ERandEMWG to the end of 2018. At this meeting, alongside some continuing work on E-reporting standards, the ERandEMWG will shift its focus to E-monitoring.

2.2 Report from Secretariat on uptake of ER technologies

11 The Compliance Manager and Peter Williams (SPC-OFP) introduced **WCPFC-2018-ERandEMWG03-02** *Annual Report on the Performance of the E-reporting Standards*. It was noted that the paper is the first report as per the task under paragraph 7(c) of the E-reporting SSPs to "report annually on the performance of the Electronic reporting standards and their application, and as necessary, make recommendation for improvements or modification." Table 1 confirmed the effective dates for the two sets of E-reporting standards, noting that this date is at least six months following the adoption by the Commission of the respective standards by the Commission. It was further noted that adoption of the SSPs by the Commission is separate to a decision to make electronic reporting mandatory, but the agreed SSPs supports those CCMs that wish to report electronically to the Commission (refer E-reporting SSPs paragraph 3). Since the 2016 ERandEMWG2 meeting, there have been positive developments in the uptake of E-reporting technologies, notably the PNA FIMS/iFIMS system which is mandatory for all purse seine vessels licensed to fish in PNA member waters, provides data that

adheres to the WCPFC E-reporting standards. Republic of Korea operational level longline fleet data is understood to be sourced from their E-reporting system, although it does not fully adhere to the WCPFC E-reporting standards at this stage. All national observer programmes from Pacific Island member countries, the PNA-managed FSM Arrangement observer programme and the FFA-managed US Treaty Observer Programme have their observer data entered into the TUFMAN 2 system, which produces data for the WCPFC Regional Observe Programme (ROP) database aligned to the WCPFC E-Reporting standards for observer data. The submissions of 2017 operational purse seine data that are aligned to the WCPFC E-reporting standards represents 92% coverage, and for 2017 operational longline data, represent coverage of 30% (of all 2017 longline data submitted). The submissions of 2017 purse seine observer data held in the WCPFC ROP database that are aligned to the WCPFC E-Reporting standards for observer data represents 100% coverage. The submissions of 2017 longline observer data held in the WCPFC ROP database that are aligned to the WCPFC E-Reporting standards for observer data represents 29% coverage. **WCPFC-2018-ERandEMWG03-IP-01** *Progress on ER and EM Implementation in the Region* provides a more detailed account of the current status of implementation of E-technologies.

12 The ERandEMWG noted the annual report from the Secretariat and SPC-OFP on the performance of the E-reporting standards (**WCPFC-2018-ERandEMWG03-02***).*

a. Process for maintaining Standards for E-Reporting

13 The Compliance Manager referred the ERandEMWG to paragraph 12 – 14 of **WCPFC-2018-ERandEMWG03-02** *Annual Report on the Performance of the E-reporting Standards*. It was confirmed that the Secretariat had reflected on the process of revising and adopting proposals of Standards for E-reporting, noting that each time a lengthy and very detailed proposal was tabled as a working paper during both the TCC and Annual Sessions. The Secretariat requested feedback from participants based on experience to date, in respect of the process were any of the existing Standards for E-reporting need to be revised or modified. The list of questions had been provided in paragraph 14 of the paper were overviewed.

14 In response to the questions in the paper Cook Islands, on behalf of FFA members expressed:

a. support to keeping the current scope of the E-reporting SSPs broad, however it should also include the use of quality control standards for data submission and managing E-monitoring;

b. ERandEMWG as a forum could consider new Standards, including recommendations for adoption where appropriate. However, TCC (and where relevant SC) should maintain its responsibility for reviewing and considering proposals to amend existing Standards;

c. the number of intersessional working groups within the Commission should be kept to a manageable level. FFA members support maintaining the ERandEMWG for progressing e-reporting SSPs and their implementation with meeting every 2 years, and TCC meetings and, where appropriate, SC, could be used in the interim period;

d. support for electronic intersessional work being useful, and for a refined contact list for E-reporting standards; and

e. suggest that a practical process would be that the relevant CCM would notify other intersessional WG participants of their issue for preliminary consideration. Following this discussion, a proposal can be provided to TCC (or SC) for consideration if necessary.

15 Japan noted that the process of updating and maintaining the E-Reporting standards should be considered on a case by case basis. For example, if a new format/standard is proposed, discussion should start electronically, then continue a physical discussion at TCC or in the margin of TCC. It was noted that even if amendments to the standards is proposed in intersessional communication, this need consensus agreement and if consensus cannot be reached electronically, this needs to go to SC and TCC.

16 The Chair summarized that, in some cases, there will be a need for technical input for any proposed new SSPs. These can be considered on a case by case basis and there would need to be a consideration by SC and TCC before adoption by the Commission.

17 Chinese Taipei noted that they have existing E-Reporting systems in use and that they have been developing over the years, these systems were implemented in 2015. Even so, Chinese Taipei is of the view that it would take some time for them to implement any proposed WCPFC standards. Chinese Taipei noted that the ERandEMWG should provide recommendation, then TCC can consider before going to the Commission. The ERandEMWG could conduct its work as an IWG.

18 Indonesia expressed that implementation of E-reporting and E-monitoring is a significant challenge, particularly the cost involved not only for the technologies, but the human resources required. Indonesia prefers to maintain that the Standards for E-Reporting remain voluntary and could not support making any Standards for E-reporting mandatory at this point in time.

Update or revision of E-reporting SSPs

19. ERandEMWG recommended that, subject to SC and TCC endorsement, with respect to maintaining adopted standards, matters of substance (such as major changes or new proposals) shall be considered in a manner consistent with already established processes for new proposals. The Secretariat shall administer minor changes to the SSPs that reflect decisions of the Commission by circulating a draft to all CCMs advising that the change had been made and would come into effect on a date at least consistent with that in the SSPs. CCMs shall be provided the opportunity to raise concerns and if so, the change becomes a matter of substance and will be handled as such.

b. Draft Standards for E-reporting of high seas transhipment declaration and notices

20 Kim Duckworth, WCPFC E-reporting consultant, introduced **WCPFC-2018-ERandEMWG03-03** *Draft Standards for the E-reporting of Transhipment Declarations and Transhipment Notices* and provided a brief update on the state of the high seas transshipment E-Reporting project.

21 FFA Members noted the proposal was to remove a submitter reported Unique Document Identifier and were specifically concerned about whether CCMs would lose the ability to link to other data collection sources and support verification between national and WCPFC systems. It was explained that, under the system proposed in the standards, the Unique Document Identifier would be generated by the WCPFC system and transmitted back to the submitter. As such, a Unique Document Identifier would still exist.

22 Japan requested that in any future revisions to the SSPs, track changes were used to ensure changes could be readily seen. Japan was concerned about the removal of XLXS as an allowed format for the E-Reporting of high seas transshipment declarations and transshipment notices. Japan further highlighted that there was a discrepancy between the draft standards and CMM 2009-06 regarding the proposal to include 'filleted' in the processed states that are E-Reported. The Secretariat noted the request to leave track changes on in future revisions of the Standards. The Secretariat explained that to allow XLXS formatted data to be E-Reported would be expensive and offer little benefit. The Secretariat confirmed that it would continue to accept XLXS formatted data as part of its current manual processes for the reporting of high seas transshipments. The Secretariat further clarified that not accepting XLXS as a format for the E-Reporting of high seas transhipments would not set a precedent for refusing XLXS formatted catch logbook or observer data. The Secretariat explained that it was already voluntarily receiving data from fishers on the filleted product state, and that incorporating filleted into the

draft standards was a matter of responding to a need generated by fishers. Japan advised that it is currently compiling its data in XLXS format, and as long as the manual reporting of high seas transhipments continued to be allowed, then there would be no problem for Japan.

23 FFA members noted that Phase 2 of the high seas transshipment E-Reporting system can be completed by late 2019, subject to available funds and sought further details regarding the budgetary requirements for operationalising this system. FFA Members expressed their interest in being involved in the operational testing of the system when it is ready. The Compliance Manager advised that the Secretariat will provide more detailed information on anticipated budget towards the end of the year.

24 In response to a question from Indonesia, the Secretariat clarified that not requiring observer signature to be e-reported did not mean that no observer is required. Rather, it was only for e-reporting reasons and the practical difficulties involved in electronically capturing and transmitting a signature. Indonesia queried why CCSBT is not included in the list of RFMO's within whose areas catch could have been taken. The Secretariat responded that CCSBTs Convention Area was defined based on presence of the species and did not have boundaries that were coordinate based. Southern bluefin tuna is included in the list of species that can be reported. Further, the two Secretariats (WCPFC and CCSBT) are still working out the details on operationalizing the Memorandum of Cooperation on the endorsement of WCPFC Regional Observer Programme for observing transshipments of SBT on the high seas of the WCPO.

Standards for E-reporting of high seas transshipment

25. ERandEMWG recommended that, subject to SC14 and TCC14 endorsement, the Commission adopt the E-Reporting Standards for transhipment declarations and transhipment notices (**WCPFC-2018-ERandEMWG03-03** Attachment 1 and enclosed as **Attachment 4**).

26. If adopted, note that, where transhipment declarations and transhipment notices are submitted electronically to WCPFC, the following information is not required:

- the observers signature;
- a unique document identifier;
- for the offloading vessel to supply data on the quantity of product already on board the receiving vessel;
- for the receiving vessel to supply data on the fishing gear that the offloading vessel used to take the fish; and
- for the receiving vessel to supply data on the quantity of product to be transhipped.

27. If adopted, recommend that the Commission:
    a. add a footnote to Annex I of CMM 2009-06 that says "CCMs shall submit information required in Annex I or in accordance with E-reporting Standards for transhipment declarations and transhipment notices"; and
    b. add a footnote to Annex III of CMM 2009-06 that says "CCMs shall submit information required in Annex III or in accordance with E-reporting Standards for transhipment declarations and transhipment notices".

2.3 Updates from CCMs on implementation of ERandEM technologies

25 **Fiji** presented on the current project with the UNFAO on the GEF funded project with the Fijian Ministry of Fisheries and the Fiji Fishing Industry Association which was initiated in 2012 via SPC/FFA/FAO and commenced in the 4th quarter of 2015 (**ERandEMWG03-FJ)**. The Project is one of the 4 large ABNJ project under Outcome 2.2.1 on the "Pilot trials of electronic observer systems aboard tuna long line vessels successfully completed in Fiji with lessons learned and best practices disseminated to all t-RFMOs for up-scaling". The objectives are the harmonization of the MCS tools against IUU and more so the up-scaling of lessons learnt and best practices to the subregional and t-RFMO level. It was noted that 90% of the Fiji licensed domestic fleet was installed with E-Monitoring cameras and that Satlink International was the FAO tendered service provider. Compliance case were mainly in contravention with the Offshore Fisheries Management Decree 2012 and its Regulations and it was further noted that for the projects duration, an MoU with the Fiji Fishing Industry Association allowed for no prosecutions during the project pilot phase albeit compliance cases were raised to the industry regardless. It was noted that stakeholder consultation and involvement in addition to line ministry consultation were vital and with national and sub-regional workshops, encouraged the projects development. It was also raised that for the tool to be effective, legal instruments developments to meet this new tool was imperative in addition to the development of the SPC Dorado reporting tool on E-Monitoring, which SPC was greatly assisting with in collaboration with Fiji and Satlink International. The issue of observer coverage and debriefing standards were also highlighted as it needs defining. An update on the new "mapping tool" and systems upgrade by Satlink International was also raised in addition to the need for future IT competency level trainings on the national level with respect to this tool and more so, other service providers when they arrive. Further acknowledgement of accreditation and capacity building processes were addressed and there was a request for the subregional bodies to assist with comparative costing on other service providers. It was further raised by Fiji that the tool could assist with CMM development, the understanding of unusual fishing practices, quality checks on observer performance, crossing referencing data set [log-sheet/landings etc.], market access [MSC/EU] and more so observer and crew safety.

26 In response to a request for advice on EM systems ability to collect data regarding species of special interest, Fiji noted that much depend on placement of the camera on the vessel. In response to a question on how to choose sets to analyze, Fiji advised that they are in the same dilemma of figuring out which set to analyze. So far, Fiji chose to analyze trip 1 and trip 3 and but perhaps SPC would be best placed to advise which fleet/vessel to cover in which month. SPC advised they can assist with that request.

27 The **United States of America** presented progress on E-Reporting and E-Monitoring in the USA longline fisheries (**ERandEMWG03-US)** which comprise 145 vessels in Hawaii and California and 15 vessels in American Samoa. At-sea beta testing will continue on Hawaii-permitted longline vessels using software developed by the same company that developed software for the purse seine fishery. Encrypted data are sent to NOAA from tablets on the vessel to the VMS unit via blue tooth, Iridium satellite and through a server and sFTP. Data are unencrypted and incorporated into databases. Electronic Monitoring has been installed on 17 vessels in the Hawaii longline fishery. The systems use two cameras to address the objective of catch and bycatch (discard) accounting. EM data were reviewed on 193 sets which had human observers. There was good coherence between retained catch between EM and observers. The total catch quantified by E-Monitoring was 89% of the observer total. Sharks in particular were not observed by E-Monitoring compared to human observer as they were released prior to coming into the camera view.

28 **Chinese Taipei** reported that it has conducted electronic monitoring trials in recent years, and a report on the result has been posted on the WCPFC website (**ERandEMWG03-TW)**. In general, the trials show that the E-Monitoring System has the potential to replace the work of

at-sea observers, as this CCM has encountered difficulty in deploying observers on some of its fishing vessels that have limited working space. It noted that some of the pictures E-Monitoring System collected are also included in the paper for reference. To better understand the E-Monitoring System operation and ensuring the system stability, Chinese Taipei encouraged more E-Monitoring System trials and experience sharing.

