

**OMNIBUS INFRASTRUCTURE DEVELOPMENT PROJECT
FEDERATED STATES OF MICRONESIA
(ADB LOAN 2099/2100-FSM)**



QUARTERLY PROGRESS REPORT

***FIRST QUARTER
(2015 - 2016)***

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Prepared By

Department of Transportation, Communication & Infrastructure



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1.0 INTRODUCTION

Project Description

The Project includes (i) wastewater system improvements (Pohnpei), (ii) power rehabilitation (Chuuk), (iii) water supply system upgrading (Kosrae), (iv) water supply development and rehabilitation (Yap), (v) sanitation improvement program, and (vi) project implementation assistance. *Original* planned outputs for each state were as follows:

Pohnpei: (i) installation of new sewers (various purposes – 9,700 feet [ft]); (ii) rehabilitation of the existing sewer network including lift stations; (iii) expansion of the sewerage system to Sokehs district (450 connections); (iv) design, construction and operation of a thirdary wastewater treatment plant (WWTP), with a capacity of 1.2 million gallons per day, and constructed wetlands for tertiary treatment (about 2.5 acres); and (v) an inflow and infiltration study.

Chuuk: (i) design, construction, and operation of a replacement power generation station for Weno Island (7 megawatts), with modularized diesel engine generator units; (ii) power distribution upgrades, including 1,260 prepayment meters; (iii) decommissioning and environmental remediation of the existing power station; and (iv) institutional strengthening utilizing external private sector support for operation, maintenance, and management functions.

Kosrae: rehabilitation and upgrades to three water supply systems: Mutunte, Utwe, and Walung. System improvements for all include (i) rehabilitation of transmission pipelines; (ii) construction of treatment plants including sedimentation tank, slow sand filtration clearwater storage reservoir, and chlorination; (iii) provision of pumping facilities; and (iv) rehabilitation of the distribution network. A new intake and transmission line will be provided for Walung, while those of Utwe and Mutunte will be rehabilitated.

Yap: (i) provision of treated piped water supply to Maap and Maakiy comprising (a) connection to existing Gagil-Tomil system reservoir at Doeweelil, (b) connection to an existing system for the villages of Palaaw, Qamin, Wachalaeb, Choqol, and Waalooy to Gagil-Tomil system, and provision of a new distribution system for the villages of Bechyal, Tooruw and Wanead and connecting these to the Gagil-Tomil system; (c) transmission pipelines and storage reservoirs; a storage reservoir located north of Qamin for emergency supply to Rumung (a separate island); and (d) service connections and meters for all households; (ii) rehabilitation of the existing Gagil-Tomil system; and (iii) installation of a 6 inch production well in Maap to provide water security.

Objective

The overall objective of the Project is to enhance public health and the environment through assistance to improve water supply infrastructure in Kosrae and Yap, and wastewater infrastructure in Pohnpei; and to support economic growth and poverty reduction in Chuuk through improvements to the electrical power sector. The project objectives include (i) improved public health through enhanced quality of and access to potable water in Kosrae and Yap; (ii) enhanced public health, environmental quality, and surface and groundwater quality through provision of wastewater management and infrastructure in Pohnpei; and (iii) poverty reduction, support for economic growth and environmental improvements through power generation and distribution improvements, and power station environmental remediation in Chuuk. The Project also advances private sector development by providing improved infrastructure and an enhanced business environment.

Cost Estimates

The total project cost is estimated at \$30.2 million equivalent, including foreign exchange of \$24.1 million (about 80% of the total) and local currency of \$6.2 million (about 20%). Cost estimates cover (i) land, (ii) physical works (civil works, equipment and materials), (iii) consulting services, (iv) contingencies, (v) financial charges, and (vi) taxes and duties estimated at \$2.5 million.

Financing Plan (\$ million)	Foreign Exchange	Local Currency	Total Cost
Source			
Asian Development Bank (ADF)	14.2		14.2
Asian Development Bank (OCR)	4.8		4.8
Government	5.1	6.2	11.3
Total	24.1	6.2	30.2

The Project Implementation Assistance (PIA) Consultants started work on the Omnibus Infrastructure Development Project (OIDP) on February 15, 2008.

2.0 SUMMARY OF PROGRESS IN SUB-PROJECTS

Project progress has been limited primarily due to delays in resolving key issues required for implementation of project components in Kosrae and Yap. Physical progress in terms of commitments at the end of 1st Quarter 15-16 is estimated at 98.8% against an overall elapsed Loan period of 95.7%. This compares with 98.3% physical progress against the elapsed Loan period of 93.43% at the end of 4th Quarter 14-15. *The elapsed loan period is based on the ADB project approval date of 05 November 2004 and the revised project closing date of 30 June 2016.*

2.1 Yap State

Phase I

The contract titled “Improvement and Expansion of Gagil-Tomil Water Supply System including the development of wells in Tomil and Maap Areas” was planned to start in mid March 2010 with following time targets. The construction period was 15 months.

- Completion of the well development work (by 31.7.2010)
- Completion of the installation of well pumps (30.9.2010)
- Completion of the whole work (by 30.6.2011)

However, due to several issues there was a delay in signing the agreements. The contract was signed with the GPPC Inc of Saipan in April 2010. The first meeting with the Contractor and the other stakeholders was held in Yap in end April 2010. The project finally started on ground in early June 2010. The PIA hydro-geologist (Dr A. Subramanian) started working in Yap in mid June 2010. The project plan was to complete the well development work within three and half months. Considering the start up delay the completion date for well development was reset to end October 2010. The main aim of this plan was to obtain the data on performance of Maap Wells for the Phase II planning, design and preparation of tender documents so that Phase II to be

started around February 2011. However, contractor completely failed to achieve the targets set for well development and work is still continuing.

In mid September 2010 PIA Consultant's Resident Engineer (Mr. Shivam Bharat Naidu) started his work in Yap. In mid November 2010 PIA Water Supply Engineer (Mr. Sanath Fernando) also arrived in Yap and he stayed for one month. The main aim of Mr. Fernando's visit was to expedite the work. As of end February drilling work of wells was fully completed and well development work was in progress. In addition the work in construction of storage reservoirs and pipe laying were also in progress.

The Department of Transport Communication and Infrastructure (DTC&I) act as the project implementation agency under the MOU signed between the Yap State Government and the DTC&I. Accordingly the Assistant Secretary of DTC&I (Mr. Phillip Joseph) acts as the Project Manager and "Engineer" for this project. The project administration arrangements were discussed in detail in the Project Inception Meeting in April. The PM has issued three Circulars since then (Circular I, II and III) setting, explaining and clarifying the project administration rules and procedure. As per the agreed upon project administration arrangement Project Coordinating Committee (PCC) was established under the Chairmanship of Chief of the (C&EM) of the Department of Public Works and Transport (DPW&T) [Mr. James Sarmog] of the Yap State Government. The PCC met every fortnight with the participation of all stakeholders.

However, the project implementation process started to face difficulties from the inception. This was mainly due to complicated project administration process as many parties are involved in the supervision (i.e. DPW&T, GTWA, DTC&I and PIA Consultants). State agencies also had concerns about quality and project outcome. The difference between parties started to affect the progress of the project. To resolve these issues and to remove the impediments towards rapid progress of work, the PM and the Team Leader of the PIA Consultants visited Yap in mid February 2011. They had series of meetings with key stakeholders on one to one basis as well as one meeting with the participation of all stakeholders. Accordingly the contract administration procedure was clarified and new arrangements were established. The new rules were issued to all parties by the PM through Circular No IV. It came into effect from 23rd March 2011.

In early October 2011, the PM, ADB and PIA consultant met and agreed on Change Order No.2 that required deletion of work due to non-performance on the BOQ that amounted to \$400k plus. The CO also covered the additional works by GPPC such as additional concrete tank footing requirement and other related works. The change order also aimed to cover existing field conditions in Gagil Area.

In October 2011, the WS Engineer visited Yap and stayed on for the commissioning of the Phase 1 and also to complete the design phase of Phase 2. However the project was not yet commissioned due to the delay in arrival of the pumps and MCCB (molded case circuit breaker). Liquidated Damages (LD) was discussed and formulated and formalized by the PM to be imposed to the contractor. It was expected from the developments that substantial completion of the project including the commissioning of the pumps and the MCC would take effect by January 2012. The project was delayed due to the initial actual performances of the pumps in Tomil Well Field, not complying with the approved design parameters. A transmittal from the PM to GPPC was formulated through the recommendation from ICT to perform another test by lowering the pumps Nos. 1, 2 & 4 by at least 50 ft level mark. This was carried out in the 2nd week of March. DTC&I Engineer visited Yap to supervise the pump tests.

The Sectional Completion Certificate (SCC) for pumps Nos. 1, 2, and 4 in Tomil Well Field was issued to GPPC on March 18, 2012. Several Conditions were attached following the SCC, including the ongoing joint operation process of the system by GTWA and GPPC and other requirements as stipulated in the document.

The CO No.4 was discussed and negotiated in July '12 by the team designated by the PM, There was disagreement on the issue but DTC&I put up the final position on the matter. A formal letter regarding the matter was issued by DTC&I to GPPC.

A meeting was held with GPPC, GTWA, OPB, Yap, DPW&T, Yap, DTC&I and ICT on October 08 and 09, 2012 at Yap, to resolve all pending issues with a view to close the Contract. This was achieved and a conditional Substantial Completion Certificate with October 09, 2012 as the agreed Substantial Completion date was signed by GPPC, DTC&I and GTWA.

GPPC also signed a Promissory Note with a commitment to return the overpayment amount of USD 225,454.23 and furnish a Bank Guarantee USD 124,118.08, equivalent to 5% of the revised Contract Value of USD \$ 2,482,361.54, after taking into account all four Change Orders.

Subsequently, GPPC have refunded the entire USD 225,454.23 in three installments. The Bank Guarantee is yet to be submitted by them.

Defect Liability Period has commenced on October 09, 2012 and Contractor, under supervision of GTWA, are complying with the contractual requirements including supply of spares. A meeting was held at Yap on May 05, 2013 between DTC&I, GTWA, ICT and GPPC to resolve the issue of supply of balance spares. GPPC have finally complied and the Contract has been effectively closed with the issue of Change Order no. 4.

The completed Phase I comprise:

- (a) rehabilitation of the water supply wells at the Gagil-Tomil Wellfield including replacement of the pumps and pump controls
- (b) installation of a chlorination system
- (c) construction of a new 50,000 gallon storage reservoir
- (d) rehabilitation of the existing 100,000 gallon reservoir
- (e) construction of approximately 35,800 feet to replace dilapidated and under-sized water supply mains and to expand the water supply to 2 villages in Tomil, and
- (f) provision of maintenance equipment and materials

During ADB Mission's visit to Yap from April 28 to 30, 2013, discussions with several residents serviced by the Gagil-Tomil water supply indicate that quality of the water supply service has significantly improved, particularly water pressure.

On September 30, 2013, GPPC submitted documents for closure of contract for review and comments. The documents were reviewed and final figures arrived at by DTC&I. These were communicated to GPPC, and their acceptance of the final Contract value of \$ 2,432,779.98 was communicated to DTC&I through email on October 17, 2013. A Change Order (no. 4) was issued establishing the final contract price and signed by GPPC, Yap State and GTWA on January 23, 2014 to close the Contract.

Defect Liability Period (DLP) for civil works ended on October 08, 2013. DLP for pumps and piping works expired on October 08, 2014.

Phase II

The detailed design for the Phase II works was completed and the bid documents were submitted to ADB for their review on April 19, 2013. The bids comprise two works packages. Package 1 will develop the core water supply infrastructure required to supply water in Maap including:

- (i) development of two water supply wells in Maap including the provision of pumps, pump controls, pump control building, and electricity supply
- (ii) construction of a new 50,000 gallon reservoir
- (iii) installation of chlorination facilities and construction of a single storey building to house the chlorination equipment
- (iv) rehabilitation of the 2 existing 20,000 gallon tanks located at Wachalab and the existing 8,000 gallon tank at Chool and
- (v) construction of approximately 23,700 feet of water supply transmission mains.

Package 2 will provide approximately 24,300 feet of water supply distribution mains and connections to approximately 160 households.

The Bid documents were completed and Invitation to Bid was posted on ADB and FSM websites on June 10, 2013. A pre-bid meeting was held in the office of the CEO, PW&T, Yap State on June 24, 2013.

It was decided that additives (Package 2) would be considered for taking into the Contract either with entire bills or with some selected bills depending upon the availability of funds and discretion of the client. All bidders did fill the rates for all BOQ items including bills under the additives.

Bids were submitted and opened on August 09, 2013. Five bids were received. The bidders were: GPPC Inc., Saipan, Construction Equipment Hire (Lautoka) Limited, Fiji, Orion Construction Corporation, Guam, Surangel and Sons Construction, Palau and WAAB Construction Company, Yap. A sixth bidder, Farmex Technologies, France sent their bid through DHL which DHL did not deliver due to non-receipt of courier charges.

The cost estimate for the Phase II works is approximately \$3.96 million. Presently, the approved financing (“approved funds”) for OIDP activities in Yap (including the Phase I and Phase II works) amounts to \$5,285,652.86 comprising

- (a) 1,978,000 Special Drawing Rights (SDR), equivalent to \$3,065,652.86 at the SDR-\$ exchange rate quoted by ADB on 27 April 2013, from Loan 2099-FSM(SF), and
- (b) \$2,200,000.00 from a Compact Infrastructure grant (CIG) approved by the Office of Insular Affairs of the United States Department of Interior approved in May 2009 for counterpart (“matching”) funding of OIDP activities in Yap.

During a meeting at Governor’s office on October 11, 2012, the Governor had informed that authorization may be required by the FSM Congress and will be required by the Yap State Legislature to increase the amount of the ADF loan allocated to Yap.

Subsequently, in a letter dt. December 10, 2012, Governor had expressed his apprehension about the sustainability of the GTWA water Project, and their capability to meet the repayment schedule, which would commence in January 2013. Secretary responded through his letter dt. December 28, 2012, addressing all the issues raised by Governor, enclosing the tariff analysis for the Projects and with a request to review and revert on further action.

ADB along with DTC&I and ICT visited Yap on April 28, 2013 to consult with all stakeholders on appropriate actions to address the shortfall in funding for the Phase II works.

The following in-principle agreements were made during discussions between GTWA, Yap State Government, DTC&I, ICT and ADB:

- (i) bidding for the Package 1 works would proceed as soon as possible subject to confirmation by GTWA and the Yap State Government following further discussion among the project beneficiaries;
- (ii) GTWA, DTC&I, and the project implementation consultants would explore opportunities to maximize the number of customer connections under Package 1. This might require some minor re-scoping of the Package 1 and Package 2 works; and
- (iii) ADB would explore opportunities for grants to assist finance the Package 2 works. ADB mentioned that the period required to secure and approve grants could be up to 6 months.

An MOU to this effect was signed between Yap State, DTC&I, GTWA and ADB on April 30, 2013. A separate MOU was drawn up on the implementation and financial status of the Omnibus Projects in all four States and was signed by DTC&I and ADB.

The bids were evaluated by the Bid Evaluation Committee comprising representatives from GTWA and DPWT, Yap, PMU, ICT and TC&I. The committee was chaired by Asst. Secretary, TC&I. The Bid Evaluation Report (BER) was sent to ADB for comments on August 17, 2013, comments received on August 19, 2013, and final BER was sent to ADB for approval on September 04, 2013. GPPC were found to be the lowest bidder with a bid of \$ 3.03 million, 23.7% lower than the Engineer's Estimate.

Since the available financing for the project was \$ 2,533,147.14, it was necessary to review the scope of work enlisted in Package 2 (Additives) to identify areas that could be omitted at present, but could be executed as funds became available through grants.

Choice of additives was based on integration of existing systems of Chool and Waloy along with Wachalaeb as the new wells would affect the source of these systems. Wanead, Torow and Bechyal were the most populous together with Coastal Talangith. Inclusion of the Plaw & Wurilee distribution would maximize the needed connections.

After adjusting for the reduced scope, GPPC's bid amount would be \$ 2,523,197.00. Approval of the BER was received from ADB on November 20, 2013. Letter of Acceptance was issued on November 28, 2013. The intended start date would now be January 13, 2014, and a pre-construction meeting would take place prior to commencement.

Contract was signed with GPPC on December 06, 2013 at Guam and was forwarded to DOJ and DOF, FSM for approval and legal sufficiency on December 10, 2013. The pre-construction meeting with GPPC took place in the office of DPWT, Yap on January 23, 2014. On ground work started on February 17, 2014.

Rehabilitation and Resettlement Consultant visited Yap on October 26, 2013 for discussions with all stakeholders on safeguard issues. On his return, he submitted his preliminary Report on November 15, 2013. The final Report was submitted in February 2014.

\$30,000 has been allocated to cover overtime and fuel expenses incurred by DPWT / GTWA personnel for working for the Project after hours, weekends or holidays. The reimbursements will be made from Imprest Account.

102.66% pipes have been laid (see **Annexure 1A**). Project has been substantially completed.

Change Order No. 1, reducing the Contract Price by \$63,085.00, was issued on November 15, 2014 after it was signed by GPPC. Contractor had requested a two month time extension. During the 32nd meeting held on May 26, 2015, also attended by DTC&I, it was established that the final reduction would amount to \$76,564.10. Change Order no. 2 for a further reduction of \$ 17,335.36 was initiated earlier and is circulated

for approval. Final Inspection was carried out on September 28, 2015 and the system was commissioned on September 30, 2015. Contractor has initiated a Change Order no. 3 with an approved time overrun of 187 days which has not been accepted by DTC&I. Revised CO#3 will be initiated by DTC&I with proper substantiation.

Training and Orientation was conducted September 30 and October 1, 2015. Joint Operations were conducted from October 02 to 06, 2015, and samples for WQA were taken by Laboratory Technician on October 3, 2015. Reports were submitted on October 24, 2015.

Coordination meeting for handing over was held on November 12, 2015 and Substantial Completion Certificate (SCC) was issued on the same day. The SCC is however does not comply with the contract and MOU requirements and will have to be reissued. Letter has been written by DTC&I to DP&T, Yap State to take action ASAP. One year DLP for Civil works and two year DLP for pumps and piping commenced on November 04, 2015.

Major activities that took place on the Project during the first quarter 15-16 are enlisted in **Annexure 1**. The details of commitments and fund availability as on December 31, 2015 are given in **Annexure 1B**.

2.2 Chuuk State

The contract titled “Electrical Power Rehabilitation at Chuuk- Design, Supply, Installation and Operation of 7mw Diesel- Fired Power Station at Weno Island” first opened for bidding in October 2009. However, only one bid was received which was 4 million US dollars above the engineer’s estimate of USD 12 million. It also did not comply with the bid requirements. Therefore it was cancelled and the bid was re-advertised with a longer bidding period.

In the third round of bidding in February 2010 two parties tendered for the work. The engineer’s estimated was revised to USD 14.5 million. Both bids had to be rejected due to non compliance with bid requirement and exceeding the available budget significantly. The tender evaluation committee recommended canceling the bids and calling for fresh bids. Engineer’s estimate was a major point of concern and it was considered as too low. The PIA consultants agreed to revamp the engineers estimate completely before the next bidding. Another uncertainty was the foundations at the proposed site for the power house, which was a reclaimed land on the water (sea) front. PIA consultants estimated that a detailed foundation study would cost around USD 200,000.00. Funding provisions for the studies in the PIA consultancy was not sufficient for this purpose. Considering this it was agreed to carry out only a preliminary geotechnical study at the design stage. After several failed attempts, Guam based EMC Engineering was hired to carry out the preliminary study. They submitted their report in mid February 2011. The detailed geotechnical investigation will be carried out by the design-built contractor. The PIA consultants prepared revised estimates for the power station for USD 18 million.

Also wider international publicity was given to the third round of bidding through the involvement of the PIA consultants. Four parties submitted the bids. All bids were found to be substantially responsive to the bidding requirements. The bid submitted by the SUHWA/DKME of Korea was selected as the lowest responsive bid. However, due to severe power shortages in Chuuk due to the failure of existing generating sets, it was decided to procure two 1.0 MW high speed generator sets immediately. Thus the two slow speed 1.0 MW generator sets were eliminated from the main contract. The two high speed generators which would be purchased on emergency basis would be integrated with the main system once it was built. The US based Hawthorn Inc. was selected as the supplier for the two containerized generators. This contract had been awarded end February 2011 and waiting for the arrival of the containerized gensets after 26 weeks from the signing of the contract.

The main contract is still not awarded due to lack of budgetary provisions. However, the Chuuk Government has agreed to approve further USD 4.0 million for the project and the papers regarding this are supposed to be signed shortly. Once this is in place the main contract will be awarded. The value of the main contract is USD 13.8 million (without the two 1.0 MW generators).

A new development is emerging that CPUC and the Chuuk State Government is gearing towards the refurbishment of the existing power plant site to address the budget constraint however the decision to do that is not yet final and DTC&I have not heard on any development towards that issue. As of the meantime, DTC&I requested the bidders for the project to extend their bid security up to October 2011.

A trip by DTC&I in September 2011 confirmed the commitment of CPUC on establishing the rehabilitation of the power plant on its existing location. There was also a discussion for utilizing eminent domain to the leased area location. CPUC CEO would be requesting the PIA/ICT consultant in the preparation of the technical reassessment report on the use of the existing power plant site despite its current leased problem and environmental soil contamination problem.

Two 1.15 MW medium-speed containerized generators, financed through ODP, were delivered in early January 2012 and were commissioned in February 2012. The reliability and availability of electricity on Weno has improved substantially. The monthly average of electricity generated for fiscal year (FY) 2012 was 779,766 kW/h compared is 21% higher than the monthly average for fiscal year 2011 (641,784 kWh). During the third half of 2012, electricity generation has averages at 868,451 kWh per month (35% higher than the FY 2011 monthly average). The total number and duration of planned and forced power outages decreased from 786 No. and 2,600 hours in FY 2011 to 332 No. and 510 hours in FY 2012. However, electricity losses, currently estimated at 28.5% in September 2012 and primarily due to losses in the distribution network, remain high CPUC's financial situation has also significantly improved. CPUC's net operating income (excluding grant support) for FY 2012 was \$119,935 compared with a loss of \$634,616 for FY 2011.

The performance of CPUC has shown a considerable improvement. Significant milestones reached over the past 24 months include restoration of 24/7 electricity, water supply, and sewerage services on Weno Island and the creation of a financially solvent power and water utility in Chuuk. The strengthening of CPUC can be primarily attributed to strong leadership and guidance provided by the CPUC Board and to improved management lead by the Chief Executive Officer, Chief Financial Officer, and the Water Operations Manager. Infrastructure investments provided through the Capitalization, Recovery and Institutional Strengthening Program funded by the United States and ODP have also contributed to CPUC's improved performance.

CPUC has prepared a program to upgrade Weno's electricity distribution network to be financed by the ODP loans. Implementation of the Weno's electricity distribution network upgrading program, financed by the ODP loans, is proceeding well. A joint ADB/DTCI mission to Chuuk was carried out from October 31, 2013 to November 06, 2013 to conduct a detailed review of ODP activities in Chuuk.

Up to the end of December 2014. 96% supply contracts have been awarded. Based on the updated implementation schedule prepared by ADB, upgrading of Weno electricity distribution network is expected to be completed in April 2015

CPUC have received confirmation that Compact Sector Grant funds can be used for the purchase of fiber optic cable – this frees up US\$250,000 for additional distribution work – CPUC are requesting that a portion of funds are used to directly hire Mr. Harry Speicher (given his track record and knowledge of CPU line crews) for a period of 9 months. Mr. Speicher has joined in April 2014.

Rehabilitation and Resettlement Consultant visited Chuuk in the first week of November, 2013 for discussions with all stakeholders on safeguard issues. Report was submitted by Consultant in February 2014.

Underground section of cable 4,200 feet long from the corner of the airport car park to Kurassa corner at the northern end of the runway was laid. The system was successfully energized on 23rd June, '14. 20% work which remained for Feeder 4 was completed in October 2014. The road construction by GPPC remains a constraint.

On 29th March Chuuk State was hit by Typhoon Maysak. Severe damage was encountered across the State. In Weno the power distribution system was badly affected, however the poles installed to date under the ADB OIDP project all withstood the typhoon and as a result power service to key facilities was quickly resumed.

Work on Feeder 5 scheduled for April was put on hold in the aftermath of Typhoon Maysak that hit Chuuk on 29th March. Replacement of power lines damaged by Typhoon Maysak is underway utilizing inventory purchased with ADB loan funds – this material will be replaced using USAID funding and inventory replaced to allow the rebuilding of Tonoas distribution as originally planned.

Pole construction for the balance of Feeder 5 was completed in August. This completes the scope of pole construction for the project. Line stringing and cut over of the balance of Feeder 5 was completed in September 2015. The original scope of the project is now complete.

To utilize unused Compact Grant funds, construction of Chuuk Power Plant was added to the scope of Omnibus Project. Bidding process has been completed and the contract is expected to be awarded by the end of January.

The status of progress at the end of the first quarter 15-16 is given in **Annexure 2**. The details of commitments and fund availability as on December 31, 2015 are given in **Annexure 2A**.

2.3 Pohnpei State

The work in Rehabilitation of Kolonia Sewerage System in Pohnpei consists of four contracts. These are:

- (a) Inflow and Infiltration Study of the Kolonia Sewerage System
- (b) Refurbishment and Augmentation of the Kolonia Sewerage Treatment Plant and Sewage Lift Stations on a Design, Supply, and Install Basis
- (c) Reconstruction of Pohnpei Sewerage Treated Effluent Disposal System together with Lagoon Outfall on Design and Build Basis
- (d) Rehabilitation of Pohnpei Sewerage Reticulation System

The Inflow and Infiltration study commenced in March 2010. The contract was awarded to Hawaii based US Consultancy Company Lyons and Associates Inc. The contract sum was USD 464,000.00. The study was completed in September 2010. The work included proposal for network rehabilitation plan. The capacity assessment was originally included in the study but this could not be completed as the PUC failed to complete the invert survey on time as agreed. Thus this was carried out simultaneously with the network rehabilitation contract by the PIA consultants. The PUC had requested external support to complete the survey as their Engineering Manager had left the organization. The recontract completed all the activities under the scope except for fresh CCTV survey. However, they have reexamined the CCTV work done about 10 years ago. The contract is closed as an agreement on the final payment amount has been reached.

Bids for (a) Refurbishment and Augmentation of the Kolonia Sewerage Treatment Plant and Sewage Lift Stations and (b) Reconstruction of Pohnpei Sewerage Treated Effluent Disposal System together with Lagoon

Outfall were called in April 2010. The bids were closed in August 2010. Two parties submitted their bids. They are CCB Envico of Australia and GPPC Inc of Saipan. The bid submitted by the Australian Firm CCE Envico was accepted for the contract “Refurbishment and Augmentation of the Kolonia Sewerage Treatment Plant and Sewage Lift Stations”. The total contract price was 5.7 million which was slightly less than the Engineer’s Estimate. The same companies submitted bids for the outfall contract. However, both bids were rejected due to non compliance with bidding requirements and significant difference in price compared to the Engineer’s Estimate. It was decided to rebid the outfall contract. The engineer’s estimate was revised to USD 1.46 million for the rebidding. The ADB approval is expecting for the rebidding.

The bidding for Rehabilitation of Pohnpei Sewerage Reticulation System was opened in October 2010. Only one bid was received from Orion Construction Company Guam (OCCG). The bid was 27% more than the Engineer’s Estimate. The bid was otherwise compliant with the bidding requirements. The Bid Evaluation Committee has approved the award of the contract to OCCG. The approval from the ADB for the award of the contract is being awaited. Award and NTP had been issued to OCCG.

OCCG started mobilization at the project site in September 2011. At the preconstruction meeting that was attended by DTC&I, PUC and the contractor (OCCG), OCCG presented the work schedule based on road locations (street work phase).

CCB Envico started mobilizing at the project site after receiving the NTP.

Consultants obtained the approval for the site engineer for Pohnpei sub-project and the RE arrived in Pohnpei to oversee the Construction Management of the project for Pohnpei ODP.

Inception meeting was held between appropriate parties on the two (2) projects.

OCCG

The rehabilitation of the Kolonia sewerage network is now complete with the exception of further additional works identified during DLP checks. A change order for the additional works, as well as a number of project-related tasks completed by the Contractor but not included in the works contract, has been issued. The Certificate of Practical Completions, effective 15 November 2012, has been prepared and forwarded to PUC for signatures of Contractor and GM, PUC, but this has not happened till the end of September 2013. The additional works (CO #4) were expected to be completed by June 06, 2013. This date could not be met because of interruptions in mainly Bernard LS, due to periodic electrical system failure (CCB’s responsibility). These have since been completed.

The Defects Liability Period has been confirmed, as per contract, as given below:

Defects Liability Period as per GCC 33.1 and PCC will commence on:

i) for all work as per contract and including Change Orders 1, 2 and 3:

July 15, 2012 for 35 out of 44 locations and

September 15, 2012 for the balance 9 locations

ii) For work specified in Section C of CO #4: June 06, 2013

Additional works were identified and a Change Order, number 5, was initiated. The total Contract Price however remained unchanged. A Change Order, number 6, was issued on September 28, 2013 to accommodate some urgent additional work. A revised Change Order #7 was issued on February 07, 2014 for further additional work. Further investigation work has been identified and CO #8 has been issued. Work has been carried out in October 2014 and final inspection took place on November 07, 2014. Defect Liability

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Periods would have to be reassessed based on the Change Orders. The present Contract Price, taking into account all variations, is \$ 1.435 million.