29 **Japan** reported that Japanese small scale longliners are conducting trial electronic monitoring system in the EEZ of Palau in cooperation with Palau and funded by The Nature Conservancy (TNC) as two year program (2017-2018). Japan showed its appreciation to the government of Palau and TNC. The data belongs to Palau and will be jointly analyzed in 2019. Through the trial, some technical troubles to electronic monitoring device were experienced, such as shortage of battery in the vessel, noise to radio, sea water splash to camera and unstable electronic current. Some troubles could be resolved by remote on-line operation, but most of them required trouble shooting at ports. Japan reported that lessons learned from the trial are; (1) issues are unique for vessel by vessels; and (2) technical support in each fishing port is essential.

30 The **Federated States of Micronesia** provided an update on their E-Monitoring work with almost two years trial now on five of their frozen longliners. Most data collected so far has been E-Monitoring data however, recently two trips were made with observers onboard but comparison analysis is yet to occur.

31 The **Republic of Korea** provided an update on the E-Monitoring trial undertaken by Korea in 2016 and 2017 on vessels from the distant water purse seine and longline fleets. Challenges include very high communication fees which can be approximately $4000 per month per vessel.

2.4 Updates from Sub-regional Agencies

32 **SPC** introduced **WCPFC-2018-ERandEMWG03-IP02** *Outcomes from the Second Regional EM Process Standards Workshop*. WCPFC has already established what to collect. The purpose of establishing the process standards for E-Monitoring is to provide guidance on how the agreed standard observer data fields can (or cannot) be collected using E-Monitoring systems. It is important to note that what are to be collected by observers has been established and is mandatory through the WCPFC Regional Observer Programme minimum data field standards and the SPC/FFA DCC. The main work of the E-Monitoring process standards workshops was to evaluate each required data field to determine how E-Monitoring could be used to collect equivalent observer data. For further information about the current status of E-reporting and E-monitoring in the region SPC also referred participants to **WCPFC-2018-ERandEMWG03-IP01** *Progress on ER and EM Implementation in the Region* and **WCPFC-2018-ERandEMWG03-IP03** *Summary of Tuna Fishery E-reporting and E-monitoring Data Submitted to SPC by Member countries*.

33 Fiji, on behalf of FFA members, expressed appreciation to SPC. These CCMs viewed the workshop as extremely valuable and saw the outcomes to be valuable for supporting the development of E-Monitoring programmes. FFA members recommend that the ERandEMWG should use and reference this body of work in discussions on E-Monitoring systems and potential data collection capabilities.

34 Japan noted that the discussion on how the agreed observer data can be collected by using E-Monitoring systems is important. It asked for guidance about how further consideration of the E-Monitoring Process standards was intended to occur in the WCPFC context. In response, SPC advised that there may be another workshop in the future for SPC/FFA members. Japan responded to confirm that they are interested to join in a future workshop, given that their vessels fished also inside FFA members waters. SPC agreed to consider inviting interested non-SPC CCMs to future E-monitoring process standards workshops considering their further development and refinement.

E-Monitoring Process Standards Workshops

35. ERandEMWG noted the work done by SPC on developing E-Monitoring process standards (refer **WCPFC-ERandEMWG3-2018-IP02**) which involves guidance on how observer data fields can or cannot be collected with E-Monitoring systems and noted that the standards provided a useful reference for developing E-Monitoring programmes.

35 **FFA Secretariat** gave an update on E-Monitoring initiatives conducted by its members. There are there are 3 phases in which FFA members are at: trial/pilot stage, implementation stage and there are others such as Australia with fully operational E-Monitoring System. The presentations from CCMs in Agenda 2.3 showed that CCMs have different objectives in terms on conducting their E-Monitoring System and looked forward to aligning these objectives. Some of the challenges faced by FFA members include the legal framework required for implementation of E-Monitoring System and the costs involved.

36 Nauru, as Chair of **PNA,** provided an update on some recent developments in the area of E-Monitoring and advised that PNA Ministers agreed to establish a PNA Electronic Monitoring Program that will allow Parties to coordinate their efforts in trialing and implementing E-Monitoring technologies. Roll-out of E-Monitoring on an operational basis is still new ground for most members of the Commission and PNA has plenty of work to do to develop this E-Monitoring program, including working out the relationship between national programs and the sub-regional program. Furthermore the PNA's developments would be consistent with the approach of the Regional Observer Programme (ROP) and directly in line with the proposed construct of a WCPFC Regional E-Monitoring Programme (REMP) in Chair's concept paper. There are three fundamental starting points for PNA engagement on a WCPFC REMP that would be useful to highlight from the outset. Firstly, PNA members are not prepared to cede any responsibility to other CCMs for monitoring fishing activity inside PNA EEZs, but seek to maintain the monitoring responsibly and opportunities that have evolved under the ROP. Secondly, PNA wish to make it clear that the overarching purpose of a WCPFC REMP cannot be to simply replace human observers. Lastly, the Commission must preserve the independence and impartiality that gives the ROP great strength as a data collection and verification program.

37 Although not a subregional agency, **The Nature Conservancy** (TNC) was provided an opportunity to provide an update. TNC advised they have signed a MOU with TriMarine on a new E-Monitoring video monitoring project looking at alternative means to obtain purse seine species composition and size frequency data for target and non-target species, well loading and school/set verification and they are working with SPC on sampling protocols in support of WCPFC SC Research Project 60.

38 The Chair welcomed the reports from participants and noted that there had been significant progress in relation to trials of E-monitoring.

AGENDA ITEM 3. E-Monitoring Concept Paper

39 The Chair introduced the concept paper on Electronic Monitoring principles and procedures for the WCPFC (**WCPFC-2018-ERandEMWG03-04)**. The Chair reiterated that the concept paper is provided for discussion only and is not a proposal that is intended to go forward to the Commission this year. The concept paper is intended to be a starting point for discussions around what a WCPFC E-Monitoring Programme could look like and what may be needed to ensure that the data collected under an E-Monitoring Programme could be used by the

Commission. Timely and accurate data is fundamental to the work of the Commission and the paper is informed by key decisions of the Commission around data collection and verification. The paper recognizes the number of trials currently being undertaken and that these can form the basis of a Commission-level E-monitoring programme built around minimum standards. Specifically, further discussion is needed around objectives, scope, terminology, roles and responsibilities. The paper suggests a process for accrediting E-monitoring programmes, some standards around programme management, technical, logistical and data analysis requirements and includes a placeholder for an implementation plan.

40 Japan agreed with Nauru's earlier statement that human observer cannot be replaced by E-monitoring. Japan suggested that a revision of CMM 2007-01 would seem to make more sense than trying to formulate a new CMM on E-monitoring programme.

41 Vanuatu, on behalf of FFA members, thanked the Chair for the concept paper. They noted it to be a useful document in focussing discussions on the role of E-monitoring and how the ERandEMWG could progress implementation and the development of standards at the Commission. FFA members noted the concept paper outlines a process to develop a Commission Regional E-monitoring Program that would be implemented through a CMM with a similar format to the Regional Observer Programme CMM. However, CMM 2007-01 was designed to implement a fully operational programme, whereas the Commission and its members are yet to complete the necessary work that would underpin this sort of approach being applied for E-Monitoring. FFA members proposed that a phased approach be considered towards developing a CMM that ensures clarity around objectives, principles and key activities for the Commission.

42 Palau, on behalf of FFA members, asked that the working group consider the monitoring gaps and issues that are driving the use of e-monitoring. This will help define the purpose of E-monitoring and how it can be used alongside existing valuable monitoring programs such as the ROP and VMS. For FFA members there are four key issues that are driving the need for improved monitoring:

a. improving safety of fisheries monitoring at sea by observers – a high priority particularly in purse seine fisheries, where there are numerous compliance issues that observer data is used to inform;

b. mis-reporting and poor compliance with CMMs – fishers are required to report accurately in their logbooks, however, misreporting is widespread on boats without independent monitoring, primarily longline vessels, and the 2016 IUU quantification study identified reporting violations as the largest IUU issue in Pacific tuna fisheries;

c. reliability of catch data and impacts on scientific assessment – note that misreporting of tuna discards and catch impacts the ability of stock assessment to accurately measure fishing mortality and assess the status of the stock; and

d. improving monitoring on high seas fleets, particularly longline – FFA members are taking steps to improve monitoring within EEZs and there is a need to ensure that there is effective monitoring across all areas of the WCPFC Convention Area.

43 Solomon Islands noted that there are major hurdles such as program design, defining data needs, developing standards and assessing cost and affordability. FFA members are of the view that a cost benefit analysis is required when considering the implementation of any E-Monitoring program or systems as it will be important to assess costs associated with these work streams which includes resourcing and capacity considerations, training as well as cost-recovery options.

44 The Chair thanked the IWG participants for their initial comments on the approach as described in the concept paper, then led a discussion that considered each of the sections within the concept paper in turn.

Commission objective (and any subobjectives) for a Regional E-Monitoring Programme (REMP)

45 The Chair directed the discussion to objectives of a Regional E-monitoring Programme (REMP), and referred participants to paragraph 5 in **WCPFC-ERandEMWG03-04**.

46 Japan expressed that the objective of the REMP should be to complement the Regional Observer Programme.

47 The United States voiced concern with ownership and access to the E-Monitoring data, both the footage and the data from the footage.

48 Papua New Guinea, on behalf of FFA members, stated that one of the most critical discussions for any REMP is what the objectives of such a programme would pursue. However, at present, it is difficult to determine exactly what these objectives should be. A REMP cannot be developed to simply replace or duplicate human observers. It was suggested that a comprehensive review of the Commission's data needs is required, as well as a comprehensive review of existing data collection methods. This should consider the significant work on data needs and collection methods that has already been undertaken to date by SPC. This review will facilitate the refinement and development of the Commission data collection methods, including consideration of E-Monitoring, to ensure they are used in a complementary and cost-effective manner. It will also allow the objectives of an E-Monitoring program to be clearly and effectively framed. FFA Members suggested that the Ad Hoc Task Group on Data might be the right body to complete this necessary work.

49 The Republic of the Marshall Islands noted the value of including principles around impartiality and futher proposed that E-monitoring programs are independent, impartial, transparent and accountable.

50 Chinese Taipei also noted that there are some areas where the Commission is not getting the coverage that it needs, and these are the areas where E-Monitoring should be focused. An example might be small vessels that could not carry an observer.

51 In response to clarifications sought from Indonesia around links between E-reporting and E-monitoring, the Chair advised that the Commission had made decisions with regards to E-Reporting for data collected by observers and some observer programmes were submitting data electronically. SSPs for observer reporting support data analysis of E-monitoring footage. With respect to a question on how an accreditation for E-Monitoring would work, the Chair advised that there would be similarities to how ROP are accredited by the Secretariat, but this is something still to be discussed and worked through.

52 Solomon Islands, on behalf of PNA members, saw that identification of objectives for E-Monitoring as the most critical aspect. A solid and common understanding of exactly what role Members want E-Monitoring to have in the overall data collection system of the Commission must be decided first. In the absence of agreement on the role that E-monitoring will be fulfilling in a WCPFC context, makes it is very difficult to discuss specifics. In that light PNA strongly supports the call made by Papua New Guinea on behalf of FFA members for deeper consideration of the specific data needs that E-Monitoring can, and more importantly, should fill in the WCPFC. At the moment, the Commission does its business using information provided through numerous programs including logsheets, aggregated data, ROP, VMS, specific activity reports from vessels, boarding and inspection reports, port sampling, CDS and others. Many of these programs have evolved independently of each other, at least in the Commission context, meaning that the data being collected in each may be duplicative or inefficient. It further suggested that type of review recommended by FFA members will be a very useful opportunity for the Commission to assure itself that the data needed to adequately manage these fisheries is fit for purpose, and that it is being collected and verified in the most appropriate way.

53 The Federated States of Micronesia noting the need for a deeper review, stated that PNA members generally agree with the Chair's proposed objective as a starting point, but proposed that sector specific objectives be developed once there is a clearer understanding of the data needs in each fishery that E-Monitoring will be used to fill. As preliminary thoughts, PNA members see the role of E-Monitoring in the purse seine fishery as being to support and verify information that is being collected by vessel operators and observers, to rationalise observer workloads and to contribute to observer safety. PNA believe that the role of E-Monitoring in the longline and other fisheries will probably be quite different as it will probably play a more fundamental role in collecting information that is currently not available to the Commission. Similarly, PNA are concerned by the lack of information to determine and verify whether at sea transhipment is taking place at the moment and so E-Monitoring might play a basic data collection role in that regard.

Terminology and definitions

54 The Chair opened the floor for discussion on the terminology and definitions in the concept paper, and referred participants to paragraph 6 of **WCPFC-2018-ERandEMWG03-04.**

55 The Federated States of Micronesia, on behalf of FFA members, provided the following comments on terminology and definitions to ensure clarity and consistency with work at the previous e-monitoring standards workshops:

i. In paragraph 6(e) – replace "Reviewing centre/data analysis centre" with "Data review centre".

ii. Proposed to add two new definitions of:

a. E-Monitoring coverage: defined as the proportion of total fishing vessels within a prescribed area (eg. EEZ) that have an operational e-monitoring system installed; and

b. E-Monitoring analysis rate: defined as the proportion of effort analysed by an e-monitoring analyst for vessels fishing within a prescribed area (eg. EEZ) with an operational e-monitoring system.

56 Kiribati, on behalf of PNA members, supported the definitions but noted that the definition of E-Monitoring system implemented both camera and sensor system. E-Monitoring may not necessarily need both cameras and sensors, and perhaps the definition currently in the concept paper, that says "and" may be too prescriptive.