PUC had identified another area requiring rectification, and a new Change Order #9 was finalized and fully executed on July 21, 2015. A meeting with Orion to discuss the Action Plan was held at PUC on August 19, 2015, where Orion confirmed that all material had been shipped and was expected on island by month end. Meeting was held again on September 30, 2015 to discuss progress of work.

Work pertaining to Change Order no. 9 has been completed in October, 2015. A further Change Order (no. 10) is in process for further I&I work identified by PUC.

CCB ENVICO

Commissioning checks of the upgraded Kolonia sewage treatment plant (STP) and rehabilitated sewage pump stations in the Kolonia sewerage network was completed on February 28, 2014 and a Completion Certificate was issued. Operation and Maintenance commenced after CCB completed the Functional Guarantee tests. This was to be completed within sixty days from the date of the Completion Certificate, i.e., April 30, 2014. There has already been a delay of more than sixteen months from the originally scheduled date, due to delays in completing design, civil work, supplying the tanks, conducting bearing capacity tests, and procuring and installing transformers required for equipment installed under the contract. The contract includes a provision for the operational management of the STP for a period of 12 month after PUC issues an Operational Acceptance certificate following completion of the Functional Guarantee tests. A variation order to rehabilitate the existing STP outfall was issued on July 30, 2013 (C.O. #3). The Report on Outfall is attached as **Annexure 3C** (Outfall Performance Report), submitted by CCB as RFI 064 dt. August 21, 2013.

Details of Variations suggested by CCB, recommended by ICT and approved by PUC are shown in **Annexure 3B**. Certificates of Analysis of samples carried out in September 2014, January and April 2015 are annexed (**Annexure 3E, 3F and 3G**).

The percentage progress of the various components and overall progress at the end of first quarter 15-16 is tabulated below. Percentage progress indicated does not include Variations.

Sl. No.	Description	% Progress	
		End of 4 th Qr. 14-15	End of 1 st Qr. 15-16
1	Plant and Mandatory Spare Parts Supplied from Abroad	100	100
2	Plant and Mandatory Spare Parts Supplied from Within the Employers Country	0	0
3	Design Services	100	100
4	Installation and Other Services	100	100
5	Civil Works	100	100
6	Supply of O & M Equipment and Vehicles for the PUC	100	100
Total		100	100

The plate load test to confirm the bearing capacity was finally conducted on June 06, 2013, six months after the plant was to be commissioned. All major installations on the ground have been completed including replacement of the main sewer line. Pre-commissioning of Train 1 commenced on May 16, 2013, initially using generators and subsequently using transformer supplied and installed by PUC. The main transformers arrived at site in the third week of October 2013 and have been installed.

Laboratory Equipment were delivered in July 2013. Following completion of pre-commissioning activities, Completion Certificate was issued on February 28, 2014. Functional Guarantee Tests were completed on July 07, 2014 and PUC issued the Acceptance Certificate on successful completion of the tests. O&M commenced w.e.f July 08, 2014. Details of the tests carried out in May 2014 are shown in **Annexure 3D**.

CCB should have completed the Functional Guarantee Tests by March 31, 2014. They completed this activity on July 07, 2014, with a delay of over three months. Loan Agreement ends on June 30, 2014, and settlement of accounts will be jeopardized, for which the responsibility lies solely with CCB.

Resettlement and Rehabilitation Consultant met with OUC officials for discussions on safeguard on December 02, 2013. The meeting was followed by a visit to all the project locations for assessment of the land easement issues. The Consultant submitted his report during February, 2014.

In accordance with PUC's requirement of revamping the Dekehtik Pump Station, CCB submitted a Variation Quotation and a Change Order was issued in May 2014. On receipt of approval from DOFA/DOJ, Notice to Proceed was issued on July 15, 2014. Work on the Pump Station commenced in the last week of August 2014. Concreting work was at a standstill in the first quarter, and so was the fabrication of formwork because of lack of availability of bending machine. However, pipe laying commenced on Nov 06, 2014 and completed in December, 2014. Civil work has now been completed along with E&M installation and testing of the pipe line. The Pumping Station was commissioned on May 22, 2015, and Completion Certificate signed on June 09, 2015. Refurbishment of existing clarifier was completed, inspected and accepted on July 07, 2015.

In line with PUC's requirement for an additional two years O&M, Change Order #12 has been executed. The extended O&M period commenced on August 07, 2015.

Major activities that took place on both the Projects during the first quarter 15-16 are enlisted in **Annexure 3**. The details of commitments and fund availability as on December 31, 2015 are given in **Annexure 3A**.

2.4 Kosrae State

The bid document for contract titled "IMPROVEMENTS TO UTWE & MUTANTE WATER SUPPLY SYSTEMS IN KOSRAE" has been completed. However, tendering process has not been started as the Kosrae Government is yet to comply with the conditions in the loan agreement i.e. transfer of water assets to the Kosrae Utilities Authority (KUA).

The PIA Team Leader had discussions with the Assistant Secretary Mr. Phillip Joseph on this matter. The transfer of water assets to KUA being doubtful, it was unlikely that the Kosrae component of the OIDP would be implemented as planned. Mr. Joseph had agreed to communicate with the Kosrae Government by April 2011 to obtain final decision on this matter. Quick resolution of this matter was important as the OIDP funds available to Kosrae could be reallocated to other Sates (Yap and Chuuk), if the Kosrae water supply project was not implemented.

The previous government of Kosrae had also informed the DTC&I and PIA Consultants in early 2010 that they might opt out of the Omnibus Project due to financial difficulties. However, the state government agreed to meet the cost of the design and obtain the design and the tender documents so that they could look for other funding (grants) to implement the project. Nevertheless they later agreed to continue with the project and confirmed the same in writing. In case of closure of the Kosrae Water Supply sub-project, a similar arrangement could be considered for calculating the Kosrae share of the OIDP. DTC&I were expected to visit Kosrae to confirm their participation in the Omnibus project and comply with the transfer requirement of the water authority from Municipal to KUA.

Recent trip to Kosrae by DTC&I confirmed that the Government do not intend to continue the ODP in Mutante and Walung water supply development areas. However they wished to continue the project in Utwe in addition to Malem.

An approval had been sought on the additional water development area and decision from the ADB revealed that the Malem project could be considered in the ODP program. Technical reassessment on the viability of the project needed to be taken into consideration by ICT WS Engineer and submitted to DTC&I and ADB for information and approval.

The WS Engineer visited Kosrae State on November 2011 and assessed the Malem water supply system and provided a preliminary technical report to DTC&I and submitted to ADB for final approval. As per ADB, The Malem project will be part of Kosrae ODP, subject to loan conditions.

The Bidding document and Specific Notice for Procurement (SPN) for Utwe water supply project had been prepared and was to be advertised, awaiting the signed MOU/TFA for the Utwe portion of the project. However ADB's intent for the design of water development projects for both Utwe and Malem was to incorporate the third filtration system, i.e., inclusion of SSF (slow sand filter) with all accessories to deliver a complete water supply system.

In July 2012, the team visited Kosrae State again to finalize Malem and Utwe design for presentation to KUA, Government of Kosrae, Municipal Mayors of Utwe and Malem for their understanding, information and approval of the upgraded water system. KUA wanted to see the plan and the probable cost of the project before they could initiate and sign the required MOU as per ADB's requirement.

DTC&I and ICT made a presentation of the projects (Malem and Utwe) on July 17, 2012 to the stakeholders regarding the scope of works, probable cost and the program schedule to process the project. Several inquiries were noted in the meeting, among which the following were to be taken cognizance of urgently:

- Inquiry about the original ADB ADF fund of \$ 3.2 M for the original scope of work for Kosrae ODP (Mutante, Utwe and Walung). Adding the CIG counterpart funding of \$ 0.55 M, the total project cost was \$ 3.75M. Based on the revised updated scope that covers only Malem and Utwe with the incorporation of the required SSF as per ADB requirement, the cost was \$ 3.2 M (including the CIG fund of \$ 0.55M). The stakeholders were inquiring on the status of the of the original ADF fund (\$3.2M) plus CIG fund that could cover the cost of the new project.
- Inquiry whether the start up operation process of KUA in managing the upgraded water system could be incorporated in the project amount.

ADB responded to the inquiries posted by Kosrae Stae Government, KUA and stakeholders, informing that the available funds for Kosrae ODP was only \$2.1M (combination of \$1.6M ADF plus \$0.55M CIG fund). The balance funds required to cover the cost of the project could be solicited from ADB from unallocated ADF funds through requisition from the government to ADB. The matter was being discussed by Kosrae State Government for their decision to proceed with these projects by priorities or in totality.

Utwe and Malem municipalities expressed willingness to participate in the project and had agreed in principle to transfer the ownership of municipal water supply assets to the State Government. As per ADB's figures presented in April 2013, the estimated cost to rehabilitate the Utwe and Mutante water supply systems would exceed the available funds for project activities in Kosrae by approximately \$1.04 million. Approved ODP funds for activities in Kosrae total about \$2.17 million and comprise SDR 1.054 million (\$1.62 million

equivalent) from the ADB ADF loan and a \$0.55 million Compact infrastructure grant for approved for ODP counterpart funding in Kosrae.

The Tripartite Financing Agreement between the Government of FSM and the State of Kosrae, and the Kosrae Utilities Authority states that the FSM Government will re-lend SDR 2.183 million (approximately \$3.38 million equivalent) of the ADF loan funds to Kosrae. During the Mission's visit to Pohnpei in January 2013, they informed the Government that the loan amount indicated in the Tripartite Agreement is inconsistent with the amount ADF loan agreement and may have been caused by an error in ADB's *Report and Recommendations of the President on two proposed loans and a technical assistance grant to the Federated States of Micronesia for the Omnibus Infrastructure Development Project* (RRP) which indicates an ADF allocation for ODP components in Kosrae of \$3.2 million. The Mission also informed the Government that in the event of inconsistencies between the ADF loan agreement and RRP, the ADF loan agreement prevails. The shortfall in available funds for ODP activities in Kosrae may mean that only one water supply system in Kosrae could be upgraded through ODP.

It has now transpired that the figures projected earlier (as above) by ADB were erroneous and ADB have revised the figures to indicate the value of funds available for Kosrae as \$ 3.591 million, including Compact Grants of \$ 550,000.

On January 28, 2013, an ADB Mission along with representatives of DTC&I met with representatives of the Kosrae Executive (including the Governor and Lieutenant Governor); members of the Kosrae Legislature, officials from the Kosrae State Government, Board members and the General Manager of the Kosrae Utilities Authority (KUA), the Mayor of Utwe and the acting Mayor of Malem. The Mission participated in a roundtable meeting with key project stakeholders to discuss issues impeding the implementation of ODP activities in Kosrae and agree on remedial actions.

Recent cost estimates to rehabilitate the Utwe and Mutante water supply systems indicate that funds approved for project activities in Kosrae may not be sufficient to cover the cost of the proposed works. The Mission informed the roundtable meeting that grants could be available through ADB to finance the rehabilitation of the Malem water supply and possibly other water supplies in Kosrae. The Kosrae State Government requested the Mission to defer investigating opportunities for grant financing to rehabilitate the Malem water supply system until community consultations in Malem are complete.

Subsequently, in Malem, community consultations were carried out to confirm community willingness to participate in ODP and agreement to transfer water supply assets owned and operated by Malem Municipality to the State. ***However, in February 2015, ADB confirmed that grants would not be made available for Malem Water Supply as decided by their Management.***

KUA, the agency responsible for operations and maintenance of state-owned water supply systems had expressed concern regarding the costs associated with operations water supplies transferred from municipalities to the State in terms of asset conditions, recovery of operations and maintenance costs, and loan servicing costs. Revenue generated by KUA operated water supplies was unlikely to cover the operations and maintenance costs during the initial years following the assumption of responsibilities for operation and maintenance of State owned water supplies. ADB informed the roundtable meeting in January '13 that non-recurrent costs such as operators (if employed through contracts), materials, training, and maintenance vehicles could be financed by ADF loan immediately. ADB and DTC&I would assist KUA with the recruitment and procurement as required. ADB also stated that they were willing to explore opportunities for grant financing to fund such costs but noted that the period required to secure and approve grants could be up to 18 months.

Utwé Municipality, Kosrae State Government, and Kosrae Utility Authority have signed a memorandum of understanding (MOU) agreeing to the transfer of water supply assets owned by Utwé Municipality to the State thereby meeting the Loan 2099-FSM(SF) loan conditions for loan disbursements in Kosrae. The signing process was initiated by AG's office on March 04, 2013 and GM, KUA, Governor, Kosrae State and Mayor, Utwé Municipality signed on March 22, April 10 and April 12, 2013 respectively.

After prolonged negotiations, Kosrae State could persuade the owner of the land for the Filtration Plant Site for an outright sale. Site surveys for an alternate alignment, in case the landowner did not relent, was carried out in April 2013 and subsequently on receipt of clearance from the landowner, final survey was carried out along the original alignment in May 2013. Bid documents for the rehabilitation of the Utwé water supply were completed and bids invited on July 03, 2013. A pre-bid conference was convened on 22 July 2013 and was attended by representatives from 3 civil works contracting firms, the Kosrae Department of Transportation and infrastructure, DTIC, ICT and ADB. A site inspection was undertaken immediately following the pre-bid conference.

A meeting was held between KUA, ADB, TC&I and ICT on the same afternoon (July 22, 2013) to discuss the Utwé Project, KUA's requirements and modality of financing. The Board and Management of the Kosrae Utilities Authority (KUA) the agency responsible for operations and maintenance of state-owned water supply systems under legislation approved by the Kosrae Legislature in 2010 were present in the meeting. Concern was expressed by the KUA Management that it had not had the opportunity to review the bid documents for the Utwé water supply contract and requested a briefing on the design of the upgrading works and the scope of the contract. The bid documents and outlines of the scope of the Utwé works and the proposed water supply upgrading project in Malem were sent to the KUA Management for review immediately following the meeting. The KUA Management informed that a proposal to build KUA's water operations capacity has been sent to DTIC through the Kosrae State Government and noted that the recruitment of a water specialist requires urgent attention given that the Utwé water supply upgrading works were expected to commence in September 2013. ADB agreed to work with DTIC to expedite the recruitment of the water supply specialist. The recruitment process was completed in March, 2014 and the Water Operations Manager has joined on April 28, 2014.

Bids were received and opened on August 28, 2013. Four bids were received. The bidders were: GPPC Inc., Saipan, Orion Construction Corporation, Guam, Cho Gwang Ji Jil Co. Ltd., Korea and ABCOR Engineering and Construction Incorporated, Pohnpei.

The bids were evaluated by the Bid Evaluation Committee comprising representatives from DT&I and KUA, Kosrae, PMU, ICT and TC&I. The committee was chaired by Asst. Secretary, TC&I. The Bid Evaluation Report (BER) was sent to ADB for comments on September 16, 2013, comments received from ADB's Procurement Specialist on September 17, 2013, and further comments were received from ADB on September 26, 2013. Final BER, revised in line with all comments, was submitted to ADB for approval in mid-October 2013. Orion Construction Corporation were found to be the lowest responsive bidder with a bid of \$ 2,097,660.00, against the Engineer's Estimate of \$1,576,693.00. ADB's approval was received on November 22, 2014 and Letter of Acceptance was issued to Orion on December 06, 2013. Contract with Orion was signed on December 08, 2013 at Guam and sent to DOJ and DOFA, FSM for their approval and legal sufficiency on December 10, 2013. The pre-construction meeting was held at Kosrae on December 16, 2013. Contract was forwarded to Orion after signatures by DOJ and DOFA on February 24, 2014. Work commenced in February, 2014.

On September 20, 2013, Resettlement & Rehabilitation (R&R) Expert of PIA Consultants visited Kosrae along with Architect, TC&I, to review and establish systems to ensure smooth execution of the Utwé Project keeping in perspective the safeguard norms of ADB. During investigations about the land parcels, it was

found that the land identified for the Slow Sand Filter Plant (SSF) and chlorination building, claimed by an individual, actually belonged to the Government. This revelation led to the Government avoiding the embarrassment of buying its own land, saving \$ 40,000 in the process. **Annexure 4B** (sketch map of the SSF site) shows the actual status.

Meetings were held by the Consultant with the key persons involved in project. The officials who participated in presentation by the Consultant included General Manager of KUA, Land Management and Survey/Mapping Staff of DREA, representatives from Kosrae Land Court and representative from the Department of Transportation and Infrastructure. The Consultant suggested the following monitoring measures as the way forward:

- Designation of the identified land parcel for SSF for Utwe Water Project including easement and access road for construction, laying of pipelines, and operation and maintenance purposes.
- Set up a Grievance Redress Mechanism
- Hold more frequent meeting/consultations with Community and Utwe Municipal office for promoting improved information sharing and disclosure, better stakeholder involvement, participation and coordination

The suggestions were well received and all participants assured compliance. Consultant returned to Pohnpei on September 28, 2013.

On September 25, 2013, a meeting was held between TC&I and Grants Manager, CIG to discuss re-obligation of the \$550,000 that was de-obligated in August 2013 without any prior information to TC&I. After discussions, it was decided that the funds would be re-obligated as soon as possible. Information on re-obligation of the funds was received on December 12, 2013.

\$20,000 has been allocated to cover overtime and fuel expenses incurred by DT&I personnel for working for the Project after hours, weekends or holidays. The reimbursements will be made from Imprest Account.

DTC&I visited Kosrae from May 05 to 10, 2014 to monitor the progress. A Review Meeting was held between DT&I, KUA, DTC&I and Orion on May 08, 2014. It was observed that no significant progress had been made on ground by Orion. It was agreed during this meeting that Monthly Progress Review Meetings would mandatorily take place on the first Monday of every month. The 10th Progress Review Meeting with Orion was held on April 20, 2015. The 11th meeting, scheduled on May 11, 2015, could not be held because of inclement weather and subsequently for non-availability of Contractor's personnel stationed at Guam. This was held on June 15, 2015. The 12th and 13th meetings were held on August 15 and September 28, 2015 respectively. The 14th meeting was held on November 23, 2015 and the 15th on December 28, 2015.

Water Operations manager, KUA had reviewed the design and had suggested a number of modifications for ease of operations and enhancing sustainability of the system. Design changes are being implemented through Change Orders. Four Change Orders were issued for Revised Site Layout, Roughing Filter and River Bed Filter and Slow Sand Filter. He had also recommended substantial additional work in areas outside the scope of the Project. It was clear at this point that extension of time of at least four months would have to be granted, as the Contract expired on January 13, 2015. Subsequently, it was observed that because of late determination of a substantial number of non-BOQ items, procurement would be delayed. Contractor have requested extension up to July 22, 2015. However, with the delay in supply of the pumps, and Orion's inability to supply the filter material in time, completion was not expected before December 31, 2015, but with Filter material remaining the major constraint, completion is now expected in March 2016.

Change Orders (nos. 3 to 10) for inclusion of non-BOQ items were combined into one Change Order no. 3 and issued in June 2015. The revised Contract Price now is \$ 2,580,190.04. A further Change Order no. 4 will be issued to include additional 25 service connections identified while surveying for further needs of the Municipality.

The owners have signed the lease agreement. With this the constraint on the access road has been removed. However, KUA had refused to start installation of the poles till the owners dues were settled. These have since been installed and the owners have been paid.

Two major issues remain unattended. They are: (i) Leak detection for existing pipeline and (ii) identification of Trainees during commissioning.

A Construction Supervisor was appointed for UWSSIP. Contract was signed on November 28, 2014 between DT&I and Mr. Manikam Razakrisnan. Mr. Razakrisnan (Rada) joined in January 2015.

Major activities that took place on the Project during the first quarter 15-16 are enlisted in **Annexure 4**. The details of commitments and fund availability as on December 31, 2015 are given in **Annexure 4A**.

3.0 Overall Implementation Status

The updated Project Implementation Status indicates several ODP components, including the operations management of the Kolonia STP, upgrading of the Utwe and Malem water supplies in Kosrae, and the Yap Phase II works, could not be completed by the original Loan Closing date of December 31, 2013. The schedule had estimated completion of all project components by April, 2015 which was approximately two months prior to the project closing date (30 June 2015). However, on further review during the ADB Mission's visit in February 2015, it was observed that ongoing Projects in all four States would not be completed by the loan closing date. Government of FSM therefore requested, and the Mission agreed to recommend extension of the loan closing date by one year, i.e., up to June 30, 2016. An MOU was signed by Secretary (Finance), FSM and ADB was signed on February 20, 2015, which confirms this development. Through their Fax dt. June 10, 2015, ADB have confirmed extension of the Loan closing date to June 30, 2016.

Completion of these components are considered essential to:

- (i) prove the functional requirements of the Kolonia STP and to train PUC personnel to operate the STP;
- (ii) to support reform in Kosrae approved by the Kosrae Legislature in May 2011 enabling the transfer of ownership of municipal water supplies to the State (a covenant of the ADF Loan Agreement); and
- (iii) to increase the Gagil-Tomil Water Authority (GTWA) customer base which will improve GTWA's financial sustainability.

The Consultancy Contract with PIA Consultants, International Consultants and Technocrats Ltd., India was terminated effective December 31, 2013.

The updated implementation status is shown in **Annexure 5**.

4.0 Utilization of Loan Proceeds and Counterpart Funding

At the end of the first quarter 15-16, ADB's loan and financial information system reported Loan 2099(SF)-FSM ("ADF" loan) contract commitments and disbursements at \$14,669,414.57 (99.9% of the available loan

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funds) and \$14,058,543.50 (95.65%) respectively. The contract commitments and disbursements from Loan L2100-FSM (“OCR loan”) at the same date were \$4,595,827.25 (95.75% of the available loan funds) and \$4,628,714.87 (96.4%) respectively. Loan 2099(SF)-FSM is practically fully committed. As disbursement from Loan 2099(SF)-FSM cannot exceed the approved loan amount of SDR 9,686,000 (\$14.725 million equivalent),ⁱ commitments in excess of the approved loan amount may need to be financed from counterpart funds or through a reduction of the scope of some contracts.ⁱⁱ To date, a total of 50 contracts, with a combined value of \$23.05 million have been awarded of which 43 are complete.

The data contained in ADB’s loan financial information system, the provisions of loan agreements and the tripartite (on-lending) agreements indicate that, as on December 31, 2015, significant approved Compact grant resources remain uncommitted. The table below summarizes the uncommitted loan and Compact infrastructure grant funds approved for each state.

STATE	UNCOMMITTED APPROVED LOAN AND GRANT FUNDS			
	ADF loan ¹ (\$)	OCR loan (\$)	Counterpart (\$)	TOTAL (\$)
Kosrae	\$464,188.21	N/A	\$33,353.40	\$497,541.62
Pohnpei	(\$505,626.36)	(\$224,982.63)	\$2,435,416.90	\$1,704,807.91
Chuuk	(\$45,333.21)	\$82,331.70	\$6,438,300.00	\$6,512,296.98
Yap	(\$33,753.29)	N/A	(\$193,620.23)	(\$227,373.52)

CIG = approved Compact Infrastructure grant; N/A = not applicable

Notes: ¹ Based on allotment of standard drawing right (SDR) amounts in the ADF Loan and respective tripartite agreements and exchange rate of SDR1.00=\$1.5203

The available funds are sufficient to meet the counterpart financing obligations stated in the project’s Loan Agreements.

ANNEXURE 6 shows the photographs depicting the progress at the end of first quarter.

ⁱ SDR = Special Drawing Rights. 1 SDR = \$1.5203

ⁱⁱ In May 2009, the Office of Insular Affairs, United States Department of Interior, approved Compact Infrastructure Grant (CIG) funds in the amount of \$14,000,000 for counterpart funding of OIDP components. The breakdown of the grant funding by States is:

Kosrae - \$550,000 (re-obligation on 26 November 2013); Pohnpei - \$3,540,000; Chuuk - \$7,690,000; and Yap - \$2,220,000. The available funds meet the counterpart financing obligations stated in the project’s Loan Agreements.

Annexure 1

1st Quarter Activities

Yap State

CONTRACT	MONTH	ACTIVITY	DATE
GPPC, PHASE II	October	1. 50K Gallons Water Tank. a. Turfing maintenance 2. Chlorination Building. a. Final painting b. Final site grading and cleaning 3. Pipe Laying (102.66% completed, see Annex. 1A) 4. Well B-1. a. Final site grading and cleaning b. Final painting 5. Well A. a. Final site grading and cleaning b. Final painting works 6. Laterals. a. Installation completed 7. Chool 8K Gallons Water Tank. a. Final Site Grading and cleaning 8. Miscellaneous Activities. a. Reinstatement and cleaning of village access roads. 9. Ladder Rung a. Installation to various concrete chambers 10. Training and Orientation – conducted September 30 and October 1, 2015 11. Joint Operations – conducted October 2 – 6, 2015 12. WQA – taking of samples by Laboratory Technician on October 3, 2015. Reports submitted 10/24/15.	October 01 to 31, 2015
		13. Coordination Meetings a) Meeting was held between DPWT and DTC&I to discuss Substantial Completion. b) Meeting was held between GPPC, DPWT and DTC&I to discuss Substantial Completion.	October 19, 2015 October 20, 2015
	November	1. Substantial Completion Certificate issued (<i>to be revised</i>) 2. Coordination Meetings a) Project Handover Coordination Meeting held between DPW&T, GTWA, EPA, Maap Community and GPPC.	November 12, 2015 November 12, 2015
	December	WORK COMPLETED. DEFECT LIABILITY PERIOD IN PROGRESS	December 01 to 31, 2015

ANNEXURE 1A

OIDP PH II - LAYING OF PIPES (FINAL)					
BILL NO.	LOCATION	AS PER BOQ		UP TO DATE ACCOMPLISHMENT	PERCENTAGE
		PIPE DIA.	LINEAR FT.	LINEAR FT.	
BILL NO. 3.0	TRANSMISSION SYSTEM OTHER THAN THE SECTION FROM STA. 49 (END OF PHASE 1) TO STA. 136 (PLAW JUNCTION)	3" PVC	4725	4678	99.01%
		2" PVC	100	275	275.00%
		4" HDPE	15820	16271.4	102.85%
		6" HDPE	3150	3074	97.59%
BILL NO. 7.1	PALAW DISTRIBUTION BRANCH	3" PVC	2850	2843.25	99.76%
		2" PVC	750	923	123.07%
BILL NO. 7.2	COASTAL TALNGITH DISTRIBUTION	2" PVC	2925	3295.9	112.68%
BILL NO. 7.3	WANEAD THOROW, BECHAYAL BRANCH	4" PVC	50	60	120.00%
		3" PVC	3760	3972	105.64%
		2" PVC	1600	1422	88.88%
BILL NO. 7.4	CHOL & WALOY BRANCH	3" PVC	4235	4133.95	97.61%
		2" PVC	55	101	183.64%
BILL NO. 7.5	WACHEALAB BRANCH	3" PVC	730	817.3	111.96%
BILL NO. 7.6	WURELLEI BRANCH	2" PVC	500	479.5	95.90%
TOTAL			41250	42346.3	102.66%

SUMMARY OF PIPES	BOQ (LFT)	ACTUAL LFT	PERCENTAGE
2" PVC PIPE	5930	6496.4	109.55%
3" PVC PIPE	16300	16444.5	100.89%
4" PVC PIPE	50	60	120.00%
4" HDPE PIPE	15820	16271.4	102.85%
6" HDPE PIPE	3150	3074	97.59%
TOTAL	41250	42346.3	102.66%

ANNEXURE 1B

**DETAILS OF COMMITMENT AND FUND AVAILABILITY
YAP**

Financing Summary	4th Quarter 2014-15	1st Quarter 2015-16
ADF Funds Approved	\$3,003,263.15	
OCR Funds Approved	\$0.00	
Compact Infrastructure Grant Approved (Counterpart)	\$2,220,000.00	
ADF Funds Committed	\$3,522,247.55	\$3,035,970.44
OCR Funds Committed	\$0.00	\$0.00
Compact Infrastructure Grant Funds Committed	\$1,938,217.23	\$2,413,620.23
Uncommitted ADF Funds	(\$516,310.51)	(\$33,753.29)
Uncommitted OCR Funds	\$0.00	\$0.00
Uncommitted Compact Infrastructure Grant Funds	\$281,782.77	(\$193,620.23)
Total Uncommitted Funds	(\$234,527.74)	(\$227,373.52)

ANNEXURE 2



CPUC POWER DISTRIBUTION PROJECT

Progress Status – December 2015

1 SUMMARY OF PROGRESS IN PROCUREMENT & CONSTRUCTION

PROCUREMENT - End December 2015

Project Material Supply	US\$ '000	%
Total Estimated Value	5,495	
Specified	5,364	97.6%
Quoted	5,364	97.6%
Ordered	5,364	97.6%
Received	5,364	97.6%
Balance of Funds	131	2.4%

Note: balance of funds reserved for IDC and other Management & Admin costs

IMPLEMENTATION

Planning	Total	F1	F2	F3	F4	F5
Route identification	100%	100%	100%	100%	100%	100%
Pole marking	100%	100%	100%	100%	100%	100%
Drawing preparation	100%	100%	100%	100%	100%	100%
Construction	Total	F1	F2	F3	F4	F5
Poles Installed	100%	100%	100%	100%	100%	100%
Cable Installed	100%	100%	100%	100%	100%	100%
Transformers Installed	100%	100%	100%	100%	100%	0%
Services Cut Over	100%	100%	100%	100%	100%	0%
Underground Installed	100%	-	-	-	100%	-

2 KEY ISSUES

The original scope of the project is now complete.

The reimbursement of the final payment made by CPUC to NAN Cable (for reasons see November 2015 report) has not yet been made by ADB to CPUC.

This will be followed up in January 2016.

Once the payment is made the accounts can be reconciled with payments on ADB system. CPUC will liaise with Mr Steve Blaik at ADB on this.