57 The United States questioned the definition of Electronic monitoring record (or E-monitoring record) in paragraph 6(b) and what would be the minimum standard for these data to be provided in? In addition, US also queried the duration of how long the data and footage can be retained, an issue that needed to be addressed.

58 In response to a question from Fiji regarding the importance of debriefing analysts, the Chair confirmed that REMP did include, in the standards, a reference to the need for mechanisms to ensure data quality and referred CCMs to A.4.3 of the concept paper which mentions debriefers.

Roles and responsibilities

59 The Chair opened the floor for discussion on the roles and responsibilities in the concept paper and referred participants to paragraphs 8 - 15 of **WCPFC-2018-ERandEMWG03-04.** As an introduction the Chair confirmed that the current draft roles and responsibilities are modified from CMM 2007-01 with the intention that the concept paper would articulate the role and responsibilities of the Secretariat, CCMs, and the Commission together with its subsidiary bodies.

60 Fiji, on behalf of FFA members noted the Secretariat's role should be to authorise/accredit national or sub-regional e-monitoring programmes and assess them against the Commission's standards and this is consistent with the Regional Observer Programme. The delineation of roles and responsibilities between flag and coastal States needs further consideration and will be informed by the objectives that E-Monitoring will fill in each sector of the fishery. In considering roles and responsibilities, it is important that coastal States maintain control and responsibility for coordinating e-monitoring within their EEZs. In terms of how E-Monitoring would be rolled out for high seas fishing, this remains a priority area of concern.

61 On obligations of CCMs, PNA members noted that the obligation to ensure that all vessels fishing outside of a single EEZ have an approved E-Monitoring system installed is a huge undertaking. This means that we need to discuss issues of prioritization and phasing which would be informed by an assessment of the data needs and current status in each fishery but is likely to include phasing by vessel type – with the priority order being longliner, carrier, other than purse seine and phasing by fleet type – with the priority order being vessels operating exclusively on the high seas, transient vessels, and then vessels that fish in and out of their home port.

Scope and data needs

62 Dr Timothy Emery (Australia) gave a presentation on **WCPFC-2018-ERandEMWG03-IP-04** *The use of electronic monitoring within tuna longline fisheries in the WCPO – implications for international data collection, analysis and reporting*, noting this to be collaborative work undertaken by Australia and SPC-OFP. This research involved an evaluation of 49 longline Regional Observer Programme minimum standard data fields, their current scientific application, the proportion of member countries supplying data to the Secretariat and the capability of current E-Monitoring technology to collect these fields (based on the SPC E-monitoring Process Standards workshop outcomes – IP02). The participants at the SPC E-monitoring Process Standards workshop noted that 37 of the 49 longline fields could potentially be collected with current E-Monitoring technology, with 81% of these used in important scientific analyses by SPC-OFP. These analyses have included evaluating the effectiveness of seabird bycatch mitigation, analyses of targeting and catch reconstructions and/or catch rate standardisations (see Table 1 in IP-04). For the 19% of fields not routinely used in scientific analyses by SPC-OFP, participants noted that the introduction of E-Monitoring may facilitate a sufficient increase in data availability to support their future use. Of the 11 longline fields that either could not be collected or possibly collected in the future with technological improvement, five of these have been used in various scientific analyses for WCPFC. For example, two of these fields, hook type and hook size have been used in catch reconstruction analyses and catch rate standardisations. Therefore, these fields would need to be collected using at-sea observers at the set level to ensure data continuity and scientific rigour was not compromised. Dr Emery emphasised the importance of the ROP longline minimum standard data fields for various WCPFC scientific analyses and the need for continuity of their collection in longline fisheries.

63 PNAO thanked Australia for the presentation and the detailed analysis. PNAO noted that this type of work is an excellent starting point for the type of data review that PNA and FFA members had been calling for, but that it would need to be expanded in several ways, such as: to include a greater suite of data collection/verification programs that the Regional Observer Minimum Data Fields alone; to include a compliance focus on the data needs in addition to the scientific focus; from a policy perspective – to consider not only whether E-Monitoring *could* meet a given data need, but whether it *should*; and to separate roles for data collection and for data verification between the different programs/tools.

64 Tonga, on behalf of FFA members, reiterated the need for a review of data needs and monitoring at the Commission level and the outcomes of this review are necessary to define precise data needs. However, work can still progress on standards and there is a good opportunity here to discuss some of the different data needs and priorities between Methods.

Purse seine has an effective observer program with 100% coverage, whereas there is low level coverage in the longline fishery and there are challenges even meeting the 5% target. The priority for E-monitoring implementation should be in the longline sector with a strong emphasis on monitoring high seas effort where current monitoring is lowest. In the purse seine fishery, the focus could be on safety and through providing independent verification of key events such as FAD set/non-FAD set and fishing day/non-fishing day as well as assisting the observer with improving efficiency of spill sampling. Regarding transhipment, FFA members consider this a priority data need for longline fisheries. This would include adding transhipment data reporting to the data requirements for E-monitoring but could also be addressed through enhanced monitoring on carrier vessels. FFA members suggested that ERandEMWG could consider the application of E-monitoring (and/or observers) on carrier vessels to verify if transhipments are taking place and collect associated data. FFA members note that an observer data form is under development by SPC and FFA.

65 Samoa on behalf of FFA members, advised that FFA Members have made great progress over the last two years with several members committed to full E-Monitoring implementation and numerous others undertaking trials. FFA members are keen to contribute to and progress the implementation of e-monitoring broadly, but there is a lot of work to be done nationally and sub-regionally to consider the application of E-Monitoring for both scientific and compliance purposes. The Regional Observer Programme has an important role in collecting a comprehensive set of data critical for stock assessment and management purposes. E-Monitoring data cannot be translated to meet all the ROP minimum data standards, and we need to recognise both the strengths and limitations of e-monitoring as we increase its use in the Commission. FFA members strongly support maintaining the ROP in its current format and also acknowledge the valuable work from SPC that has assessed how closely E-monitoring can complement the ROP data fields. FFA noted that they need greater clarity around the objectives and purpose of E-monitoring in order to define minimum data requirements and standards for E-monitoring.

66 Japan noted that it appreciates the rationale of implementing E-monitoring on longline but does not have a clear understanding of the data need that is being addressed by E-monitoring on carrier vessel transshipment at sea. Further discussion is needed on to elaborate the specific data needs for E-Monitoring in different gears eg. longline, carriers etc.

67 Solomon Islands, on behalf of PNA, supported the FFA statement made by Samoa but also would like to see principles of data collection independence and impartiality be included. Solomon also urged that CCMs keep the WCPFC data access rules and procedures in mind.

Data needs

67. The ERandEMWG noted the results from **WCPFC-2018-ERandEMWG-IP04** examining scientific application of the longline ROP minimum data standard data fields. ERandEM WG recommended that SC and TCC consider if a Commission wide data needs analysis and associated data collection and verification methods was needed.

68. The ERandEMWG noted the strength of the ROP as a data collection and verification programme that comes from its independence and impartiality, and recommended that any WCPFC E-Monitoring Programme should also have this similar basis.

Programme, technical, logistical and data analysis standards

68 For this agenda item the meeting broke into four small working groups to discuss each of the four topics contained in **WCPFC-2018-ERandEMWG03-04 Annex A**. The summaries provided by each of the four small working groups are contained in **Attachment 5**.

Coverage rates vs analysis rate

69 The Chair opened the floor for discussions around terminology and posed the question of whether the language that is typically used for observer coverage is sufficient for E-Monitoring.

70 The United States expressed that it is important to have criteria established before setting the coverage rate.

71 Fiji on behalf of FFA members noted that definitions on E-monitoring coverage and analysis rates would be helpful in framing this discussion. From their experience, setting target coverage and analysis depends on the purpose of E-monitoring and the objectives. For example, where E-monitoring is used for safety and compliance purposes it makes sense to have 100% coverage. This means there is an E-Monitoring system on every boat and you can monitor each boat equally. Importantly, this ensures there is a level playing field where all vessel operators can be held to the same standard. In cases where E-Monitoring is used on all boats in your fleet, one can consider analysing a portion of the footage to keep analysis time and costs manageable. For example, as Fiji noted they analyse every second trip, and only look at more data for a boat if any issues are detected. A similar risk-based approach is used in Australia where a minimum 10% sample of sets from every trip are analysed, with complete trips analysed if there are issues detected. We note that for scientific data collection, SPC have advised it is ideal to analyse complete trips. Ideally a sample of trips could be analysed from across the fleet, and this may keep costs manageable. Where needed the analysis rates could be adjusted depending on data needs.

72 Japan made three points, firstly that coverage rates and costs eg. for longline should be discussed at the Commission level and not in this group. Secondly, how to calculate coverage for E-Monitoring if the purpose for E-Monitoring is to complement human observers. In this case, it should be the same as the original requirement for ROP. Thirdly, Japan drew attention to the relationship between coverage rate and analysis rate. It is not sensible to set a rate simply for E-monitoring coverage, in the absence of defining the intended analysis rate. In the case of ROP, there are two coverage rates – one is coverage by the vessel and two is the coverage by data submission and E-Monitoring may follow something similar.

73 Republic of Marshall Islands stated that it does not see E-Monitoring as a replacement to human observer but to complement human observer. It reiterated the point that a gap analysis is needed to see what is required as far as the Commission is concerned in term of providing data and look forward to setting the objective of E-Monitoring in the Commission to help the ERandEMWG determine what level of coverage should be attained.

74 Chinese Taipei again reinforced the fact that coverage rate should be to complement the observer coverage and E-Monitoring maybe for vessels that have practical difficulties carrying a human observer.

75 Birdlife reminded the meeting that 5% ROP longline coverage rate was never meant to be the target and E-Monitoring can helped increase coverage rate to better understand bycatch issues. Much greater rates of observation are required to enable more accurate estimation of bycatch (numbers and species) to inform the Commission of impacts to populations of these species. Issues to be considered when considering the level of E-Monitoring coverage include as suggested by 'Don and Knuckey' in their paper at the first E-Monitoring E-Reporting workshop is a move away from % cover approach to % information coverage; especially important when considering detection rates e.g. of rare species where 100% information would be needed while a lower level may be appropriate for more common species."

76 The Chair summarized that there is still some work to be done on coverage and analysis rates. E-Monitoring can supplement some of the observer coverage and further work is needed on how E-monitoring can work together with observer coverage.

Proposed accreditation process

77 No points were raised under this agenda item. The Chair recalled that from earlier discussions, participants had provided cautious support to an accreditation process similar to that used for the ROP. Further work is needed to understand how this would work for E-monitoring.

Next steps for the Concept paper

78 The Chair noted that the concept paper was intended to start discussion on an E-monitoring programme. A proposal was put to participants that the Chair revise and update the concept paper considering the discussions in the two-day meeting and circulate a revised version intersessionally prior to TCC14. The views of participants were sought on this proposal and key points raised were:

a. confirming that the concept paper is a work in progress and additional meetings on a WCPFC E-monitoring programme are needed;

b. support for the concept paper being a basis for the Chair to continue to develop a E-monitoring programme document.

c. a new CMM should set the general framework for E-monitoring, and details for implementation and application of E-monitoring to different gears should be included in the parent CMM eg. the description of the longline E-Monitoring should be written in CMM 2007-01 and carrier transshipment E-montioring should be contained in CMM 2009-06.

d. confirming that resource implications on the Commission and the Secretariat needs to be considered. and

e. that it would be beneficial for the ERandEMWG to consider whether E-Monitoring data would qualify as observer coverage (particularly in the longline sector).

79 Japan also noted that earlier in the meeting they had expressed a view that the Commission should revise CMM 2007-01 to accommodate E-monitoring, but after further consideration, Japan now saw merit in the development of a new framework CMM for E-monitoring.

E-Monitoring Concept Paper

79. The ERandEMWG recommended that the Commission note that the approach outlined in the concept paper could be used as a general framework for progressing issues relating to implementation of E-Monitoring. The ERandEMWG further noted the Chair would update the concept paper based on discussions at ERandEMWG3, with particular focus on objectives and scope, and would circulate intersessionally to ERandEMWG participants with the possibility of using TCC14 for informal consultations.

80. The ERandEMWG recommends that the Commission agree to prioritising E-monitoring in areas where independent data collection and verification is currently low and asked SC14 and TCC14 for advice on priority areas.

AGENDA ITEM 4. Opportunities and Challenges

4.1 Opportunities

80 The Chair opened up the floor for comments on opportunities provided by E-Monitoring and how CCMs captured these in their national programmes.

81 WWF shared that there are some discreet advanced technologies out there including cameras that can identify motion and turn on and off by identifying whether a person is on deck. In addition to artificial intelligence to support species identification, the other advancement that will become a reality in the near future is onboard data processing. E-reporting offers a platform that is much more effective and much more efficient and advised the meeting of a Seafood emerging technologies workshop in Thailand in February 2019 which may provide opportunities to CCMs to see what technologies are available.

82 The Chair reminded participants that working with the fishing industry to understand their business needs and data needs can result in technologies being adopted that can also be used by industry. A level of crew cooperation is necessary to progress E-monitoring at the national level in order, for example, to maintain equipment onboard, to assist in collecting information on species of special interest. Technology is seen as a way of assisting fisheries managers but can also help vessel operators – there are opportunities for mutual benefits to be realised.

83 Indonesia expressed an interest in learning more about the ways that E-technologies could assist them in gathering data and information on potentially unlawful and criminal activities by vessel operators or their crew, including during high seas transhipment activities.

84 The Chair noted that there is international interest in crew safety and there are other forums that have a mandate to deal with these issues. These issues may be part of secondary considerations for national objectives for E-monitoring.

4.2 Challenges

Training needs

85 FSM, on behalf of PNA members stated that the training needs across the fishing industry, government personnel and the private sector as service providers are going to be very comprehensive. Full scale roll-out of E-Monitoring, even in a phased manner is new territory for most CCMs and detailed training will be needed across the board. PNA have been considering this in a preliminary context and have identified that training will be needed on a range of issues including: installing E-Monitoring systems, maintaining E-Monitoring systems in port and at sea, working with E-Monitoring systems, handling data exchange, selecting data to be analysed , analysing E-Monitoring data, using E-Monitoring data in investigations and prosecutions (including legislative change to do so), integrating E-Monitoring data with other sources and auditing E-Monitoring programs. PNA is of the view that this will clearly be a challenge, and there are probably more training needs than identified here. A cost benefit analysis and consideration of funding options, including cost recovery, may be needed. This was raised previously by FFA members.

86 Fiji spoke on challenges they faced in the Fiji program. Issues raised were around the fact that the E-Monitoring tool was going to complement the observer program especially in coverage

of the Fiji's high seas component of vessels. If the coverage level could be fined, then the combination of E-Monitoring and observer could meet the need. It was raised that the E-Monitoring tool empowered the observer as they were now being trained in data analysis and now have a knowledge of where their data was moving towards. It was also raised that data was released to the industry stakeholders right after the vessels return whilst the E-Monitoring program took time to analyse it and this allowed for the industry to facilitate its own quality controls. It was also raised that should regional review centres be realised, that there would be legal implications across boundaries on the use of the E-Monitoring footage/analysed data with respect to national laws and more so, that there was a time delay in the footage being analysed. The final points were that with each new service provider, meant that there would be new training needs and equipment etc. Additionally, Fiji requested it FFA could assist the region in acquiring alternate E-Monitoring service providers

87 China noted that E-reporting and E-monitoring is good for MCS programme but they need time to fully understand these technologies including the proposed standards. China asked the Secretariat and CCMs for training programme to help their industry and government understand E-reporting and E-monitoring technologies and their application better.

88 The Republic of Marshall Islands observed that there could be differences in training expectations and needs for development and trials of a E-monitoring system, and training for implementing the WCPFC eventual standards for E-monitoring programmes.

89 Solomon Islands stated that they need training of E-Monitoring analyst to analyse the data from the vessel, and there is also a need to vessel captains and crew onboard to receive training on how to maintain the equipment and systems, onboard the vessel.

90 WWF supported the point that it is critical to engage the industry and training that include and engage industries is crucial.

91 Japan agreed that training is not only for analysts but also for fisherman. One other point is that Japan is trialing project with Palau which highlights that there is a need for technical staff in each fishing port. Training for technical staff in each port is necessary for implementing the E-Monitoring System.

Implementation plan – what would it look like? What would it include?

92 The Chair stated that the intention for this is to capture both E-Reporting and E-Monitoring initiative. With E-Reporting, standards have been adopted for catch and effort as well as observer data. The ERandEMWG has received supported for adoption draft E-reporting standards for high seas transshipment declaration and notifications. Chair sought views of CCMs as to whether they wanted to indicate to the Commission if any additional E-reporting standards should be developed or if any could be considered to be made mandatory.

93 The Republic of Marshall Islands noted that there is still a lot of work to do and suggested that it is worth segregating E-Reporting and E-Monitoring rather than putting them together into the same basket. For instance, E-Reporting is well ahead in being ready to be implemented, but E-Monitoring is less so. PNA have been working diligently with industry with the FIMS and iFIMS component.

94 The Chair acknowledged that E-Reporting and E-Monitoring should be separated when considering implementation planning and referred participants to **WCPFC-2018-ERandEMWG03-IP02** noting that the paper provides an update on the current status of where we are with E-Reporting. Members who were submitting data that did not yet conform to the E-reporting Standards were encouraged to continue to work with SPC and the Secretariat to meet the standards. With respect to E-Monitoring, the Chair surmised that the ERandEMWG were not presently ready to commit to an implementation plan, but some areas have been identified where E-monitoring could be prioritized.

AGENDA ITEM 5. General discussion and next steps

95 The Chair noted that the ERandEMWG terms of reference contains a work plan and some broad principles and, in her view, these principles are still relevant. Chair sought comments from the floor and any suggested recommendations to the Commission and reminded the meeting that two years ago, the working group recommended to the Commission to roll over the terms of reference. There was not any agreement to a future meeting but CCMs were asked to consider this issue at SC and TCC.

96 In terms of reports to SC14, TCC14 and WCPFC15, the Chair advised that a copy of the recommendations agreed during the meeting on-screen will be posted to the website which will form the basis of her report to SC14 and TCC14 (**WCPFC-2018-ERandEMWG03-outcomes**). Chair will also provide a report to the Commission in December from the meeting and considering any views from SC14 and TCC14.

97 In respect of linkages to other IWGs, the Chair noted that there has been some work underway with the CDS-IWG but they have not met inter-sessionally recently.

98 Republic of Marshall Islands confirmed that they welcomed the opportunity to provide updates from national and sub-regional initiatives that will be continuing through 2018 and asked that where possible that the Chair might consider these as applicable in the intersessional period.

AGENDA ITEM 6. OTHER MATTERS

99 There were no other matters.

AGENDA ITEM 7. CLOSE

100 Chair expressed her thanks to the Secretariat for their support and guidance and to CCMs for their input, guidance, experience and work throughout this two-day meeting and prior meetings to date.

101 The meeting closed at 3.30pm.

Attachment 1

E-Reporting and E-Monitoring Intersessional Working Group 3
Opening Remarks by Executive Director

Let me join the Chair in welcoming Participants to Busan and to this meeting of the IWG on electronic reporting and electronic monitoring. This meeting precedes the meeting of the 14th regular session of the SC which will start on Wednesday this week.

As participants will recall this working group was established in 2014 in recognition of the fact that members had commenced or were considering the implementation of electronic technologies to better support their fisheries monitoring, management, compliance and enforcement activities. And this is the third formal meeting of the working group.

The objective of the working group according to its terms of reference is "to consider how E-monitoring and E-reporting technologies could benefit the work of members and the Commission in supporting the objectives and implementation of the Commission.

Electronic Reporting

The attention of the working group activities to date, have been on the development of E-reporting standards.

In part the focus on e-reporting standards was because it was clear that implementation of e-reporting has the potential to:

- improve the quality of data and information received, because it is possible to undertake data quality checks at the source of the data;
- improve the timeliness of information availability, because there are no delays waiting for data entry; and
- reduce the costs for the Commission, by reducing the costs of data entry.

To this end the Commission has now adopted E-reporting standards for logbook catch and effort data submission and observer data.

At this meeting in terms of e-reporting:

- the Secretariat will present a third set of E-reporting standards for high seas transshipment declarations and notices for consideration and hopefully adoption;
- the Secretariat will provide an update on the progress of the necessary institutional and IT development work at the Secretariat to support the implementation these draft E-reporting standards; and
- finally, the Secretariat will be seeking suggestions and recommendations around the process for updating or maintaining the E-reporting standards going forward, including once the Commission decides that E-reporting is mandatory.

Electronic Monitoring

The work on electronic monitoring is not as far advance as the electronic reporting activities.

So the focus of the next two day is to advance the E-monitoring work of the working group.

To support this, a concept paper, in the form of a draft CMM proposal, has been prepared by the Chair, that starts to explore what a WCPFC E-monitoring programme would look like, and what may be needed to ensure that the data collected by such programmes can be used by the Commission.

I will let the Chair explain the concept paper and the approach that underpins it at the appropriate juncture in the agenda.

But I would like to sincerely acknowledge the contribution of the Chair towards progressing the work of this IWG, a feat she has achieved alongside her usual duties and responsibilities for AFMA in Australia.

The working group will also consider some information papers that consider the outcomes of recent SPC workshops that looked at what is captured on video and how well it can match up to the required WCPFC ROP data fields. Consideration of these papers demonstrate how the use of integrated E-monitoring systems might supplement and complement existing observer coverage levels presently achieved in WCPO fisheries. Issues associated with data coordination, storage, data analysis, cost and logistical issues are also considered.

I encourage working group participants over the next two days of discussions to continue to bear in mind the overall objective for this working group, and to be sure that the outcomes and discussions do give adequate consideration as to how E-monitoring technologies could best benefit the work of CCMs and the Commission in supporting the objectives and work of the Commission.

Thank you.

Western & Central Pacific Fisheries Commission

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Attachment 3

THIRD E-REPORTING AND E-MONITORING WORKING GROUP MEETING (ERandEMWG3)
Busan, Republic of Korea
6 - 7 August 2018

ADOPTED AGENDA AND SCHEDULE

Monday 6th August 2018 (Day 1)

TIME	AGENDA	DOC
9-9.30am	**AGENDA ITEM 1. WELCOME AND OPENING**	
	1.1 Opening	
	1.2 Adoption of agenda	
	1.3 Meeting arrangements	
9.30 – 11.00am	**AGENDA ITEM 2. BACKGROUND and REVIEW OF ER AND EM TECHNOLOGIES IN WCPO**	
	2.1 Update from Chair on background and progress against ERandEMWG TOR	
	2.2 Report from Secretariat on uptake of ER technologies a. Process for maintaining ER standards b. Transhipment ER standards o WCPFC14 outcome o presentation and discussion	**WP02** **WP03**
11-11.30am	**Morning tea**	
11.30-12.30pm	2.3 Updates from CCMs on implementation of ERandEM technologies (Presentation by Fiji, USA, Chinese Taipei, Japan, FSM, Korea)	
12.30-1.30pm	**Lunch**	
1.30-3pm	2.4 Updates from Sub-regional Agencies a. SPC – outcomes from EM process standards workshop b. FFA Secretariat c. PNAO	**IP02** **IP01** **IP03**
3-3.30pm	**Afternoon tea**	
3.30 – 5pm	**AGENDA ITEM 3. EM CONCEPT PAPER - INTRODUCTION and DISCUSSION**Introduction by Chair to the concept paper a. Working group - general comments on approach 3.2 Discussion regarding Commission objective (and any subobjectives) for a Regional EM Programme 3.3 Discussion regarding terminology, roles and responsibilities 3.4 Discussion regarding scope and data needs a. Longline b. Purse Seine c. Transhipment d.Other?	**WP04** **IP04**

Tuesday 7th August 2018 (Day 2)

8.30 – 9.00am	**Recap from Day 1**	
9-10.30am	**AGENDA ITEM 3 contd. EM CONCEPT PAPER - DISCUSSION** 3.5 Discussion regarding required standards a. Technical standards – minimum standards relating to the camera system itself and the requisite harddrives and software. b. Logistical standards – minimum standards relating to the transfer of data from a fishing vessel to a reviewing centre c. Data analysis standards – minimum standards relating to converting video footage into data that is submitted to WCPFC d. Programme standards – minimum standards relating to management of a national programme.	
	3.6 Discussion regarding coverage rates vs analysis 3.7 Discussion regarding proposed accreditation process 3.8 Concept paper – wrap up – general thoughts on process going forward	
10.30 – 11am	**Morning tea**	
11-12.30pm	**AGENDA ITEM 4. OPPORTUNITIES AND CHALLENGES**Opportunities a. future state 4.2 Challenges a. training needs b. implementation plan – what would it look like? What would it include?	
12.30 -1.30pm	**Lunch**	
1.30-2.30pm	**AGENDA ITEM 5. GENERAL DISCUSSION AND NEXT STEPS** 5.1 General discussion and outcome a. Review progress against TOR, recommendations to WCPFC15 5.2 Report to SC14/TCC14/WCPFC15 5.3 Linkages to other IWGs and work of subsidiary bodies	**outcome**
2– 3.00pm	**AGENDA ITEM 6. OTHER MATTERS**	
	AGENDA ITEM 7. CLOSE	

DRAFT E-REPORTING STANDARDS FOR TRANSHIPMENT DECLARATIONS AND TRANSHIPMENT NOTICES

Western and Central Pacific Fisheries Commission (WCPFC)

DRAFT E-REPORTING STANDARDS FOR

TRANSHIPMENT DECLARATIONS AND TRANSHIPMENT NOTICES

13 July 2018

CURRENT VERSION:	*3.0*
DATE:	*13 July 2018*
STATUS:	*Draft – yet to be approved*

Version Number	*Date*	*Brief Description of Changes*
3.0	July 2018 – presented to ERandEMWG3	Introduction shortened to remove repetition of the information also contained in the covering note.
		Amended section 3.b, 4.b, 5.b & 6.b; so that the reporting CCM would be transmitted in the format of a CCM WCPFC alpha-2 two-letter Country Code.
		Amended section 3.b, 4.b, 5.b & 6.b; so that the time zone would be transmitted for transhipment dates.
		Amended section 7 to replace XLXS with FLUX.
		Amended Appendix 2: to include the reporting of time zones as hours offset from UTC time.
		Amended Appendix 3: removed "within convention area but not within an EEZ and not on the high seas", added "WCPFC/IATTC Overlap Area", removed all non-WCPFC RFMO areas, removed "other not listed above", added "outside the Convention Area".
		Amended Appendix 4: added "Filleted".
		Amended Appendix 5: removed "Other, not listed above", added "Outside tuna RFMOs", added "WCPFC/IATTC Overlap Area".
2.0	November 2017 – presented to WCPFC13	Amended section 3.b, 4.b & 5.b; so that the quantity of product transhipped would be transmitted as metric tonnes.
		Amended section 1 to remove the reference to the quantity of product to be transhipped being transmitted as kg.
		Amended the following sections to remove the requirement to transmit the vessel's VID and substitute a requirement to transmit the vessel's WIN: 1, 3a, 3b, 3c, 3d, 4a, 4b, 4c, 4d, 5a, 5b, 5c, 5d, 6a, 6b, 6c & 6d.
		Added the following sentence to section 1 – "Before the e-reporting of Transhipment Declarations and Transhipment Notices become mandatory, there should be a further opportunity for CCMs to provide feedback on these standards and for improvements to be made."
		Added the following sentence to section 1 – "These are standards for the transmission of data from vessels to the WCPFC Secretariat. They are not intended to define the format in which the Secretariat will store this data."
		Deleted para 4.d.5
1.0	September 2017 – presented to TCC13	The original draft standards presented to TCC13.