3 DTC&I COMMENTS

As mentioned above, the original scope of the project is now complete. To utilize unused Compact Grant Funds, Construction of Chuuk Power Plant was added to the scope of the Omnibus Project. According to CPUC, bidding process has been completed and Contract is expected to be awarded in January.

Details of commitment are awaited from CPUC.

ANNEXURE 2A

DETAILS OF COMMITMENTS AND FUND AVAILABILITY
CHUUK

Financing Summary	4th Quarter 2014-15	1st Quarter 2015-16
ADF Funds Approved	\$2,692,004.83	
OCR Funds Approved	\$2,800,000.00	
Compact Infrastructure Grant Approved (Counterpart)	\$7,690,000.00	
ADF Funds Committed	\$2,809,362.61	\$2,736,400.46
OCR Funds Committed	\$2,502,512.13	\$2,717,668.30
Compact Infrastructure Grant Funds Committed	\$1,251,700.00	\$1,251,700.00
Uncommitted ADF Funds	(\$114,961.00)	(\$45,333.21)
Uncommitted OCR Funds	\$297,487.87	\$82,331.70
Net Uncommitted Loan Funds		\$36,998.49
Uncommitted Compact Infrastructure Grant Funds	\$6,438,300.00	\$6,438,300.00
Total Uncommitted Funds	\$6,620,826.87	\$6,512,296.98

Annexure 3
1st Quarter Activities
Pohnpei State

CONTRACT	MONTH	ACTIVITY	DATE
ORION SEWER RETICULATION	October	• Change Order #9: work completed. Jt. Inspection carried out by PUC and DTC&I.	October 01, 13 and 29, 2015
	November	• Further work identified for Change Order #10	-
	December	• RFP for CO#10 sent by PUC to Orion	December 11, 2016
		• Cost Proposal for CO#10 submitted by Orion	December 22, 2016
		• PUC comments on CO#10 sent to Orion	December 29, 2016
	October	• Two year Operation and Maintenance	Continuing
		• CO#11: Bank Guarantee for 50% Advance submitted by CCB	October 07, 2015
		• Joint visit to WWTP site by PUC and DTC&I	October 13, 2015
	November	• Two year Operation and Maintenance	Continuing
		• Meeting held between PUC, DTC&I, CCB and Consultant (PRIF) to discuss modalities of operation and maintenance	November 04, 2015
		• VQ34 – Relocation of WT Shed submitted by CCB	November 24, 2015
	December	• 50% Advance against CO#11 released	December 17, 2016
		• Two year Operation and Maintenance	Continuing

ANNEXURE 3A

**DETAILS OF COMMITMENTS AND FUND AVAILABILITY
POHNPEI**

Financing Summary	4th Quarter 2014-15	1st Quarter 2015-16
ADF Funds Approved	\$5,696,786.31	
OCR Funds Approved	\$2,000,000.00	
Compact Infrastructure Grant Approved (Counterpart)	\$3,540,000.00	
ADF Funds Committed	\$6,207,844.18	\$6,200,428.56
OCR Funds Committed	\$2,224,982.63	\$2,224,982.63
Compact Infrastructure Grant Funds Committed	\$600,708.61 (??)	\$1,104,583.10
Uncommitted ADF Funds	(\$505,985.85)	(\$505,626.36)
Uncommitted OCR Funds	(\$224,982.63)	(\$224,982.63)
Uncommitted Compact Infrastructure Grant Funds	\$2,939,291.39	\$2,435,416.90
Total Uncommitted Funds	\$2,208,322.91	\$1,704,807.91

ANNEXURE 3B

VARIATIONS

SL. NO.	DESCRIPTION	APPROVED PRICE
1	Chlorine Monitors	\$ 23,427
2	Insurance of vehicles 2012	\$ 3,201
3	Insurance of vehicles 2013	\$ 3,216
4	Replace Force Main	\$ 49,684
5	Pump Spare Parts	\$ 21,505
6	Dissolved Oxygen Probes	\$ 26,224
7	Outfall - Phase 1	\$ 135,294
8	Transformers for Main Pump Station	\$ 63,897
9	Automation of Aeration Cycle	\$ 26,910
10	Dual Inlet Screen	\$ 12,078
11	Refurbish existing Clarifier	\$ 84,054
12	230V Pumps to Small Pump Stations	\$ 24,102
13	Insurance for Vehicles	\$ 3,458
14	Dekehtik Pump Station	\$494,541
15	Insurance for Vehicles	\$ 3,041
16	Truck and Mini-excavator	\$ 181,945
17	Two year O&M Period	\$ 1,050,300
TOTAL		\$ 2,146,917



Investigation Into The Proposed Upgrade Of The Kolonia WWTP Outfall Pipeline.

July 2013

Report Prepared for: Pohnpei Utilities Corporation

By: Instream Solutions Pty Ltd

On Behalf Of: CCB Envico Pty Ltd

Table of Contents

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Project: Pohnpei WWTP - Outfall extension	Document ID: 201305	
Author: N.Graham	Reviewed By: S.Harfield	Page Number: 1

1. Background

The Pohnpei Utilities Corporation (PUC) called for tenders on an upgraded new outfall system for the Kolonia wastewater treatment plant in 2010. The design presented at that time required the addition of approximately 1700 ft of new 20" HDPE line from a point on shore to a point approximately 200 feet beyond the existing outfall discharge point. As indicated in the Supplement to the Initial Environmental Examination the adopted design was a compromise given that an earlier proposal to pipe the system to outside the lagoon could not be achieved due to the retention of the existing WWTP site and the excessive cost to pipe the discharge to outside the harbor. At the outset it was widely recognised that the current outfall has minimal impact on water quality within the inner harbor particularly when the WWTP is operated as designed. Further investigations by CCB Envico have found that the original 12" outfall line was hydraulically designed to cater for the expansion of the plant, by a doubling of the reactor size, as has been undertaken during the recent upgrade.

Instream Solutions have been contracted by CCB Envico to conduct a Risk Assessment around the impact of the newly upgraded WWTP upon the receiving waters, and to undertake mixing zone analysis for the current outfall. This preliminary report examines the likely environmental impacts of maintaining the existing pipeline, versus the construction of a new extended pipeline.

2. Status and Position of Existing Pipeline

Drawings of the existing outfall, built in 1971, show that the 12" pipeline originally extended approximately 400-500ft from the shoreline with the end diffuser port lying in some 30 ft of water. They also show a secondary diffuser port, located approximately 10 ft from the end point, which was capped at the time of construction.

CCB Envico personnel undertook a dive investigation on the 18th July to examine the current status of the outfall. The findings from this survey are as follows;

- At present the pipeline extends approximately 400ft from the shoreline with the end point situated in approximately 28ft of water.
- The pipe is secured to the seafloor by a series of concrete thrust blocks which are positioned approximately every 15 to 25ft.
- The original end section of the outfall, including the two diffuser ports, appears to have broken away and the current end point is a flange joint.

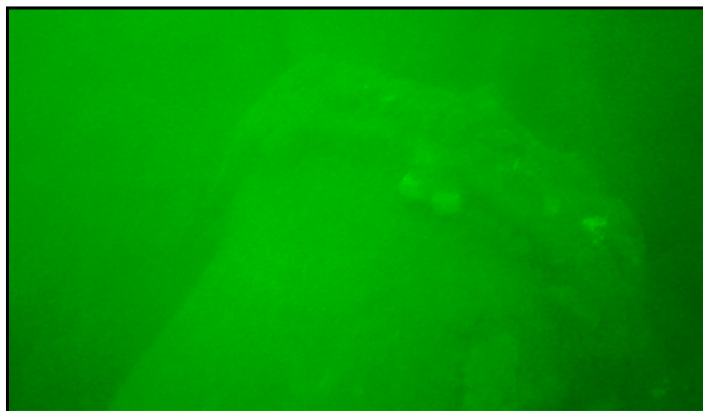


Figure 1. Video 'Snapshot' of the current pipeline endpoint with flange joint clearly visible.

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- Apart from the loss of the end section the remainder of the pipe appears to be in good condition with no cracks, bends or leaks evident at the joins.
- An attempt was made to locate the original end section of outfall although poor visibility hampered efforts and the search was unsuccessful.

Discussions with local PUC workers and fisherman revealed the likely cause of removal was a large barge that formally operated in the area. To reduce speed for docking the barge regularly deployed a large stern anchor which was dragged across the seafloor in the vicinity of the pipeline. It is likely that the anchor has dislodged the end section of the pipe and may have dragged it some distance away.

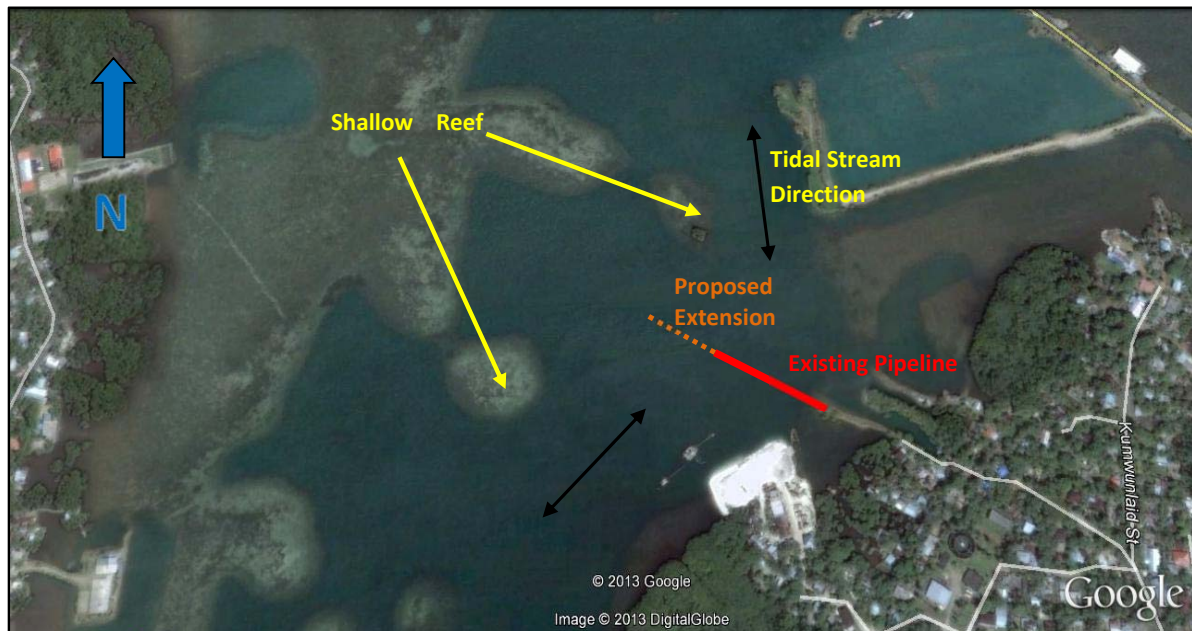


Figure 2. Satellite photograph of the harbor area surrounding the existing pipeline.

Although the current position of the outfall endpoint is only 400 ft offshore it is fairly central in terms of its position within the main harbor channel (Figure 2.). A tidal stream (~ 1-2knots) is evident at the site which coupled with the depth of the outfall enhances mixing of the treated effluent with the receiving waters.

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3. Environmental Impact of Existing Outfall

3.1. Previous Investigations

Historical data pertaining to water quality within Kolonia harbor is quite limited. Between 1990 and 2004 the Pohnpei EPA undertook fecal and total coliform monitoring at various sites throughout the harbor. The fecal coliform results, which are more complete than those for total coliforms, are summarised in Table 1 below.

Site	Number of Samples	Fecal Coliforms/100ml		
		Min	Max	Mean
Dekehtik Causeway	6	0	20,001	2,250
Lidakika Beach	65	0	560	50
Misko Beach	11	0	40	10
Mwalok	11	0	20,001	4,300
Outfall	11	0	10,700	2,000
Sokehs Bridge	27	0	20,001	4,000
Sokehs Pow School	11	0	20,001	2,800

Table 1. Fecal Coliform results from Kolonia harbor 1990-2004.

The results from this monitoring program indicate that water quality within the inner harbor is quite poor. The majority of the sites examined greatly exceed the EPA's Marine and Fresh Water Quality Standards which state that "fecal coliform content shall not exceed an arithmetic mean of 200 per 100 ml for any 10 consecutive samples nor shall any single sample exceed 400 per 100 ml" for Class B waters which includes Kolonia Harbor.

During this timeframe there was no chlorine disinfection system at the WWTP which may go some way to explaining the relatively high fecal coliform levels observed at the outfall. However, as stated in the Supplementary IEE, the results also showed that effluent from the WWTP was not having a significant impact on overall water quality within the harbor (Beardach 2008). This assumption was supported by the fact that (i) some of the highest coliform readings are located at great distance from the outfall; (ii) some of the lowest coliform readings are found near the outfall; and (iii) there is no regular correlation of increasing coliform readings, with increased proximity to the outfall.

As part of the Supplementary IEE an initial investigation assessing physico-chemical water quality parameters at the WWTP, and within the harbor, was also conducted. At the time of sampling the plant was in poor operational condition and the discharge flow rate was estimated to be approximately 0.8mg/day.

No	Location	BOD mg/L	COD mg/L	N mg/L	P mg/L	Salinity S. units	TDS mg/L	Turb. NTU	Density g/ml	TKN mg/L
P1	Incoming Raw Sewage at WTP	50.9	125	0.19	0.66	0.43	1,520	10.7	1	17
P2	Treated Effluent from WTP	158	31.1	0.18	0.81	0.43	256	2.43	1	11
P3	Shoreline at Outfall Pipeline Crossing	N/D	N/D	0.09	N/D	25.3	40600	N/D	1.03	1.4
P4	At point of Outfall Discharge	4.82	N/D	0.12	N/D	12.2	39900	N/D	1.03	1.1
P5	700 feet from shoreline	N/D	56.7	N/D	N/D	12.6	35400	N/D	1.02	1.1

Table 2. Water quality results from the WWTP and receiving waters, November 2008.

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Due to the extended holding times between sampling and laboratory analysis the results from this survey must be viewed with some degree of caution. However, the very high Biological Oxygen Demand (BOD) value of the treated effluent (158 mg/L) clearly indicates that at the time the plant was operating very inefficiently. As a comparison the newly upgraded plant which operates in much the same fashion as the old system is designed to reduce treated effluent BOD levels to less than 20 mg/L.

3.2. Current Monitoring Program

Instream Solutions is presently undertaking a water quality monitoring program for the upgraded WWTP and outfall with sampling and analysis to be completed by the end of September 2013.

As part of this program an electrical conductivity (EC) profiling survey was conducted in the harbor on the 18th July to determine the extent of the effluent plume and associated 'near field' mixing zone. The profiling was conducted using a Sontek Castaway meter on an incoming flood tide with the tidal stream moving in a south- westerly direction past the outfall discharge point. Sampling point 'I' was situated directly above the discharge point with physical upwelling of the effluent observed at the surface.



Figure 3. Electrical conductivity profile sampling points, July 2013. Site 'J' was located 100 feet upstream of the discharge point (on a flood tide) while site H was located 100 feet downstream.