CONTENTS

1. INTRODUCTION

This document sets out the standards for the provision of Transhipment Declarations and Transhipment Notices to the WCPFC through the mechanism of electronic reporting (e-reporting). CMM2009-06 defines the requirements for CCMs to supply Transhipment Declarations and Transhipment Notices to the Executive Director; and documents the information to be included in these.

E-reporting has the potential to:

- Improve the quality of information received, because e-reporting makes it possible to do data quality checks at the source of the data
- Improve the timeliness of information availability, because there is no delay waiting for data entry
- Reduce costs for the Commission, by reducing the resources that the Commission must commit to data entry.

Standards are a critical element of any E-reporting infrastructure. For E-reporting to function efficiently, the data sent by the transmitting computer must be in the exact format that the receiving computer is expecting. Where this does not occur, human intervention will be required to re-format the data before it can be loaded.

Note that:

a) This document includes standards for (1) initially submitting a transhipment declaration or notice and (2) subsequently amending that declaration or notice and (3) cancelling a previous declaration or notice.

b) Generally, the fields of information specified in these standards are the same as those documented in Annex I and Annex III of CMM2009-06. However, some additional information is required to enable the efficient operation of e-reporting. These instances are clearly identified, and the rationale behind each is documented in the standards that follow. In most cases this additional information could be generated automatically by the sender's computer. These standards do not request any additional information of an operational nature.

c) One of the additional items of information requested is a contact email address for the submitter. Upon the receipt of a transhipment declaration or notice, the WCPFC would send a confirmation email to the contact email address provided. The reporting CCM is to be declared by the submitter.

d) Under these standards the collection of some operational data, as required by Annex I and Annex III of CMM2009-06, is waived in the case of information submitted via e-reporting. This is specifically the case where E-reporting offers the opportunity to collect equivalent information without double data entry. These proposals are clearly documented in the sections 3.d, 4.d and 6.d.

2. STANDARDS FOR THE E-REPORTING OF TRANSHIPMENT INFORMATION

a) Where a vessel, agent or CCM elects to use e-reporting to comply with paragraph 10 of CMM2009-06; the declaration for the offloading vessel must comply with the standards contained in sections 3.a, 3.b, 3.c and 7 of this document.

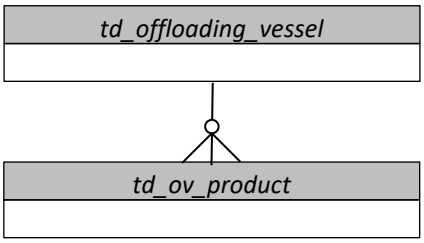
b) Where a vessel, agent or CCM elects to use e-reporting to comply with paragraph 10 of CMM2009-06; the declaration for the receiving vessel must comply with the standards contained in sections 4.a, 4.b, 4.c and 7 of this document.

c) Where a vessel, agent or CCM elects to use e-reporting to comply with paragraph 35 of CMM2009-06; the notice for the offloading vessel must comply with the standards contained in sections 5.a, 5.b, 5.c and 7 of this document.

d) Where a vessel, agent or CCM elects to use e-reporting to comply with paragraph 35 of CMM2009-06; the notice for the receiving vessel must comply with the standards contained in sections 6.a, 6.b, 6.c and 7 of this document.

3. OFFLOADING VESSEL TRANSHIPMENT DECLARATIONS

3.a Standards for the structure of new or amended e-reports



For each Offloading Vessel Transhipment Declaration, there must be:

- one *td_offloading_vessel* record
- one *td_ov_product* record for each combination of Species / Processed State / Fresh or Frozen / Location of Catch product that was transhipped. For example, the information shown below would be represented by five *td_ov_product* records.

Species	Processed State	Fresh or Frozen	Location of Catch	Quantity
ALB	*Gutted & Headed*	*Fresh*	*Cook Islands EEZ*	*1.250t*
ALB	*Gilled, Gutted & Tailed*	*Fresh*	*Cook Islands EEZ*	*0.525t*
ALB	*Gilled, Gutted & Tailed*	*Frozen*	*Cook Islands EEZ*	*4.829t*
ALB	*Gilled, Gutted & Tailed*	*Frozen*	*WCPFC High Seas*	*1.175t*
BET	*Gilled, Gutted & Tailed*	*Frozen*	*WCPFC High Seas*	*3.678t*

Any Offloading Vessel Transhipment Declaration must be able to be uniquely identified by concatenating:

- the vessel's WCPFC WIN number; and
- the date and time that the declaration was submitted.

The *td_ov_product* records for a single transhipment, must be able to be logically linked to the *td_offloading_vessel* record for the same transhipment, using the concatenated vessel's WIN number and declaration datetime.

3.b Standards for the records and fields to be provided

RECORD NAME: *td_offloading_vessel*

All of the fields listed below are required in each record. No field may contain missing or null values.

Information Required	Field Name	Field Format	Notes
The Offloading Vessel's WCPFC Identification Number (WIN)	*off_win*	VARCHAR(16) Example: *ABC1234*	Reference: CMM2009-06, annex 1, para 2. Validation: Must be a valid WIN, on the date of transhipment, in the WCPFC Record of Fishing Vessels.
The Offloading Vessel's Name	*off_vessel*	VARCHAR(64) Example: *Lucky Fisher III*	Reference: CMM2009-06, annex 1, para 2. Validation: Must be the vessel name which, in the WCPFC Record of Fishing Vessels, corresponds to the *off_win* provided.
The Receiving Vessel's WCPFC Identification Number (WIN)	*rec_win*	VARCHAR(16) Example: *DEF5678*	Reference: CMM2009-06, annex 1, para 3. Validation: Must be a valid WIN, on the date of transhipment, in the WCPFC Record of Fishing Vessels.
The Receiving Vessel's name	*rec_vessel*	VARCHAR(64) Example: *Super Hauler 2*	Reference: CMM2009-06, annex 1, para 3. Validation: Must be the vessel name which, in the WCPFC Record of Fishing Vessels, corresponds to the *rec_win* provided.
The fishing gear used to take the fish	*fishing_gear*	VARCHAR(16), Uppercase If more than one type of gear was used, then separate the list using dashes. Example: *LLS-LLD*	Reference: CMM2009-06, annex 1, para 4. Validation: Must be a valid fishing gear code as found in Appendix 1, or list of fishing gear codes separated by dashes.
The date on which the transhipment started	*trans_date*	VARCHAR(22) ISO8601, – UTC date or local datetime. See Appendix 2. Example: *2016-11-25Z* *2016-11-25T00:00+0700*	Reference: CMM2009-06, annex 1, para 9. Validation: Must be a date in the recent past. If a UTC date is used then this must include the "Z" suffix. If a local datetime is used then this must include the hours offset from UTC time as the suffix.
The location at which the transhipment started	*trans_loc*	VARCHAR(13), Uppercase Example: *WCPFC-HS*	Reference: CMM2009-06, annex 1, para 9. Validation: Must be a valid location code as found in Appendix 3.

The latitude at which the transhipment started	*trans_latitude*	CHAR(5) ISO6709, to the nearest 0.1 degree ±DD.D Example for Pohnpei Airport: *+07.0*	Reference: CMM2009-06, annex 1, para 9. Validation: Must be a valid latitude.
The longitude at which the transhipment started	*trans_longitude*	CHAR(6) ISO6709, to the nearest 0.1 degree ±DDD.D Example for Pohnpei Airport: *+158.2*	Reference: CMM2009-06, annex 1, para 9. Validation: (1) Must be a valid longitude and (2) Should, when considered along with the *trans_latitude*, represent a location that is at sea and within the *trans_loc*.
The name of the WCPFC observer	*obs_name*	VARCHAR(64)	Reference: CMM2009-06, annex 1, para 10. Validation: Must not be blank. Use "No Observer" where no observer was present.
Whether this is a new transhipment declaration, or an amendment to a previous transhipment declaration	*trans_id*	CHAR(16) Example: *New-Transhipment*	**NEW** - Rationale: Needed to allow already submitted transhipment declarations to be amended. Validation: In the case of new transhipment declarations, must be "New-Transhipment". In the case of amendments to a previous transhipment declaration, must be the Transhipment ID that the WCPFC sent to the contact email address when confirming receipt of the declaration.
The date and time that the declaration was submitted	*submit_time*	VARCHAR(22) ISO 8601 – Date and time without seconds. See Appendix 2. Example:*2016-11-25T14: 46+11:00*	**NEW** - Rationale: Needed (along with the *off_win* field) to allow *td_offloading_vessel* records and *td_ov_product* records to be correctly linked. Validation: Must be a recent earlier date/time, including the hours offset from UTC time. Note: Could be automatically generated by the submitters computer system at the moment that the declaration was sent.
The number of transhipped product records that are being submitted	*product_count*	INTEGER Example: *25* Must be 0 if no product was transhipped.	**NEW** - Rationale: Needed to ensure that product transhipped records have not been lost or duplicated in transmission. Note: Could be automatically generated by the submitters computer system at the moment that the declaration was sent.
The CCM responsible for reporting this transhipment	*reporting_ccm*	CHAR(2) Example: VU	**NEW** – A two letter code representing the CCM responsible for reporting the transhipment. Validation: Must be a valid CCM WCPFC alpha-2 two-letter Country Code.

A contact email address	*contact_email*	VARCHAR(50) Example: *a.fisher@gmail.com*	**NEW** - Rationale: An email address that WCPFC should use to (1) confirm receipt of this declaration and (2) contact if there are any problems with the quality / completeness of this declaration. Validation: Must be a valid email address.

RECORD NAME: td_ov_product

All of the fields listed below are required in each record. No field may contain missing or null values.

Information Required	Field Name	Field Format	Notes
The Offloading Vessel's WCPFC Identification Number (WIN)	*off_win*	VARCHAR(16) Example: *ABC1234*	**DUPLICATE** - Rationale: Needed (along with the *submit_time* field) to allow *td_offloading_vessel* records and *td_ov_product* records to be correctly linked. Validation: Must have a matching entry in the *td_offloading_vessel* record.
The date and time that the declaration was submitted	*submit_time*	VARCHAR(22) ISO 8601 – Date and time without seconds. See Appendix 2. Example: *2016-11-25T14:46+11:00*	**NEW & DUPLICATE** - Rationale: Needed (along with the *off_win* field) to allow *td_offloading_vessel* records and *td_ov_product* records to be correctly linked. Validation: Must have a matching entry in the *td_offloading_vessel* record.
The species that was transhipped	*species*	CHAR(3), Uppercase The three-letter FAO species code for the species. Example: *SKJ*	Reference: CMM2009-06, annex 1, para 5. Validation: Must be a valid three-letter FAO species code - www.fao.org/fishery/collection/asfis/en
The processed state of the transhipped fish	*processed_state*	CHAR(2), Uppercase Example: *WH*	Reference: CMM2009-06, annex 1, para 5. Validation: Must be a valid processed state code as found in Appendix 4.
Whether the transhipped fish was fresh or frozen	*fresh_frozen*	VARCHAR(6), containing the string "Fresh" or "Frozen"	Reference: CMM2009-06, annex 1, para 6.

The geographic location of the catch	*catch_loc*	VARCHAR(13), Uppercase Example: *WCPFC-HS*	Reference: CMM2009-06, annex 1, para 8. Validation: Must be a valid location code as found in Appendix 3.
The quantity of the product that was transhipped	*quantity_product*	FLOAT Example: *3.92*	Reference: CMM2009-06, annex 1, para 5. The weight of product transhipped, measured in metric tonnes.

3.c Standards for cancelling a previously submitted e-report

td_ov_cancel

It will be possible to use e-reporting to cancel a previously submitted Offloading Vessel Transhipment Declaration. For each Offloading Vessel Transhipment Declaration cancellation, there must be one *td_ov_cancel* record.

RECORD NAME: *td_ov_cancel*

All of the fields listed below are required in each record. No field may contain missing or null values.

Information Required	Field Name	Field Format	Notes
The Offloading Vessel's WCPFC Identification Number (WIN)	*off_win*	VARCHAR(16) Example: *ABC1234*	Reference: CMM2009-06, annex 1, para 2. Validation: Must be a valid WIN, on the date of transhipment, in the WCPFC Record of Fishing Vessels.
The WCPFC Transhipment ID for the Offloading Vessel Transhipment Declaration that is being cancelled	*trans_id*	CHAR(16) Example: *HPOU6685WDXZ2309*	Rationale: Needed to allow already submitted transhipment declarations to be amended. Validation: Must be a valid WCPFC Transhipment ID, for a transhipment declaration that had previously been made by the offloading vessel. Note: This ID will have been sent by the WCPFC to the contact email address when the Transhipment Declaration was first submitted.
A contact email address	*contact_email*	VARCHAR(50) Example: *a.fisher@gmail.com*	Rationale: An email address that WCPFC should use to (1) confirm receipt of this cancellation and (2) contact if there are any problems with the quality / completeness of this cancellation. Validation: Must be a valid email address.

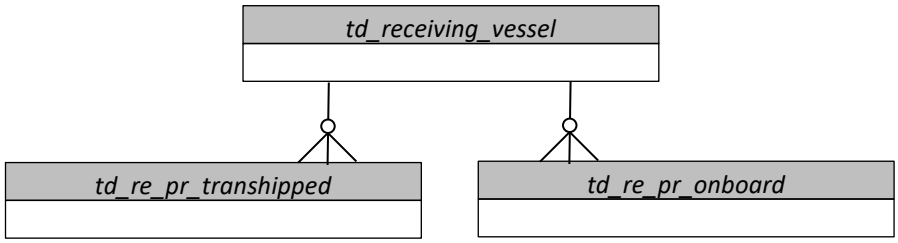
3.d Notes

For the e-reporting of Transhipment Declarations by Offloading Vessels:

- the requirement for the offloading vessel to supply a “Unique Document Identifier” (CMM2009-06, annex 1, para 1) would be waived.
- the requirement for the offloading vessel to supply the signature of a WCPFC observer (CMM2009-06, annex 1, para 10) would be waived.
- the requirement for the offloading vessel to supply the quantity of product already on board the receiving vessel (CMM2009-06, annex 1, para 11) would be waived. The receiving vessel would still be required to supply this information.

4. RECEIVING VESSEL TRANSHIPMENT DECLARATIONS

4.a Standards for the structure of new or amended e-reports



For each Receiving Vessel Transhipment Declaration, there must be:

- one *td_receiving_vessel* record
- one *td_re_pr_transhipped* record for each combination of Species / Processed State / Fresh or Frozen product that was transhipped. For example, the information shown below would be represented by four *td_re_pr_transhipped* records.

Species	Processed State	Fresh or Frozen	Quantity
ALB	*Gutted & Headed*	*Fresh*	*1.25t*
ALB	*Gilled, Gutted & Tailed*	*Fresh*	*0.525t*
ALB	*Gilled, Gutted & Tailed*	*Frozen*	*6.004t*
BET	*Gilled, Gutted & Tailed*	*Frozen*	*3.678t*

- one *td_re_pr_onboard* record for each combination of Species / RFMO Of Origin product that was on-board the receiving vessel before the transhipment started. For example, the information shown below would be represented by three *td_re_pr_onboard* records.

Species	RFMO	Quantity
ALB	*WCPFC*	*11.201t*
ALB	*IOTC*	*3.02t*
BET	*IOTC*	*3.678t*

Note on interpreting the CMM - CMM2009-06, annex 1, para 11 requires receiving vessels to report "the quantity of product already on board the receiving vessel", but is silent on whether the processed state of this product is required. This is open to two interpretations (1) the earlier definition of "product" contained in CMM2009-06, annex 1, para 5 applies or (2) no information on product state is required. In drafting this standard the second interpretation has been used, but this should be clarified before the standard is finalised.

Any Receiving Vessel Transhipment Declaration must be able to be uniquely identified by concatenating:

- the vessel's WCPFC WIN number; and
- the date and time that the declaration was submitted.

The *td_re_pr_transhipped* and *td_re_pr_onboard* records for a single transhipment, must be able to be logically linked to the *td_receiving_vessel* record for the same transhipment, using the concatenated receiving vessel's WIN number and declaration datetime.

4.b Standards for the records and fields to be provided

RECORD NAME: *td_receiving_vessel*

All of the fields listed below are required in each record. No field may contain missing or null values.

Information Required	Field Name	Field Format	Notes
The Offloading Vessel's WCPFC Identification Number (WIN)	*off_win*	VARCHAR(16) Example: *ABC1234*	Reference: CMM2009-06, annex 1, para 2. Validation: Must be a valid WIN, on the date of transhipment, in the WCPFC Record of Fishing Vessels.
The Offloading Vessel's Name	*off_vessel*	VARCHAR(64) Example: *Lucky Fisher III*	Reference: CMM2009-06, annex 1, para 2. Validation: Must be the vessel name which, in the WCPFC Record of Fishing Vessels, corresponds to the *off_win* provided.
The Receiving Vessel's WCPFC Identification Number (WIN)	*rec_win*	VARCHAR(16) Example: *DEF5678*	Reference: CMM2009-06, annex 1, para 3. Validation: Must be a valid WIN, on the date of transhipment, in the WCPFC Record of Fishing Vessels.
The Receiving Vessel's name	*rec_vessel*	VARCHAR(64) Example: *Super Hauler 2*	Reference: CMM2009-06, annex 1, para 3. Validation: Must be the vessel name which, in the WCPFC Record of Fishing Vessels, corresponds to the *rec_win* provided.
The date on which the transhipment started	*trans_date*	VARCHAR(22) ISO8601, – UTC date or local datetime. See Appendix 2. Example: *2016-11-25Z* *2016-11-25T00:00+0700*	Reference: CMM2009-06, annex 1, para 9. Validation: Must be a date in the recent past. If a UTC date is used then this must include the "Z" suffix. If a local datetime is used then this must include the hours offset from UTC time as the suffix.
The location at which the transhipment started	*trans_loc*	VARCHAR(13), Uppercase Example: *WCPFC-HS*	Reference: CMM2009-06, annex 1, para 9. Validation: Must be a valid location code as found in Appendix 3.
The latitude at which the transhipment started	*trans_latitude*	CHAR(5) ISO6709, to the nearest 0.1 degree ±DD.D Example for Pohnpei Airport: *+07.0*	Reference: CMM2009-06, annex 1, para 9. Validation: Must be a valid latitude.

The longitude at which the transhipment started	*trans_longitude*	CHAR(6) ISO6709, to the nearest 0.1 degree ±DDD.D Example for Pohnpei Airport: *+158.2*	Reference: CMM2009-06, annex 1, para 9. Validation: (1) Must be a valid longitude and (2) Should, when considered along with the *trans_latitude*, represent a location that is at sea and within the *trans_loc*.
The name of the WCPFC observer	*obs_name*	VARCHAR(64)	Reference: CMM2009-06, annex 1, para 10. Validation: Must not be blank. Use "No Observer" where no observer was present.
Whether this is a new transhipment declaration, or an amendment to a previous transhipment declaration	*trans_id*	CHAR(16) Example: *New-Transhipment*	**NEW** - Rationale: Needed to allow already submitted transhipment declarations to be amended. Validation: In the case of new transhipment declarations, must be "New-Transhipment". In the case of amendments to a previous transhipment declaration, must be the Transhipment ID that the WCPFC sent to the contact email address when confirming receipt of the declaration.
The date and time that the declaration was submitted	*submit_time*	VARCHAR(22) ISO 8601 – Date and time without seconds. See Appendix 2. Example: *2016-11-25T14:46*+11:00	**NEW** - Rationale: Needed (along with the *off_win*field) to allow *td_receiving_vessel*, *td_re_pr_transhipped* and *td_re_pr_onboard* records to be correctly linked. Validation: Must be a recent earlier date/time, including the hours offset from UTC time. Note: Could be automatically generated by the submitters computer system at the moment that the declaration was sent.
The number of transhipped product records that are being submitted	*product_count*	INTEGER Example: *25* Must be 0 if no product was transhipped.	**NEW** - Rationale: Needed to ensure that product transhipped records have not been lost or duplicated in transmission. Note: Could be automatically generated by the submitters computer system at the moment that the declaration was sent.
The number of product already on-board records that are being submitted	*onboard_count*	INTEGER Example: *49* Must be 0 if no product was on-board before the transhipment started.	**NEW** - Rationale: Needed to ensure that product already on-board records have not been lost or duplicated in transmission. Note: Could be automatically generated by the submitters computer system at the moment that the declaration was sent.
The CCM responsible for reporting this transhipment	*reporting_ccm*	CHAR(2) Example: VU	**NEW** – A two letter code representing the CCM responsible for reporting the transhipment. Validation: Must be a valid CCM WCPFC alpha-2 two-letter Country Code.

A contact email address	*contact_email*	VARCHAR(50) Example: *a.carrier@gmail.com*	**NEW** - Rationale: An email address that WCPFC should use to (1) confirm receipt of this declaration and (2) contact if there are any problems with the quality / completeness of this declaration. Validation: Must be a valid email address.

RECORD NAME: *td_re_pr_transhipped*

All of the fields listed below are required in each record. No field may be missing or null.

Information Required	**Field Name**	**Field Format**	**Notes**
The Receiving Vessel's WCPFC Identification Number (WIN)	*rec_win*	VARCHAR(16) Example: *DEF5678*	Reference: CMM2009-06, annex 1, para 3. Validation: Must be a valid WIN, on the date of transhipment, in the WCPFC Record of Fishing Vessels.
The date and time that the declaration was submitted	*submit_time*	VARCHAR(22) ISO 8601 – Date and time without seconds. See Appendix 2. Example: *2016-11-25T14:46*+11:00	**NEW & DUPLICATE** - Rationale: Needed (along with the *rec_win* field) to allow *td_receiving_vessel* records and *td_re_pr_transhipped* records to be correctly linked. Validation: Must have a matching entry in the *td_receiving_vessel* record.
The species that was transhipped	*species*	CHAR(3), Uppercase The three-letter FAO species code for the species. Example: *SKJ*	Reference: CMM2009-06, annex 1, para 5. Validation: Must be a valid three-letter FAO species code - www.fao.org/fishery/collection/asfis/en
The processed state of the transhipped fish	*processed_state*	CHAR(2), Uppercase Example: *WH*	Reference: CMM2009-06, annex 1, para 5. Validation: Must be a valid processed state code as found in Appendix 4.
Whether the transhipped fish was fresh or frozen	*fresh_frozen*	VARCHAR(6), containing the string "Fresh" or "Frozen"	Reference: CMM2009-06, annex 1, para 6.
The quantity of the product that was transhipped	*quantity_product*	FLOAT Example: *3.92*	Reference: CMM2009-06, annex 1, para 5. The weight of product transhipped, measured in metric tonnes.

RECORD NAME: *td_re_pr_onboard*

All of the fields listed below are required in each record. No field may be missing or null.

Information Required	Field Name	Field Format	Notes
The Receiving Vessel's WCPFC Identification Number (WIN)	*rec_win*	VARCHAR(16) Example: *DEF5678*	Reference: CMM2009-06, annex 1, para 3. Validation: Must be a valid WIN, on the date of transhipment, in the WCPFC Record of Fishing Vessels.
The date and time that the declaration was submitted	*submit_time*	VARCHAR(22) ISO 8601 – Date and time without seconds. See Appendix 2. Example: *2016-11-25T14:46*+11:00	**NEW & DUPLICATE** - Rationale: Needed (along with the *rec_win* field) to allow *td_receiving_vessel* records and *td_ov_product* records to be correctly linked. Validation: Must have a matching entry in the *td_receiving_vessel* record.
The species of the product that was on-board before the transhipment started	*species*	CHAR(3), Uppercase The three-letter FAO species code for the species. Example: *SKJ*	Reference: CMM2009-06, annex 1, para 11. Validation: Must be a valid three-letter FAO species code - www.fao.org/fishery/collection/asfis/en
The geographic origin (RFMO) of the product that was onboard before the transhipment started	*origin_loc*	VARCHAR(13), Uppercase Example: *WCPFC*	Reference: CMM2009-06, annex 1, para 11. Validation: Must be a valid RFMO Area code as found in Appendix 5.
The quantity of the product that was on-board before the transhipment started	*quantity_product*	FLOAT Example: *3.92*	Reference: CMM2009-06, annex 1, para 11. The weight of product on-board, measured in metric tonnes.

4.c Standards for cancelling a previously submitted e-report

td_re_cancel

It will be possible to use e-reporting to cancel a previously submitted Receiving Vessel Transhipment Declaration. For each Receiving Vessel Transhipment Declaration cancellation, there must be one *td_re_cancel* record.

RECORD NAME: *td_re_cancel*

All of the fields listed below are required in each record. No field may contain missing or null values.

Information Required	**Field Name**	**Field Format**	**Notes**
The Receiving Vessel's WCPFC Identification Number (WIN)	*rec_win*	VARCHAR(16) Example: *DEF5678*	Reference: CMM2009-06, annex 1, para 3. Validation: Must be a valid WIN, on the date of transhipment, in the WCPFC Record of Fishing Vessels.
The WCPFC Transhipment ID for the Receiving Vessel Transhipment Declaration that is being cancelled	*trans_id*	CHAR(16) Example: *FGYH7892ELPU3087*	Rationale: Needed to allow already submitted transhipment declarations to be amended. Validation: Must be a valid WCPFC Transhipment ID, for a transhipment declaration that had previously been made by the receiving vessel. Note: Will have been sent by the WCPFC to the contact email address when the Transhipment Declaration was first submitted.
A contact email address	*contact_email*	VARCHAR(50) Example: *a.carrier@gmail.com*	Rationale: An email address that WCPFC should use to (1) confirm receipt of this cancellation and (2) contact if there are any problems with the quality / completeness of this cancellation. Validation: Must be a valid email address.

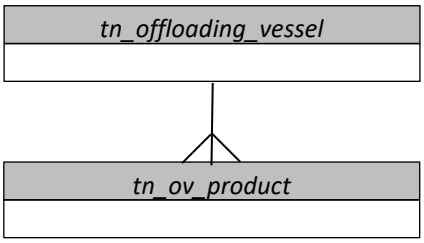
4.d Notes

For the e-reporting of Transhipment Declarations by Receiving Vessels:

1. the requirement for the receiving vessel to supply a “Unique Document Identifier” (CMM2009-06, annex 1, para 1) would be waived.
2. the requirement for the receiving vessel to supply the signature of a WCPFC observer (CMM2009-06, annex 1, para 10) would be waived.
3. the requirement for the receiving vessel to supply the fishing gear used to take the fish (CMM2009-06, annex 1, para 4) would be waived. The offloading vessel would still be required to supply this information.