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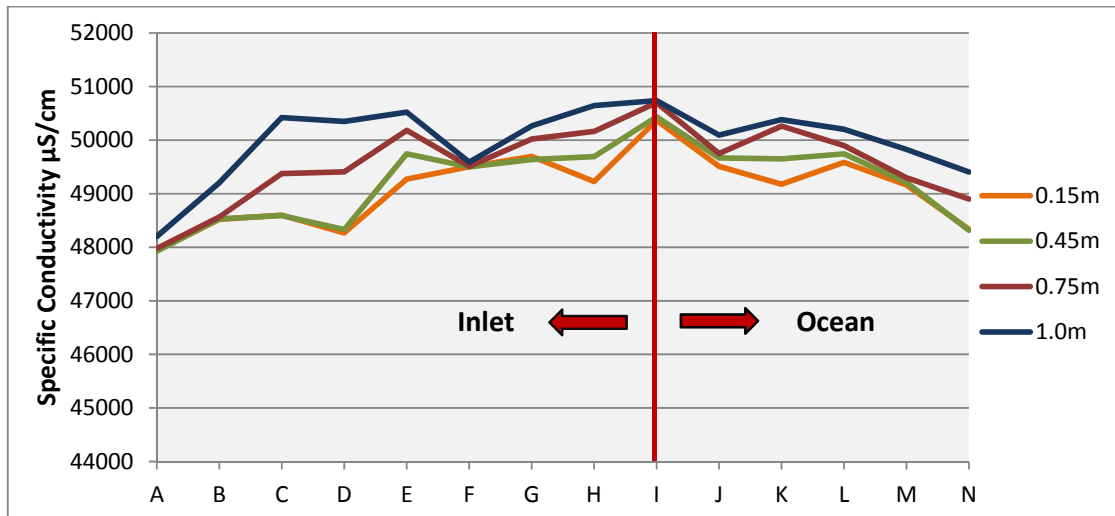


Figure 4. Specific Conductivity Profiles at depths of 0.15m, 0.45m, 0.75m and 1.0m. Site J to N lie upstream of the plume towards the northern end of the harbor while sites H to A lie downstream of discharge point towards the southern end of the harbor.

The results from this initial survey indicate that mixing of the effluent with the receiving waters is very rapid with little or no decrease in EC values observed downstream of the discharge point (Figures 4 and 5). The existence of a significant poorly mixed plume would be indicated by a large drop in EC values, at one or more depths, downstream of the discharge point followed by a gradual return to background EC levels with increasing distance from the outfall. However, no such decrease was evident at any of the sites surrounding the discharge in this survey. A very slight drop was observed at the surface layer (0.15m) directly downstream of the discharge (site H) but the value was well within the range observed both upstream and downstream of the discharge point. No evidence of an effluent plume was found at any of the lower survey depths between 3 and 8 meters.

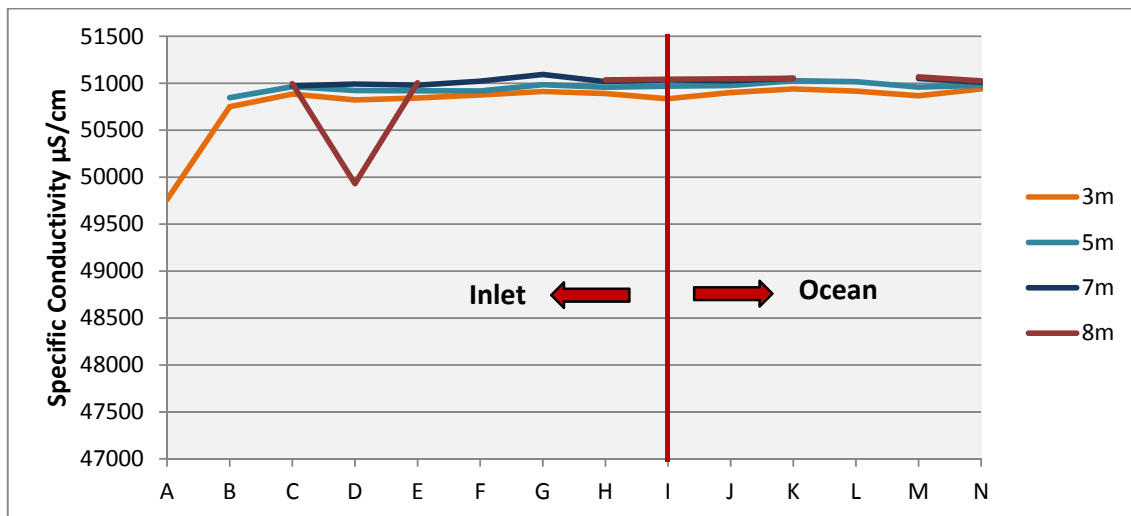


Figure 5. Specific Conductivity Profiles at depths of 3m, 5m, 7m and 8m. Site I is located at the discharge point. Site J to N lie upstream of the plume towards the northern end of the harbor while sites H to A lie downstream of discharge point towards the southern end of the harbor.

Water quality samples were also taken during the survey and analysed at SGS Laboratories Cairns within the designated holding times. The results support the findings from the EC profiling with no increases in BOD observed either upstream, downstream or at the outfall discharge point.

Site Code	Location	BOD	N	P	EC	TSS	TKN
		mg/L	mg/L	mg/L	us/cm	mg/L	mg/L
I	Sewage Outfall	<2	0.28	0.04	52000	12	0.28
L	Main channel opposite Lidakika harbor	<2	0.08	0.02	52000	13	0.08
E	Main channel opposite Mwalok	<2	0.09	0.02	57000	9	0.09
O	Misko beach	<2	0.12	0.02	52000	86	0.02

Table 3. Preliminary water quality results, Kolonia Harbor July 2013.

3.3. Other Point and Non-Point Sources of Pollution Within Kolonia Harbor

As identified in the Supplementary IEE there are a wide range of point and non-point sources of pollution contributing to the poor water quality observed within Kolonia harbor. Pollution sources include domestic wastewater, storm water runoff, wastes from piggeries and other livestock facilities, and wastes from the harbor proper all of which are being discharged without any treatment, directly into the embayment.

One of the most significant pollution sources which was not identified in the Supplementary IEE are the houses situated along the western shore of the harbor on Sokehs island. The 2000 FSM Pohnpei census does not specify the number of inhabitants but it is estimated to be between one and two thousand. None of these houses are connected to the Kolonia sewer system and instead they rely on septic tank systems for effluent disposal. PUC staff indicated that many of these septic tanks, if not a majority, are poorly maintained and that there is significant overflow of effluent into the harbor. This issue would account for the very high fecal coliform results observed on the western side of the bay at sites including Sokehs Bridge, Sokehs Pow School and Mwalok (Refer to Table 1).

Another significant point source identified during this investigation is the treatment plant situated behind the dock. This plant which was originally constructed to process effluent from the fish processing plant, however it was not maintained and has since been decommissioned. As a result untreated effluent from the processing plant is now discharged directly through the mangrove swamp located between the airport runway and Misko beach.

4. Environmental Benefits of Outfall Extension

The results from current and previous surveys indicate that extension and redevelopment of the outfall will not lead to an improvement in water quality within Kolonia harbor.

Even with the end section removed the current outfall discharge point is well situated, lying within the middle of the main channel at a depth of 30 ft. There is good tidal stream flow around the end point and preliminary analysis indicates that there is rapid vertical and lateral mixing of the effluent with the receiving waters.

Extension of the outfall some 200 ft would place the discharge point mid way between the two shallow reef areas situated to the northwest of the current outfall (Figure 1). Water movement inside these two shallow reef 'fingers' is likely to be significantly reduced when compared to the tidal stream in the main channel. It is therefore possible that an extension could lead to an effluent plume pooling within this semi enclosed region. Furthermore an increase to a 20" diameter pipe will also significantly reduce discharge velocities at the diffuser port which in turn will decrease effluent mixing rates with the receiving waters.

Results from the previous monitoring programs indicate that even though the old plant was operating inefficiently, with high BOD levels and no chlorine disinfection, it still had minimal impact upon the receiving harbor waters.

If the newly upgraded plant is maintained and operated correctly then the treated effluent will be of a much higher quality, with BOD levels below 15mg/L. More importantly the addition of the chlorine dosing system to the plant will limit fecal coliforms in the treated effluent to less than 30 per 100ml which is well below the EPA guideline value for the receiving waters (100 per 100ml).

The ability of the existing 12" pipeline to handle the increased flow rates is presently under evaluation. On the 31st July the plant was operated at design capacity (1.6MG/Day) to preliminarily test the capacity of the outfall to achieve the design flow rates of the plant. This test, which was the equivalent of 2x the design flow rate through a single clarifier, revealed that the system can handle this capacity without excessive head loss through the current outfall.

Final testing of the head loss, at the plants peak instantaneous flow rate of 3.2MG/day, is likely to occur around mid August 2013 when alterations to the plant power supply are completed and the second (original) reactor is commissioned. The impacts of these higher flow rates on the mixing capabilities of the current single port diffuser have as yet not been modelled. However Instream Solutions will undertake further monitoring at this time in order to accurately determine the full extent of the mixing zone under the high flow conditions. Based on current results we believe that the associated increase in discharge velocities should significantly aid mixing of the higher effluent volumes and the actual footprint of the near field mixing zone is likely to be very small in the order of 150-300 ft².

If the single port diffuser is found to provide inadequate at these higher flow rates mixing then a diffuser matrix could be retrofitted to the existing end flange joint at some stage in the future, if and when these higher flows are realised.

Project: Pohnpei WWTP - Outfall extension	Document ID: 201305	
Author: N.Graham	Reviewed By: S.Harfield	Page Number: 8

5. Recommendations

Based on the available information Instream Solutions provides the following recommendations with regard to the proposed outfall upgrade;

- Providing the exiting 12" pipeline can adequately handle the projected discharges, we suggest that upgrade to a 20" extended pipeline is unwarranted and that the present outfall should be maintained in its current state.
- A buoy should be positioned on top of the existing endpoint and local vessel operators educated with regard to the outfall positioning in order to limit the possibility of further damage.
- Instream Solutions will monitor the current outfalls capacity to adequately mix the effluent with the receiving waters, under the projected higher flow rates, during the commissioning phase of the second reactor in August 2013. If the single port diffuser is proven to be inadequate then we recommend a diffuser matrix should be retrofitted to the existing flange joint at such time as the flows increase.
- If local authorities desire to improve water quality within the harbor then we believe the most cost effective solution would be to focus on;
 - a) The septic tank systems located on the western shore of the harbor at Sokehs island,
 - b) Processing of the effluent originating from the fish processing plant near Misko Beach. Either by recommissioning of the existing plant or by diversion of the effluent to the Kolonia WWTP.

Project: Pohnpei WWTP - Outfall extension	Document ID: 201305	
Author: N.Graham	Reviewed By: S.Harfield	Page Number: 9

ANNEXURE 3D

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Section	Parameter	July 14	July 15	July 16	July 17	July 18	July 19	July 20	July 21	July 22	July 23	July 24	July 25	July 26	July 27	July 28	July 29	July 30
		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday
Rainfall	Rainfall Per Day/mm																	
Inlet Screen	TSS mg/L	29	18	16	55	28			32	29	36	22	18			15	19	18
	Ammonia mg/L					14						12						
Aeration Tank Train Two	TSS	250			550													
	TSS	53	72	123	175	123	185		145	66	103	38	42			25	19	42
	Dissolved Oxygen	1.7	1.8	2.3	1.8	1.9			1.9	1.3	2.1	2	1.9			5.5	4	1.9
	RAS Pumping Rate	20/40	20/40	20/40	20/40	20/40			20/40	20/40	20/40	20/40	20/40			20/40	20/40	20/40
	Blower Speed	6%	11%	22%	0%	0%			0%	0%	0%	0%	0%			0%	0%	0%
	RAS BOX TSS	372	482	723	1985	600			865	985	695	677	893			635	165	893
	Appearance	good	good	good	good	good			good	good	good	good	good			good	good	good
Clarifier Train Two	TSS Top	2	2	2	2	2			3	3	4	3	4			3	4	4
	TSS Bottom	66	71	75	68	74			95	86	97	103	93			87	78	93
	Blanket Level	5"	5"	6"	6"	8"	8"		10"	10"	10"	10"	10"			14"	9"	10"
	WAS Pumping Rate	0	0	0	0	300			300	900	900	900	900			900	900	900
	Appearance	good	good	good	good	good			good	good	good	good	good			good	good	good
Digester	WAS BOX Height								12.5	7.5	7.5	7.5	7.5			15		7.5
	Colour & Smell	black			black				black			black				black		
Contact Tank	TSS	5	5	5	5	3			3	3	4	3	4			3	4	4
	Ammonia					5						6						
	COD					66						165						

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ANNEXURE 3E

FQ Labs

3375 Koapaka Street, G314
Honolulu, HI 96819
Phone: 808-839-9444, Fax: 808-839-9744

Instream Solutions

11 Kalinga Rd
Ocean Grove Victoria, Australia, 3226
Attn: Nick Graham
Project Name: Kolonia WWTP

CERTIFICATE OF ANALYSIS

Received: 09/26/2014 @ 10:00 AM
Completed: 10/03/2014 @ 9:35 AM
Project Number: 140926-2896-011
Temperature: 6.0 °C

Sample ID: 140926-2896-011-01		Water Sample-31 Headworks		Sampled: 9/26/2014 @ 9:45 AM		Sampler: Bradley Henry	
Analysis	Results	Units	MDL	Test Method	Analyzed	By	
Biochemical Oxygen Demand	87.6	mg/L	1.0	EPA 405.1	09/26/2014 11:00 AM	IQ	
Nitrogen, Ammonia	27.3	mg/L	0.20	EPA 350.1	10/02/2014 8:36 AM	PS	
Total Suspended Solids	124	mg/L	1.0	EPA 160.2	10/03/2014 3:40 PM	IQ	
Sample ID: 140926-2896-011-02		Water Sample-32 Aeration Tank Train 2		Sampled: 9/26/2014 @ 9:45 AM		Sampler: Bradley Henry	
Analysis	Results	Units	MDL	Test Method	Analyzed	By	
Total Suspended Solids	74	mg/L	1.0	EPA 160.2	10/03/2014 3:40 PM	IQ	
Volatile Suspended Solids	30	mg/L	1.0	SM 2540 E	09/30/2014 3:30 PM	FK	
Sample ID: 140926-2896-011-03		Water Sample-33 V-Weir		Sampled: 9/26/2014 @ 9:45 AM		Sampler: Bradley Henry	
Analysis	Results	Units	MDL	Test Method	Analyzed	By	
Biochemical Oxygen Demand	10.4	mg/L	1.0	EPA 405.1	09/26/2014 11:00 AM	IQ	
Nitrogen, Ammonia	4.1	mg/L	0.20	EPA 350.1	10/02/2014 8:36 AM	PS	
Total Suspended Solids	7.0	mg/L	1.0	EPA 160.2	10/03/2014 3:40 PM	IQ	