5. OFFLOADING VESSEL TRANSHIPMENT NOTICES

5.a Standards for the structure of new or amended e-reports



For each Offloading Vessel Transhipment Notice, there must be:

- one *tn_offloading_vessel* record
- one *tn_ov_product* record for each combination of Species / Processed State / Fresh or Frozen / Location of Catch product that will be transhipped. For example, the information shown below would be represented by four *tn_ov_product* records.

Species	Processed State	Location of Catch	Quantity
ALB	*Gutted & Headed*	*Cook Islands EEZ*	*1.25t*
ALB	*Gilled, Gutted & Tailed*	*Cook Islands EEZ*	*4.829t*
ALB	*Gilled, Gutted & Tailed*	*WCPFC High Seas*	*1.175t*
BET	*Gilled, Gutted & Tailed*	*WCPFC High Seas*	*3.678t*

Any Offloading Vessel Transhipment Notice must be able to be uniquely identified by concatenating:

- the vessel's WCPFC WIN number; and
- the date and time that the notice was submitted.

The *tn_ov_product* records for a single transhipment must be able to be logically linked to the *tn_offloading_vessel* record for the same transhipment, using the concatenated offloading vessel's WIN number and date / time that the notice was submitted.

5.b Standards for the records and fields to be provided

RECORD NAME: *tn_offloading_vessel*

All of the fields listed below are required in each record. No field may contain missing or null values.

Information Required	Field Name	Field Format	Notes
The Offloading Vessel's WCPFC Identification Number (WIN)	*off_win*	VARCHAR(16) Example: *ABC1234*	Reference: CMM2009-06, annex 3, para 1. Validation: Must be a valid WIN, on the date of transhipment, in the WCPFC Record of Fishing Vessels.
The Offloading Vessel's Name	*off_vessel*	VARCHAR(64) Example: *Lucky Fisher III*	Reference: CMM2009-06, annex 3, para 1. Validation: Must be the vessel name which, in the WCPFC Record of Fishing Vessels, corresponds to the *off_win* provided.
The Receiving Vessel's WCPFC Identification Number (WIN)	*rec_win*	VARCHAR(16) Example: *DEF5678*	Reference: CMM2009-06, annex 3, para 2. Validation: Must be a valid WIN, on the date of transhipment, in the WCPFC Record of Fishing Vessels.
The Receiving Vessel's name	*rec_vessel*	VARCHAR(64) Example: *Super Hauler 2*	Reference: CMM2009-06, annex 3, para 2. Validation: Must be the vessel name which, in the WCPFC Record of Fishing Vessels, corresponds to the *rec_win* provided.
The date on which the transhipment is proposed to start	*prop_date*	VARCHAR(22) ISO8601, – UTC date or local datetime. See Appendix 2. Example: *2016-11-25Z* *2016-11-25T00:00+0700*	Reference: CMM2009-06, annex 1, para 9. Validation: Must be a date in the recent past. If a UTC date is used then this must include the "Z" suffix. If a local datetime is used then this must include the hours offset from UTC time as the suffix.
The location at which the transhipment is proposed to start	*prop_loc*	VARCHAR(13), Uppercase Example: *WCPFC-HS*	Reference: CMM2009-06, annex 3, para 5. Validation: Must be a valid location code as found in Appendix 3.
The latitude at which the transhipment is proposed to start	*prop_latitude*	CHAR(5) ISO6709, to the nearest 0.1 degree ±DD.D Example for Pohnpei Airport: *+07.0*	Reference: CMM2009-06, annex 3, para 5. Validation: Must be a valid latitude.

The longitude at which the transhipment is proposed to start	*prop_longitude*	CHAR(6) ISO6709, to the nearest 0.1 degree ±DDD.D Example for Pohnpei Airport: *+158.2*	Reference: CMM2009-06, annex 3, para 5. Validation: (1) Must be a valid longitude and (2) should, when considered along with the *prop_latitude*, represent a location that is at sea and within the *prop_loc*.
Whether this is a new transhipment notice, or an amendment to a previous transhipment declaration	*trans_id*	CHAR(16) Example: *New-Transhipment*	**NEW** - Rationale: Needed to allow already submitted transhipment declarations to be amended. Validation: In the case of new transhipment notices, must be "New-Transhipment". In the case of amendments to a previous transhipment notice, must be the Transhipment ID that the WCPFC sent to the contact email address when confirming receipt of the transhipment notice.
The date and time that the notice was submitted	*submit_time*	VARCHAR(22) ISO 8601 – Date and time without seconds. See Appendix 2. Example: *2016-11-25T14:46*+11:00	**NEW** - Rationale: Needed (along with the *off_win*field) to allow *tn_offloading_vessel* records and *tn_ov_product* records to be correctly linked. Validation: Must be a recent earlier date/time, including the hours offset from UTC time. Note: Could be automatically generated by the submitters computer system at the moment that the declaration was sent.
The number of transhipped product records that are being submitted	*product_count*	INTEGER Example: *25*	**NEW** - Rationale: Needed to ensure that product to be transhipped records have not been lost or duplicated in transmission. Note: Could be automatically generated by the submitters computer system at the moment that the declaration was sent.
The CCM responsible for reporting this transhipment	*reporting_ccm*	CHAR(2) Example: VU	**NEW** – A two letter code representing the CCM responsible for reporting the transhipment. Validation: Must be a valid CCM WCPFC alpha-2 two-letter Country Code.
A contact email address	*contact_email*	VARCHAR(50) Example: *a.fisher@gmail.com*	**NEW** - Rationale: An email address that WCPFC should use to (1) confirm receipt of this notice and (2) contact if there are any problems with the quality / completeness of this notice. Validation: Must be a valid email address.

RECORD NAME: *tn_ov_product*

All of the fields listed below are required in each record. No field may contain missing or null values.

Information Required	Field Name	Field Format	Notes
The Offloading Vessel's WCPFC Identification Number (WIN)	*off_win*	VARCHAR(16) Example: *ABC1234*	Reference: CMM2009-06, annex 3, para 1. Validation: Must be a valid WIN, on the date of transhipment, in the WCPFC Record of Fishing Vessels.
The date and time that the notice was submitted	*submit_time*	VARCHAR(22) ISO 8601 – Date and time without seconds. See Appendix 2. Example: *2016-11-25T14:46*+11:00	**NEW & DUPLICATE** - Rationale: Needed (along with the *off_win*field) to allow *td_offloading_vessel* records and *td_ov_product* records to be correctly linked. Validation: Must have a matching entry in the *td_offloading_vessel* record.
The species of the product that will be transhipped	*species*	CHAR(3), Uppercase The three-letter FAO species code for the species. Example: *SKJ*	Reference: CMM2009-06, annex 3, para 3. Validation: Must be a valid three-letter FAO species code - www.fao.org/fishery/collection/asfis/en
The processed state for the product that will be transhipped	*processed_state*	CHAR(2), Uppercase Example: *WH*	Reference: CMM2009-06, annex 3, para 3. Validation: Must be a valid processed state code as found in Appendix 4.
The geographic location of the catch	*catch_loc*	VARCHAR(13), Uppercase Example: *WCPFC-HS*	Reference: CMM2009-06, annex 3, para 6. Validation: Must be a valid location code as found in Appendix 3.
The quantity of the product that will be transhipped	*quantity_product*	FLOAT Example: *3.92*	Reference: CMM2009-06, annex 3, para 4. The weight of product to be transhipped, measured in metric tonnes.

5.c Standards for cancelling a previous e-report

tn_ov_cancel

It will be possible to use e-reporting to cancel a previously submitted Offloading Vessel Transhipment Notice. For each Offloading Vessel Transhipment Notice cancellation, there must be one *tn_ov_cancel* record.

RECORD NAME: *tn_ov_cancel* All of the fields listed below are required in each record. No field may contain missing or null values.			
Information Required	**Field Name**	**Field Format**	**Notes**
The Offloading Vessel's WCPFC Identification Number (WIN)	*off_win*	VARCHAR(16) Example: *ABC1234*	Reference: CMM2009-06, annex 3, para 1. Validation: Must be a valid WIN, on the date of transhipment, in the WCPFC Record of Fishing Vessels.
The WCPFC Transhipment ID for the Offloading Vessel Transhipment Notice that is being cancelled	*trans_id*	CHAR(16) Example: *FGYH7892ELPU3087*	Rationale: Needed to allow already submitted transhipment notices to be amended. Validation: Must be a valid WCPFC Transhipment ID, for a transhipment notice that had previously been made by the offloading vessel. Note: Will have been sent by the WCPFC to the contact email address when the Transhipment Notice was first submitted.
A contact email address	*contact_email*	VARCHAR(50) Example: *a.fisher@gmail.com*	Rationale: An email address that WCPFC should use to (1) confirm receipt of this cancellation and (2) contact if there are any problems with the quality / completeness of this cancellation. Validation: Must be a valid email address.

6. RECEIVING VESSEL TRANSHIPMENT NOTICES

6.a Standards for the structure of new or amended e-reports

tn_receiving_vessel

For each Receiving Vessel Transhipment Notice, there must be one *tn_receiving_vessel* record.

Any Receiving Vessel Transhipment Notice must be able to be uniquely identified by concatenating:

- the vessel's WCPFC WIN number; and
- the date and time that the notice was submitted.

6.b Standards for the records and fields to be provided

RECORD NAME: *tn_receiving_vessel*

All of the fields listed below are required in each record. No field may contain missing or null values.

Information Required	Field Name	Field Format	Notes
The Offloading Vessel's WCPFC Identification Number (WIN)	*off_win*	VARCHAR(16) Example: *ABC1234*	Reference: CMM2009-06, annex 3, para 1. Validation: Must be a valid WIN, on the date of transhipment, in the WCPFC Record of Fishing Vessels.
The Offloading Vessel's Name	*off_vessel*	VARCHAR(64) Example: *Lucky Fisher III*	Reference: CMM2009-06, annex 3, para 1. Validation: Must be the vessel name which, in the WCPFC Record of Fishing Vessels, corresponds to the *off_win* provided.
The Receiving Vessel's WCPFC Identification Number (WIN)	*rec_win*	VARCHAR(16) Example: *DEF5678*	Reference: CMM2009-06, annex 3, para 2. Validation: Must be a valid WIN, on the date of transhipment, in the WCPFC Record of Fishing Vessels.
The Receiving Vessel's name	*rec_vessel*	VARCHAR(64) Example: *Super Hauler 2*	Reference: CMM2009-06, annex 3, para 2. Validation: Must be the vessel name which, in the WCPFC Record of Fishing Vessels, corresponds to the *rec_win* provided.

The date on which the transhipment is proposed to start	*prop_date*	VARCHAR(22) ISO8601, – UTC date or local datetime. See Appendix 2. Example: *2016-11-25Z* *2016-11-25T00:00+0700*	Reference: CMM2009-06, annex 1, para 9. Validation: Must be a date in the recent past. If a UTC date is used then this must include the "Z" suffix. If a local datetime is used then this must include the hours offset from UTC time as the suffix.
The location at which the transhipment is proposed to start	*prop_loc*	VARCHAR(13), Uppercase Example: *WCPFC-HS*	Reference: CMM2009-06, annex 3, para 5. Validation: Must be a valid location code as found in Appendix 3.
The latitude at which the transhipment is proposed to start	*prop_latitude*	CHAR(5) ISO6709, to the nearest 0.1 degree ±DD.D Example for Pohnpei Airport: *+07.0*	Reference: CMM2009-06, annex 3, para 5. Validation: Must be a valid latitude.
The longitude at which the transhipment is proposed to start	*prop_longitude*	CHAR(6) ISO6709, to the nearest 0.1 degree ±DDD.D Example for Pohnpei Airport: *+158.2*	Reference: CMM2009-06, annex 3, para 5. Validation: (1) Must be a valid longitude and (2) Should, when considered along with the *prop_latitude*, represent a location that is at sea and within the *prop_loc*.
Whether this is a new transhipment notice, or an amendment to a previous transhipment notice	*trans_id*	CHAR(16) Example: *New-Transhipment*	**NEW** - Rationale: Needed to allow already submitted transhipment notices to be amended. Validation: In the case of new transhipment notices, must be "New-Transhipment". In the case of amendments to a previous transhipment notice, must be the Transhipment ID that the WCPFC sent to the contact email address when confirming receipt of the notice.
The date and time that the notice was submitted	*submit_time*	VARCHAR(22) ISO 8601 – Date and time without seconds. See Appendix 2. Example: *2016-11-25T14:46+11:00*	**NEW** - Rationale: Needed to ensure consistency with the standards documented in sections 3.b, 4.b, and 5.b. Validation: Must be a recent earlier date/time including the hours offset from UTC time. Note: Could be automatically generated by the submitters computer system at the moment that the declaration was sent.

The CCM responsible for reporting this transhipment	*reporting_ccm*	CHAR(2) Example: VU	**NEW** – A two letter code representing the CCM responsible for reporting the transhipment. Validation: Must be a valid CCM WCPFC alpha-2 two-letter Country Code.
A contact email address	*contact_email*	VARCHAR(50) Example: *a.carrier@gmail.com*	**NEW** - Rationale: An email address that WCPFC should use to (1) confirm receipt of this notice and (2) contact if there are any problems with the quality / completeness of this notice. Validation: Must be a valid email address.

6.c Standards for cancelling a previous e-report

tn_re_cancel

It will be possible to use e-reporting to cancel a previously submitted Receiving Vessel Transhipment Notice. For each Receiving Vessel Transhipment Notice cancellation, there must be one *tn_re_cancel* record.

RECORD NAME: *tn_re_cancel*

All of the fields listed below are required in each record. No field may contain missing or null values.

Information Required	Field Name	Field Format	Notes
The Receiving Vessel's WCPFC Identification Number (WIN)	*rec_win*	VARCHAR(16) Example: *DEF5678*	Reference: CMM2009-06, annex 3, para 2. Validation: Must be a valid WIN, on the date of transhipment, in the WCPFC Record of Fishing Vessels.
The WCPFC Transhipment ID for the Receiving Vessel Transhipment Notice that is being cancelled	*trans_id*	CHAR(16) Example: *FGYH7892ELPU3087*	Rationale: Needed to allow already submitted transhipment notices to be amended. Validation: Must be a valid WCPFC Transhipment ID, for a transhipment notice that had previously been made by the receiving vessel. Note: Will have been sent by the WCPFC to the contact email address when the Transhipment Notice was first submitted.
A contact email address	*contact_email*	VARCHAR(50) Example: *a.carrier@gmail.com*	Rationale: An email address that WCPFC should use to (1) confirm receipt of this cancellation and (2) contact if there are any problems with the quality / completeness of this cancellation. Validation: Must be a valid email address.

6.d Notes

For the e-reporting of Transhipment Notices by receiving vessels:

- the requirement for the receiving vessel to supply information on the product to be transhipped (CMM2009-06, annex 3, para 3) would be waived. The offloading vessel would still be required to supply this information.

7. STANDARDS FOR THE TRANSMISSION OF TRANSHIPMENT E-REPORTS

Initially, JSON will be the format for data transmission. Subsequently, XML and FLUX will be added as formats for data transmission. Vessels, agents or CCMs wishing to e-report Transhipment Declarations and Transhipment Notices can choose which of these three formats they use.

Transmission Format Chosen	**Standards**
XML	1. There must be one XML Document for each Transhipment Declaration or Transhipment Notice being sent. 2. Within each XML Document, there must be one root element named "WCPFC_Transhipment". 3. Nested within the root element, for each record being transmitted there must be one 1st level element. These 1st level elements must have the appropriate Record Name, as defined in sections 3, 4, 5 and 6. 4. Nested within each 1st level element, for each field being transmitted there must be one 2nd level element. These 2nd level elements must have the appropriate Field Name, as defined in sections 3, 4, 5 and 6. 5. Each 2nd level element must contain text appropriate to its Field Name, and fulfilling the standards documented in sections 3, 4, 5 and 6.
JSON	6. There must be one JSON File for each Transhipment Declaration or Transhipment Notice being sent. 7. Within each JSON File, there must be one root object with the key "WCPFC_Transhipment". 8. The value of WCPFC_Transhipment must be a series of 1st level objects, one for each record being transmitted. 9. The keys for these 1st level objects must be the appropriate Record Names, as defined in sections 3, 4, 5 and 6. 10. The values of these 1st level objects must be a series of 2nd level objects, one for each field being transmitted. 11. The keys for these 2nd level objects must be the appropriate Field Names, as defined in sections 3, 4, 5 and 6. 12. Each 2nd level object must contain a value appropriate to its Field Name, and fulfilling the standards documented in sections 3, 4, 5 and 6.
FLUX	Details to be determined in 2019.

APPENDICES

APPENDIX 1 – TRANSHIPMENT FISHING GEAR CODES

Fishing Gear	Code
With purse lines (purse seine)	PS
- one boat operated purse seines	PS1
- two boat operated purse seines	PS2
Without purse lines (lampara)	LA
Beach seines	SB
Boat or vessel seines	SV
- Danish seines	SDN
- Scottish seines	SSC
- Pair seines	SPR
Seine nets (not specified)	SX
Portable lift nets	LNP
Boat-operated lift nets	LNB
Shore-operated stationary lift nets	LNS
Lift nets (not specified)	LN
Set gillnets (anchored)	GNS
Driftnets	GND
Encircling gillnets	GNC
Fixed gillnets (on stakes)	GNF
Trammel nets	GTR
Combined gillnets-trammel nets	GTN
Gillnets and entangling nets (not specified)	GEN
Gillnets (not specified)	GN
Handlines and pole-lines (hand operated)	LHP

Handlines and pole-lines (mechanized)	LHM
Set longlines	LLS
Drifting longlines	LLD
Longlines (not specified)	LL
Trolling lines	LTL
Hooks and lines (not specified)	LX
Harpoons	HAR
Miscellaneous gear	MIS
Recreational fishing gear	RG

Notes:

- these are the same gear codes contained in Attachment 6 of CMM2014-03 (Standards, Specifications and Procedures for the Western and Central Pacific Fisheries Commission Record of Fishing Vessels).
- the Commission may update its Transhipment Fishing Gear Codes at any time. When this occurs, the most recent Transhipment Fishing Gear Codes that have been approved by the Commission must be used.

APPENDIX 2 – DATE/TIME FORMAT

DATE and DATE/TIME fields must adhere to the ISO8601 standard formats listed in the table below.

For fields requiring	Use the format	Example
Date (UTC)	[YYYY]-[MM]-[DD] Z	2016-06-23Z
Date/time (UTC)	[YYYY]-[MM]-[DD]T[HH]:[MM]Z	2016-06-23T20:32Z
Date/time (Local)	[YYYY]-[MM]-[DD]T[HH]:[MM]±[HH]:[MM]	2016-06-23T20:32+11:00 (Note, this example illustrates a datetime in the Pohnpei time zone)

APPENDIX 3 – TRANSHIPMENT LOCATION CODES

Location	Code
EEZ of American Samoa	EEZ-ASM
EEZ of Australia	EEZ-AUS
EEZ of Commonwealth of the Northern Mariana Islands	EEZ-MNP
EEZ of Cook Islands	EEZ-COK
EEZ of Federated States of Micronesia	EEZ-FSM
EEZ of Fiji	EEZ-FJI
EEZ of French Polynesia	EEZ-PYF
EEZ of Guam	EEZ-GUM
EEZ of Indonesia	EEZ-IDN
EEZ of Japan	EEZ-JPN
EEZ of Kiribati	EEZ-KIR
EEZ of Nauru	EEZ-NRU
EEZ of New Caledonia	EEZ-NCL
EEZ of New Zealand	EEZ-NZL
EEZ of Niue	EEZ-NIU
EEZ of Palau	EEZ-PLW
EEZ of Papua New Guinea	EEZ-PNG
EEZ of Philippines	EEZ-PHL
EEZ of Republic of Marshall Islands	EEZ-MHL
EEZ of Samoa	EEZ-WSM
EEZ of Solomon Islands	EEZ-SLB
EEZ of Tokelau	EEZ-TKL
EEZ of Tonga	EEZ-TON
EEZ of Tuvalu	EEZ-TUV

EEZ of United States of America	EEZ-USA
EEZ of Vanuatu	EEZ-VUT
EEZ of Wallis and Futuna	EEZ-WLF
WCPFC Convention Area on the High Seas	WCPFC-HS
WCPFC/IATTC Overlap Area	Overlap
Outside the Convention Area	Outside WCPFC

Note

- these are the same locations listed in the footnotes to CMM2009-06, Annex I and Annex III; although the codes have been developed for this standard.
- the Commission may update its Transhipment Location Codes at any time. When this occurs, the most recent Transhipment Location Codes that have been approved by the Commission must be used.

APPENDIX 4 – TRANSHIPMENT PROCESSED STATE CODES

Processed State	Code
Whole	WH
Gutted and Headed	GH
Gutted, Headed and Tailed	GT
Gutted Only, not Gilled	GO
Gilled and Gutted	LG
Gilled, Gutted and Tailed	LT
Shark Fins	SF
Filleted	FL
Other, not listed above	OT

Note that the Commission may update its Transhipment Processed State Codes at any time. When this occurs, the most recent Transhipment Processed State Codes that have been approved by the Commission must be used.

APPENDIX 5 – TRANSHIPMENT RFMO AREA CODES

Location	Code
Within the WCPFC Convention Area	WCPFC
WCPFC/IATTC Overlap Area	Overlap
Within the IOTC Agreement Area	IOTC
Within the IATTC Convention Area	IATTC
Within the ICCAT Convention Area	ICCAT
Outside Tuna RFMOs	Outside TRFMO

Note that the Commission may update its Transhipment RFMO Area Codes at any time. When this occurs, the most recent Transhipment RFMO Area Codes that have been approved by the Commission must be used.

---END---

Attachment 5

Outcomes from Small Working Group discussions on E-Monitoring Concept Paper

Annex A draft Minimum Standards for Electronic Monitoring Programmes (EM Programmes)

The meeting broke into four small working groups to discuss the draft standards:

- Technical standards – led by Netani Tavaga from Fiji
- Logistical standards – led by Wataru Tanoue from Japan
- Data analysis standards – led by Tim Emery from Australia
- Programme standards – led by Keith Bigelow from United States of America

The questions each group were asked to consider were:

- *Are the four sets of standards sufficient?*
- *Does the standard provide sufficient detail regarding what is expected?*
- *Does the standard provide the Commission with assurances that the data collected can be considered accurate, timely and reliable?*

a. Technical standards – minimum standards relating to the camera system itself and the requisite hard drives and software.

The main points from the small working group discussions were:

- The standard is broad but sufficient and allows for more detail.
- Providers are to adhere to these standards in terms of what the system is to produce.
- Number of cameras plus locations is important and it is important to be able to analyse the footage with respect to the standards.
- More detail in the view of fishing activity and the data needed.
- What is the minimum number of cameras for the E-Monitoring setup, that is, a sufficient number as trials are still being conducted?
- Different systems have a different meaning for sufficient and this includes the issue of durability. More trials need to be made and so a decision cannot be made right now.
- These will need to be addressed in the type of fisheries involved.
- There needs to be better definition of what the technical standards ought to cover as in the scope.
- The E-Monitoring technical issues must cover all activities, and this must include discards and by-catch by species identification.
- Protocols for at sea camera cleaning standards must be addressed in addition to the rebooting of the systems.
- With respect to 2.4, operational requirements must be provided to by the service provider rather than a constantly updating. It must lead back to the operational requirements and standards.
- Must have a clearer presentation for the term sufficient storage and more-so what happens if its breaks down/disc degradation at sea over a longer trip. This leads back to the issue of the nature of the fishery and the duration of the fishing trips.
- Use of the term indicators instead of sensor so as not to be limiting.

b. Logistical standards – minimum standards relating to the transfer of data from a fishing vessel to a reviewing centre

The Logistical standards that is minimum standard relating to the transfer of data from a fishing vessel to a review center was discussed. After fruitful discussion and information sharing, participants summarized their discussion as follows; (1) the data needs and timing/frequency of data submission is the key to the logistic standard; (2) different arrangement is necessary for E-Monitoring in EEZ and E-Monitoring in high seas; (3) data verification and securing chain of custody are essential; and (5) on-line submission is not feasible as of now and exchanging device is the only feasible way.

c. Data analysis standards – minimum standards relating to converting video footage into data that is submitted to WCPFC

The main points from the group discussions were:

- **A.4.2** - in terms of E-Monitoring analyst training we discussed the opportunity for E-Monitoring here to improve identification of SSI species as well as other species difficult for at-sea observers to identify. In terms of E-Monitoring analyst training we also acknowledged that E-Monitoring analysts would need to be trained in other issues such as identifying compliance issues.
- **A.4.3** - we discussed the issue of selecting what trips to review and the need for a consistent protocol for reviewing trips and sets, we discussed the three Rs, making sure it was representative, random and risk-based – not necessarily in that order. We discussed the importance of having quality control protocols for E-Monitoring analyst review especially given the potential for many service providers in the region - you want them to have the same data quality controls.
  Under this point we also discussed if there should be text in the standard around timeliness of analysis by the E-Monitoring analyst, whether there should be priorities for gear types (longline vessels, longline carriers) or high-risk vessels in terms of review.
- **A.4.4** it was suggested that this was more a programme standard. We acknowledged that it was important to ensure that the data generated is of sufficient quality to respond to incidents of non-compliance but this is more concerned with what you're doing with the data after you receive it.
  Along similar lines for **A.4.1** we identified that the text discussing *supplementary programmes (port sampling and crew cooperation)* should be removed from this section. We acknowledged that this was important but this could be determined in line with a review of your data needs, which is part of the holistic approach that has been proposed by FFA.

d. Programme standards – minimum standards relating to management of a national programme.

The main points discussed in the small working group were:

- On A.1.1, the ROP Coordinator briefed the breakout group on ROP check list, making sure minimum data standards are met, observer training, data fields. ROP is audited every 3-4 years. There are 23 programs, 5 per year. Training schedules. Member audits are announced at TCC during the previous year. Cost implications for final ROP audit is $15,000 per year. If standards are not met, members have 90 days to correct the issue. Time may be delayed by member national laws.
- Audits for ROP and E-Monitoring audit could ideally be conducted at the same time.

- Privacy – Add confidentiality into A.1.2.
- There are national confidentiality rules and well-defined WCPFC confidentiality rules, so we don't think that A.1.2 is a large issue.
- Data retention schedules for E-Monitoring 'data monitoring record' (video) should be left up to the national programs. For example, retention could be ~3-5 yrs to allow compliance issues to be vetted.
- A.1.3. replace 'vessel crew' with 'vessel operator'
- Pre-departure checks would be difficult if a member's fleet is spread out over multiple ports.
- Such procedures 'will' could be changed to 'could'
- 'imposition of sanctions for malicious or deliberate tampering of equipment'. – seems rather strong at this point, should be left to National Programs to impose sanctions through National regulatory and enforcement programs.