Approved By: Imelda Q. Amato
Tuesday, October 07, 2014

FQ Labs

3170 Ualena Street, Unit A
Honolulu, HI 96819
Phone: 808-839-9444, Fax: 808-839-9744

ANNEXURE 3F

Instream Solutions

11 Kalinga Rd
Ocean Grove Victoria, Australia, 3226
Attn: Nick Graham
Project Name: Kolonia WWTP

CERTIFICATE OF ANALYSIS

Received: 01/23/2015 @ 4:30 PM
Completed: 01/30/2015 @ 1:00 PM
Project Number: 150123-2896-012
Temperature: 6.0 °C

Sample ID: 150123-2896-012-01	Water sample - 34 Inlet	Sampled: 1/23/2015 @ 9:30 AM				Sampler: Bradley Henry	
Analysis	Results	Units	MDL	Test Method	Analyzed		By
Total Suspended Solids	71.0	mg/L	1.0	EPA 160.2	01/26/2015	8:50 AM	LPR
Biochemical Oxygen Demand	16.8	mg/L	1.0	EPA 405.1	01/23/2015	4:40 PM	LPR
Chemical Oxygen Demand	186	mg/L	3.0	EPA 410.4	01/28/2015	10:43 AM	FK
Nitrogen, Ammonia	15.1	mg/L	0.20	EPA 350.1	01/30/2015	9:30 AM	PS
Sample ID: 150123-2896-012-02	Water sample - 35 V-Weir	Sampled: 1/23/2015 @ 9:30 AM				Sampler: Bradley Henry	
Analysis	Results	Units	MDL	Test Method	Analyzed		By
Total Suspended Solids	7.0	mg/L	1.0	EPA 160.2	01/26/2015	8:50 AM	LPR
Biochemical Oxygen Demand	1.6	mg/L	1.0	EPA 405.1	01/23/2015	4:40 PM	LPR
Chemical Oxygen Demand	3.0	mg/L	3.0	EPA 410.4	01/28/2015	10:43 AM	FK
Nitrogen, Ammonia	7.77	mg/L	0.20	EPA 350.1	01/30/2015	9:30 AM	PS
Sample ID: 150123-2896-012-03	Water sample - 36 Return Activated Sludge	Sampled: 1/23/2015 @ 9:30 AM				Sampler: Bradley Henry	
Analysis	Results	Units	MDL	Test Method	Analyzed		By
Total Suspended Solids	790	mg/L	1.0	EPA 160.2	01/26/2015	8:50 AM	LPR
Sample ID: 150123-2896-012-04	Water sample - 37 Train 2 Aeration Tank	Sampled: 1/23/2015 @ 9:30 AM				Sampler: Bradley Henry	
Analysis	Results	Units	MDL	Test Method	Analyzed		By
Total Suspended Solids	300	mg/L	1.0	EPA 160.2	01/26/2015	8:50 AM	LPR

Approved By:

Imelda Q. Amato

Wednesday, February 4, 2015



FQLabs

Analysts of Excellence

3375 Koapaka St., Suite G314 • Honolulu, HI 96819 • Tel: (808) 839-9444 • Fax: (808) 839-9744 • fql@fqlab.com

FOOD, WATER, SOIL & ENVIRONMENTAL TESTING & CONSULTING

QC Report

Instream Solutions

11 Kalinga Rd

Ocean Grove Victoria, Australia, 3226

Attn: Nick Graham

Project Name: Kolonia WWTP

Received: 1/23/2015

Completed: 1/30/2015

Project Number: 150123-2896-012

Analysis	QC Test	Results	MDL	Units	Spike Level	Source Result	% Rec	Rec Limits	% RPD	RPD Limit	Qualifier
Glucose-Glutamic Acid Check (GGA) 1/23/2015											
BOD	Blank	0.17	1.0	mg/L	-	-	-	-	-	-	
BOD	GGA	185	1.0	mg/L	198±30.5	-	-	-	-	-	Pass

The results are within the control limit range of 198 ± 30.5

Batch Prepared and Analyzed 01/26/2015

TSS	LCS	98.0	1.0	mg/L	100	-	98.0	90-110%	-	-	
TSS	Duplicate	71.0	1.0	mg/L	-	71.0	-	-	0.0	20%	

Batch Prepared and Analyzed 01/28/2015

COD	Blank	0	3.0	mg/L	-	-	-	-	-	-	
COD	LFB	92.0	3.0	mg/L	100	-	92.0	90-110%	-	-	
COD	Duplicate	187	3.0	mg/L	-	186	-	-	0.54	20%	
COD	Matrix Spike	139	3.0	mg/L	50.0	86.0	106	90-110%	-	-	

Batch Prepared and Analyzed 01/30/2015

Ammonia	Blank	0.0	0.20	mg/L	-	-	-	-	-	-	
Ammonia	LCS	20.5	0.20	mg/L	20.0	-	103	90-110%	-	-	
Ammonia	Matrix Spike	7.5	0.20	mg/L	8.0	0.0	93.8	90-110%	-	-	

Notes:

B1	Target Analyte detected in method blank was above the method detection limit.
D8	The duplicate exceeded the acceptance limit due to sample matrix effects.
dry	Sample results reported on a dry weight basis.
LCS	Laboratory Control Standard
M8	The matrix spike was below the acceptance limits. See Blank Spike (LFB)
M9	The matrix spike was above the acceptance limits. See Blank Spike (LFB)
MDL	Method Detection Levels are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
ND	Not Detected
NR	Not Reported
R8	The LCS recovery was below the acceptance limits.
R9	The LCS recovery was above the acceptance limits.
REC	Recovery
RPD	Relative Percent Difference

FQ Labs

3170 Ualena Street, Unit A
Honolulu, HI 96819
Phone: 808-839-9444, Fax: 808-839-9744

ANNEXURE 3G

Instream Solutions

11 Kalinga Rd
Ocean Grove Victoria, Australia, 3226
Attn:
Project Name:

CERTIFICATE OF ANALYSIS

Received: 04/15/2015 @ 9:06 AM
Completed: 04/20/2015 @ 9:36 AM
Project Number: 150415-2896-013
Temperature: 2.0 °C

Sample ID: 150415-2896-013-01	Water Samples - 41 Inlet Works	Sampled: 4/14/2015 @ 9:00 AM					Sampler:
Analysis	Results	Units	MDL	Test Method	Analyzed		By
Biochemical Oxygen Demand	16.5	mg/L	1.0	EPA 405.1	04/15/2015	12:00 PM	KT
Nitrogen, Ammonia	9.5	mg/L	0.20	EPA 350.1	04/20/2015	8:30 AM	PS
Total Suspended Solids	204	mg/L	1.0	EPA 160.2	04/16/2015	12:10 PM	LPR
Sample ID: 150415-2896-013-02	Water Sample - 42 Aeration Tank	Sampled: 4/14/2015 @ 9:00 AM					Sampler:
Analysis	Results	Units	MDL	Test Method	Analyzed		By
Total Suspended Solids	358	mg/L	1.0	EPA 160.2	04/16/2015	12:10 PM	LPR
Sample ID: 150415-2896-013-03	Water Sample - 43 V-Weir of Outlet	Sampled: 4/14/2015 @ 9:00 AM					Sampler:
Analysis	Results	Units	MDL	Test Method	Analyzed		By
Biochemical Oxygen Demand	<1.0	mg/L	1.0	EPA 405.1	04/15/2015	12:00 PM	KT
Chemical Oxygen Demand	Not Detected	mg/L	3.0	EPA 410.4	04/15/2015	10:35 AM	FK
Nitrogen, Ammonia	6.5	mg/L	0.20	EPA 350.1	04/20/2015	8:30 AM	PS
Total Suspended Solids	10.0	mg/L	1.0	EPA 160.2	04/16/2015	12:10 PM	LPR

Approved By:

Amelida D. Barrantes

Thursday, April 23, 2015



FQLabs

Analysts of Excellence

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FOOD, WATER, SOIL & ENVIRONMENTAL TESTING & CONSULTING

QC Report

Instream Solutions
11 Kalinga Rd
Ocean Grove Victoria, Australia, 3226
Attn:
Project Name:

Received: 4/15/2015
Completed: 4/20/2015
Project Number: 150415-2896-013

Analysis	QC Test	Results	MDL	Units	Spike Level	Source Result	% Rec	Rec Limits	% RPD	RPD Limit	Qualifier
Glucose-Glutamic Acid Check (GGA) 4/15/2015											
BOD	Blank	0.0	1.0	mg/L	-	-	-	-	-	-	Pass
BOD	GGA	173	1.0	mg/L	198±30.5	-	-	-	-	-	
The results are within the control limit range of 198 ± 30.5											

Batch Prepared and Analyzed 04/15/2015

COD	Blank	0.0	3.0	mg/L	-	-	-	-	-	-	
COD	LFB	92.0	3.0	mg/L	100	-	92.0	90-110%	-	-	
COD	Duplicate	ND	3.0	mg/L	-	ND	-	-	NR	20%	
COD	Matrix Spike	45.0	3.0	mg/L	50.0	0.0	90.0	90-110%	-	-	

Batch Prepared and Analyzed 04/16/2015

TSS	LCS	100.0	1.0	mg/L	100	-	100.0	90-110%	-	-	
TSS	Duplicate	204.0	1.0	mg/L	-	232.0	-	-	12.8	20%	

Batch Prepared and Analyzed 04/20/2015

Ammonia	Blank	0.0	0.20	mg/L	-	-	-	-	-	-	
Ammonia	LCS	19.0	0.20	mg/L	20.0	-	95.0	90-110%	-	-	
Ammonia	Matrix Spike	7.1	0.20	mg/L	8.0	0.0	88.8	90-110%	-	-	M8

Notes:

B1 Target Analyte detected in method blank was above the method detection limit.
D8 The duplicate exceeded the acceptance limit due to sample matrix effects.
dry Sample results reported on a dry weight basis.
LCS Laboratory Control Standard
M8 The matrix spike was below the acceptance limits. See Blank Spike (LFB)
M9 The matrix spike was above the acceptance limits. See Blank Spike (LFB)
MDL Method Detection Levels are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
ND Not Detected
NR Not Reported
R8 The LCS recovery was below the acceptance limits.
R9 The LCS recovery was above the acceptance limits.
REC Recovery
RPD Relative Percent Difference

Annexure 4
1st Quarter Activities
Kosrae State

CONTRACT	MONTH	ACTIVITY	DATE
Utwe Water Supply System Improvement Project	October	Slow Sand Filter: <ul style="list-style-type: none"> • Four each drainage concrete pit inspected and concreted for 24" C.I. cover base. • 4" PVC perforated lateral pipes installed with end caps at one section of the SSF chamber. • Continuous chipping of wall honeycomb areas with 2 CY of C35 concrete placed on inspected areas. • FCA connections were applied with denso paste and mastic tape wrapped. • Outflow chamber weir wall formwork removed, cleaned and plastered. 	October 01 to 31, 2015
		Pump House: <ul style="list-style-type: none"> • No activity 	
		River Bed Filter: <ul style="list-style-type: none"> • No activity 	
		Chlorinator Building: <ul style="list-style-type: none"> • Water supply booster pump mounting concrete base concreted. • Operator room window correction. • Chlorinator room 12" x 12" floor tile setting to grade to sump pit. 	
		Roughing Filter: <ul style="list-style-type: none"> • Three areas of honeycomb repair were placed with C35 concrete upon inspection. • 6" PVC backwash perforated pipes placed and concreted with C35 concrete on block-outs. • 6" inflow pipe with cemented 6" Tee and 6" x 4" reducer to install 4" perforated manifold pipe laterals in place. • Interior and exterior wall cleaned and plastered. • One each drainage raised pit concreted for 24" C.I. cover base. 	
		Waterline: <ul style="list-style-type: none"> • ARV Chamber at Sta. 3+60 completed with 24" C.I. cover base. • All backfilling works between distribution valve chamber to Sta. 4+80 completed. • 4" bulk meter chamber formwork & rebar inspected with concrete placed to below manhole cover frame. • Several service laterals were installed at the Utwe project residential area. 	
		30K Water Storage Tank: <ul style="list-style-type: none"> • Roof slab honeycomb repair areas, inspected and C35 	

		<p>concrete placed on 2nd. & 8th. July, 2015</p> <ul style="list-style-type: none"> • Finishing works on snap ties and other irregularities were corrected and plaster finished as required. 	
		<p>Mechanical & Electrical:</p> <ul style="list-style-type: none"> • Ground wire with grounding rod installed in trench around the chlorinator building. • Pump control water level sensor conduit piping placed to the designated area at the roughing filter with mounting clamps. • Wiring from main panel to pump house completed. 	
		<p>14th Progress Review Meeting between DT&I, DTC&I, KUA, Orion and stakeholders not held</p>	-
	November	<p>Slow Sand Filter</p> <ul style="list-style-type: none"> • Continuous layered backfilling with compaction of suitable materials to finish grade. • Several valve covers with frame installed, inspected and concreted. • Two each overflow spout catch basin with rebar & formwork inspected and concreted. • Two each concrete steps at both outflow chamber with rebar & formwork inspected and concrete placed. • Two aluminum ladders installed on outflow chamber to filtration tank. • All excavated areas for installation of valve covers, steps and overflow spout catch basin were backfilled and compacted. • Inflow launder channel hairline cracks were remedied with epoxy injection. 	November 01 to 30, 2015
		<p>Grading Works</p> <ul style="list-style-type: none"> • Grading works around treatment plant site, near SSF and main gate entrance. • Grading works between 30K tank & perimeter fence • Preparatory works for placement of sub-grade material at access to chlorination building. 	
		<p>Pump House</p> <ul style="list-style-type: none"> • Safety handrail rectified as per comments with bottom and middle 1" G.I. pipe supports. • Cul-de-sac gabion works at top of stairwell with grading works. • Incomplete retaining wall partially completed to accommodate fence on top of retaining wall. • Perimeter fence post locations excavated, inspected and gate & pipe post concreted. 	
		<p>River Bed Filter</p> <ul style="list-style-type: none"> • No activity 	
		<p>Chlorinator Building</p> <ul style="list-style-type: none"> • Preparatory works include minor excavation for 	

		placement of sub-base material for access to building	
		Roughing Filter <ul style="list-style-type: none">• Finishing of remaining grading works with backfilling and compaction of suitable materials.• 2. 4" supply valve to SSF installed with valve cover & frame inspected and concreted.• Shaping of drainage channel to required grade and side walls.	
		Waterline: <ul style="list-style-type: none">• On receipt of saddles for 10" waterline, several service laterals were installed for houses.	
		30K Water Storage Tank <ul style="list-style-type: none">• Extension rock wall constructed for additional 21 feet.• Correction on grading works around storage tank to the open drainage from roughing filter tank.• Steps to top of tank formed with rebar, inspected and concrete placed.• Hairline crack at top slab cleaned and treated with epoxy injection.	
		Mechanical & Electrical <ul style="list-style-type: none">• No activity during this period.	
		Treatment Plant Site Perimeter Fence <ul style="list-style-type: none">• Alignment at east entrance with post location excavation.• Concreting of 3" corner & 2" intermediate G.I. pipe post with C25 concrete mix.• Installing top pipe, corner bracing pipes and bottom tension wire complete with chain link fence fabric. (84' with main gate completed). Earth swale formed to grade and compacted at South and West ends of perimeter fence.	
		14 th Progress Review Meeting between DT&I, DTC&I, KUA, Orion and stakeholders held.	November 23, 2015
	December	Slow Sand Filter: <ul style="list-style-type: none">• Cleaning at left filtration chamber. Overflow 4" D.I. bell mouth found to be rusty with fasteners.• Drying & screening of sand filter media to acquire the specified gradation.	December 01 to 31, 2015
		Water Storage Tank: <ul style="list-style-type: none">• 6" supply line gate valve cover with frame inspected and concreted	
		Roughing Filter: <ul style="list-style-type: none">• Cleaning of tank interior, removal of rust on D.I. piping, fittings & fasteners	
		Chlorination Building: <ul style="list-style-type: none">• Preparatory works continue, include minor excavation	

		<p>for placement of sub-base materials for access to building.</p> <ul style="list-style-type: none"> • Dosing chamber manhole cover frame placed, inspected and concrete placement with smooth finishing. 	
		<p>Waterline:</p> <ul style="list-style-type: none"> • 6" distribution main connected with 45 degree bend at Sta. 6+28 • Two each bulk meter cover frames cast in place • 30K tank drainage washout completed • 140 service lateral partial packages installed • Three inline valves installed on existing waterline without valve covers 	
		<p>River Bed Filter:</p> <ul style="list-style-type: none"> • 6" scour gate valve installed on old 6" D.I. pipe from intake chamber 	
		<p>Pump House:</p> <ul style="list-style-type: none"> • Painting of safety handrail with gray primer to be completed with black epoxy finish. • Incomplete retaining wall at right completed to accommodate fence on top of retaining wall. • Finishing works on perimeter fence post concrete and two gates installed. Top rail pipe with chain link fence fabric completed and installed with top attachment and barbed wire installed. • Incomplete gabion works at between dam intake corrected to required elevation. • Drainage swale excavation compacted with formworks & rebar inspected and C25 concrete placed and finished to grade at cul-de-sac. 	
		<p>Mechanical & Electrical</p> <ul style="list-style-type: none"> • No activity in this period 	
		<p>Grading works.</p> <ul style="list-style-type: none"> • Grading works at around treatment plant site, near SSF and main gate entrance. • Excavation preparation works for placement of sub-base material to chlorination building. • Cul-de-sac backfilling with compaction to finish grade 	
		<p>Treatment Plant Site Perimeter Fence</p> <ul style="list-style-type: none"> • Alignment with post location excavation inspected and concreted. 	
		<p>Pipe Laying</p> <ul style="list-style-type: none"> • 8" inline gate valve installed near Orion office complete with 6" valve cover & frame concreted. • Four more service laterals installed this period 	
		<ul style="list-style-type: none"> • 15th Progress Review Meeting held between Kosrae State, DT&I, DTC&I, KUA, Orion and stakeholders 	December 14, 2015

ANNEXURE 4A

**DETAILS OF COMMITMENTS AND FUND AVAILABILITY
KOSRAE**

Financing Summary	4th Quarter 2014-15	1st Quarter 2015-16
ADF Funds Approved	\$3,314,521.46	
OCR Funds Approved	\$0.00	
Compact Infrastructure Grant Approved (Counterpart)	\$550,000.00	
ADF Funds Committed	\$2,849,178.84	\$2,849,178.84
OCR Funds Committed	\$0.00	\$0.00
Compact Infrastructure Grant Funds Committed	\$516,646.60	\$516,646.60
Uncommitted ADF Funds	\$468,293.64	\$464,188.21
Uncommitted OCR Funds	\$0.00	\$0.00
Uncommitted Compact Infrastructure Grant Funds	\$33,353.40	\$33,353.40
Total Uncommitted Funds	\$501,647.04	\$497,541.62

ANNEXURE 4B

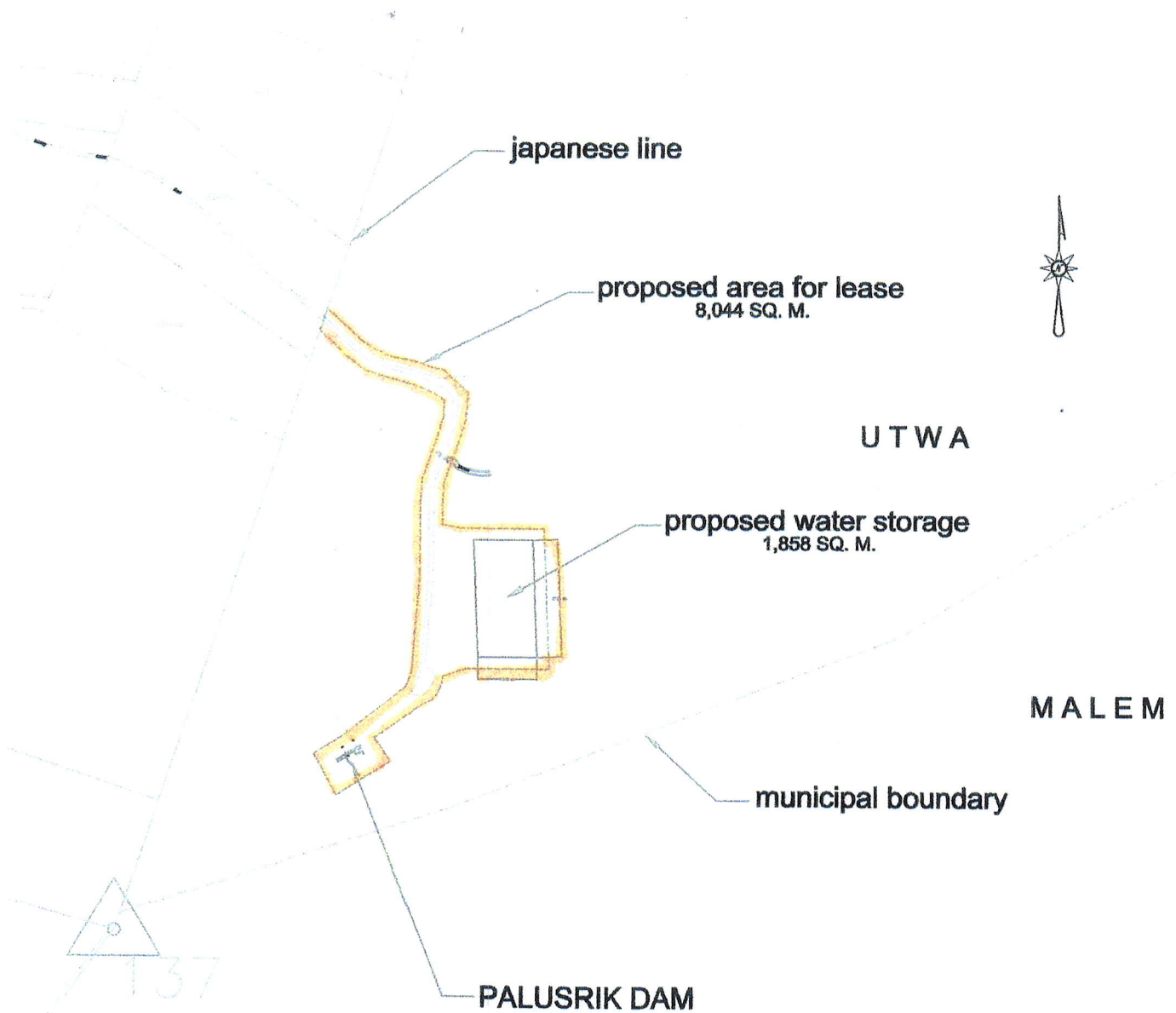


EXHIBIT "A"

ANNEXURE 5 – PROJECT IMPLEMENTATION STATUS

Location	Name of Project	Public Law	Source of	Value	Contractor	Notes on status	Remarks, Issues and Challenges
		No.	Funds				
Yap	Phase II Water Supply Augmentation for Maap	ADB / Compact	ADB Loan	\$ 2,530,000.00	GPPC - Saipan	39 th and 40 th review mtg. held. Coordination Meeting for handing over held on November 12, 2015. Substantial Completion Certificate issued on November 12, 2015.	Project completed. Substantial Completion Certificate needs to be revised. Change Order no. 3 for completion to be issued.
Chuuk	Omnibus (OIDP) Project Power rehabilitation	ADB / Compact	ADB loan / Compact	\$ 10,000,000.00	Construction carried out in house	Original scope of Project is completed. Bidding process for construction of Chuuk Power Plant over. Contract expected to be awarded in January 2016.	Reconciliation with ADB pending. Utilization of Compact Funds to be substantiated by CPUC.
Kosrae	Omnibus (OIDP) Project Augmentation of Water Supply in Utwe	ADB/ Compact	ADB/ Compact	\$ 2097645 (original) \$ 2,564,125.79 (Change Order no. 3)	Orion Construction, Guam	15 th Progress Review meeting held on December 14, 2015. 94% achieved against 196% time elapsed. Arrangement of Filter material remains the biggest constraint	Performance by Orion has been dismal. Completion now expected March, 2016. Leak detection and identification of trainees remain unattended.
Pohnpei	Omnibus (OIDP) Project Sewer Treatment Plant and Collection System Rehabilitation	ADB/ Compact	ADB / Compact	CCB: \$ 7,875,729 including all Change Orders Orion: 1,435,623 including all Change Orders	CCB - WWTP Orion - Rehab	CCB: Project completed except Change Order #11 for supply of Truck, Excavator and miscellaneous sheds. Orion: PUC have identified a new stretch of sewer line requiring rectification. Change Order no. 9 issued.	CCB: O&M period for original contract completed on 08/06/15. Additional two year O&M required by PUC, CO #12 finalized, and issued on August 06, 2015. O&M period commenced on August 07, 2015. Orion: Further additional investigative work identified. NTP issued based on CO#9. Work in progress.

ANNEXURE 6

PHOTOGRAPHS

YAP PHASE II

GPPC INCORPORATED, SAIPAN

PROJECT COMPLETED



FINAL INSPECTION AT WELL A



FINAL INSPECTION AT WELL A
CONTROL ROOM



FINAL INSPECTION AT WELL B1

2015/06/23



FINAL INSPECTION AT WELL B1



FINAL INSPECTION AT WELL B1



FINAL INSPECTION AT WELL B1



FINAL INSPECTION AT WELL B1
CONTROL ROOM



FINAL INSPECTION AT WELL B1
CONTROL ROOM

2015/09/28



FINAL INSPECTION AT WELL B1
CONTROL ROOM



FINAL INSPECTION AT 8K
GALLON TANK

2015/09/28



FINAL INSPECTION AT 8K
GALLON TANK

2015/09/26



FINAL INSPECTION AT 8K
GALLON TANK



FINAL INSPECTION AT
CHLORINATION BUILDING

2015/09/28



FINAL INSPECTION AT
CHLORINATION BUILDING



FINAL INSPECTION AT 50K
GALLON TANK



FINAL INSPECTION AT 50K
GALLON TANK



DEMONSTATION OF CONTROL PANEL
OPERATION DURING COMMISSIONING

An outdoor training session taking place on a paved area next to a grey building. A person in a red shirt stands at the front, facing a large whiteboard. Several participants are seated in white plastic chairs, some holding papers. A chain-link fence is visible on the right side of the frame. The scene is captured in a slightly blurred, candid style.

LECTURES DURING TRAINING AND
ORIENTATION



BRIEFING ON PUMP OPERATIONS
PRIOR TO COMMISSIONING

CHUUK

CPUC, CHUUK

PROJECT COMPLETED

**WENO ELECTRIFICATION
COMPLETED**















POWER PLANT

SWITCHYARD



SWITCHYARD



POHNPEI

CCB ENVICO, AUSTRALIA

PROJECT COMPLETED

**WWTP
COMPLETED**





**REFURBISHED CLARIFIER
INSPECTION BY DTC&I AND PUC**





















POHNPEI

ORION CONSTN CORP., GUAM

WORK AS IDENTIFIED COMPLETED

CHANGE ORDER NO. 9
NEW MANHOLE







**CHANGE ORDER NO. 9
DTC&F AND PUC INSPECTION**



KOSRAE

**ORION CONSTRUCTION CORPN.
GUAM**

PHOTOS

SLOW SAND FILTER



Rusted overflow D.I. bell mouth
need be cleaned & painted



Sand filter media screening at treatment plant site



Sand filter media screening at Tafunsak warehouse

30K STORAGE TANK



6" supply line gate valve cover & frame concreting and smooth finishing

ROUGHING FILTER



Inflow 6" D.I. pipe & fittings rusted, advised to clean and paint



Inflow 6" D.I. pipe & fittings cleaned and painted with epoxy paint

CHLORINATOR & OPERATOR ROOM



Access to chlorination building excavation preparation for sub-base placement



Chlorine dosing injection chamber cover frame placed, inspected with concrete pouring & finishing

DAM INTAKE



Existing 6" scour pipe cut and installed with new 6" gate valve & support for flushing

PUMP HOUSE



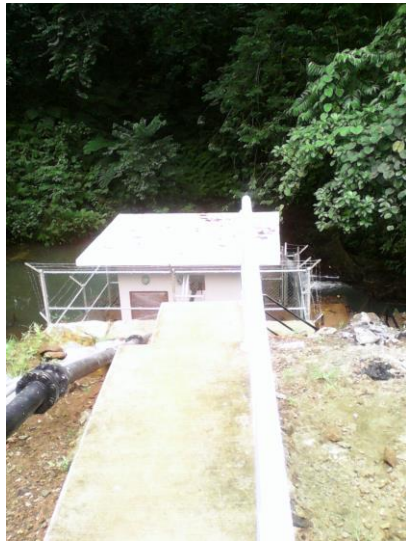
Safety handrail corrected, painted grey primer and black epoxy paint finished



Incomplete retaining wall at right completed to accommodate fence



Perimeter fence installation complete with chain link fence fabric and security barb wire at top



Front & rear view of completed chain link fence



Incomplete gabion works at between dam intake corrected to required elevation



Cul-de-sac drainage swale with formwork & rebar inspected and concrete placed with finishing

PIPE LAYING



Existing 8" waterline installed with new 8" gate valve and denso mastic tape wrapped



8" inline gate valve, backfilling with compaction & 6" valve cover/frame, formed & concreted



Service lateral installation with backfilling & compaction

MECHANICAL & ELECTRICAL

No activity this period

GRADING WORKS



Grading & compaction at treatment plant site



Cul-de-sac backfilling with compaction to finish grade.

TREATMENT PLANT SITE PERIMETER FENCE



Section of fence gate post at main entrance & secondary post excavation, post placement & concreting

—