

Semi-annual Report

June 2020

TOWN ELECTRIFICATION INVESTMENT PROGRAM – TRANCHE 1

Reporting period covering January-June 2020.

Prepared by PNG Power Limited for the Asian Development Bank.

This Semi-annual Environmental Monitoring Report is a document of the Borrower. The views expressed herein do not necessarily represent those of ADB Board of Directors, Management, or staff, and may be preliminary in nature.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgements as to the legal or other status of any territory or area.

Environment Monitoring Report

Loan 2713/2714

Town Electrification Investment Program (TEIP) Tranche 1 Projects



Reporting period: January to June 2020

Prepared by PNG Power Limited for the Asian Development Bank

June 2020

ABBREVIATION

ADB	Asian Development Bank
AGJJVL	Joint Venture of AG Investment Ltd & Huan Lishui Hydro & Power CO. Ltd
AIL	Angelique International Limited
AROB	Autonomous Region of Bougainville
CBC	Community Base Contracts
CEMP	Construction Environment Management Plan
CEPA	Conservation and Environment Protection Authority
DDC	Divune Development Company
DHPP	Divune Hydropower Power Project
EMP	Environment Management Plan
EO	Environment Officer
EP	Environment Permit
GOPNG	Government of Papua New Guinea
GRM	Grievances Redress Mechanism
IEE	Initial Environment Examination
IES	International Environment Specialist
HH	HouseHold
HSE	Health, Safety and Environment
HPP	Hydro Power Project
KBTL	Kimbe Bialla 66kV Transmission Line
KM	Kilometre
KV	Kilovolt
LHHPP	Lake Hargy Hydro Power Project
LLG	Local Level Government
LO	Landowner
MFF	Multi Tranche Facility
MW	Megawatt

PE	Project Engineer
PIU	Project Implementation Unit
PPE	Personnel Protection Equipment
PPL	PNG Power Limited
PRO	Project Relations Officer
PSO	Project Site Officer
RCHPP	Ru Creek Hydro Power Project
TC	Tree Compensation
TEIP	Town Electrification Implementation Programme
T1	Tranche 1
TL	Transmission Line

CONTENTS

1.0 Introduction	6
1.1 Background.....	6
1.2 Environmental Category.....	7
1.3 Institutional Arrangements	8
1.4. Work Progress	8
2.0 Environmental Monitoring	10
2.1 Monitoring Methods	10
2.2 Monitoring Schedule	10
2.3 Monitoring Activities	11
2.4 Monitoring Results	11
2.4.1 Divune Hydro Power.....	11
2.4.2 Divune TL	12
2.4.3 Ramazon TL	13
3.0 Environmental Management.....	14
3.1 Site Inspection and Audits.....	14
3.2 Non-compliance.....	15
3.4 Grievance Redress Mechanism	15
3.5 Disclosure and Participation.....	15
4.0 Conclusion and Recommendation.....	15
5.0 Annexes.....	16
Annex 1: Checklist Ramazon Transmission Line	16
Annex 2: DTL checklist.....	17
Annex 3: DHPP Checklist.....	18
Annex 4: Photos	20

List of Table

Table 1: Tranche 1 Sub Projects.....	7
Table 2: Brief update on work status for T1	9
Table 3: Monitoring Schedule T1	10
Table 4: DTL Monitoring Results.....	12
Table 5: RTL Monitoring Results.....	13

1.0 Introduction

1. This is the eight (8th) environment monitoring report covering the last six months from January to June 2020. The report covers the activities carried out for the Town Electrification Investment Program Tranche 1 (TEIP T1) subprojects and the environment monitoring of construction activities.

1.1 Background

2. TEIP Project Implementation Unit (PIU) of PNG is solely responsible for managing the tranche 1 subprojects under PNG Power Ltd. Funds for tranche 1 are provided under a MFF provided by ADB and the PNG Government. The loan component for T1 is closing at the end of June 2020, by then all subprojects should be completed ,however, has been extended to 31st October 2020 due to the COVID 19 impeding some of the works to be completed within the timeframe.
3. There are four subprojects covered under Tranche 1 including additional funding for Lake Hargy Refurbishment and Ru Creek Rehabilitation. Tranche 1 subprojects include (i)Kimbe Bialla 66 kV TL in West New Britain that connects Kimbe and Bialla town over a distance of 142km. (ii) Divune Hydro Power Project, a 3MW hydro power project located in Northern province and (iii) Divune TL of 33kV covering 70 km that will supply electricity from DHPP to Popondetta Town and Kokoda Station.(iv) Ramazon 33kV TL in AROB constructed over 67km. Lake Hargy and Ru Creek will include rehabilitation works within the powerhouse only to replace the old control systems and generators to improve capacity output. Table 1 outlines the six sub projects to be implemented under T1 and brief on the type of work required.
4. Lake Hargy and Ru Creek HPP are two mini hydro with an output capacity of 1.5MWeach located in West New Britain Province. These two subprojects were successfully completed at the end of Q4 2019.

Table 1: Tranche 1 Sub Projects

No.	TRANCHE 1 SUBPROJECTS	SCOPE OF WORK	CONTRACTOR
1	Kimbe Bialla 66KV Transmission Line	Construction of a new 66 kV TL connecting Kimbe and Bialla towns with a length of over 142km.	Angelique International Limited
2	Divune Hydro Power	Construction of a new run-of-river hydropower plan with a capacity of 3MW	Joint Venture of AG Investment and Hunan Lishui Hydro & Power Co. Ltd.
3	Divune 33kV TL	Construction of 33kV TL from Popondetta town to Kokoda station; over 70km	PPL/Contractor
4	Ramazon 33kV TL	Construction of 33kV TL from Kokopau Buka to Tearoki Mission; over 40km	PPL
5	Lake Hargy HPP Rehabilitation	Rehabilitate the Lake Hargy Hydropower facility back to its rated operating capacity of 2 x 750 kW.	Joint Venture AG Investment and Dong Fang Electric International Corporation
6	RuCreek HPP Rehabilitation	Refurbishment of the powerhouse including replacement and installation of new electromechanical equipment.	Vortex

1.2 Environmental Category

5. Monitoring reports on the environment are required by the ADB in accordance to Safeguard Policy Statement 2009, and also by Conservation, Environmental Protection Authority (CEPA). This is to ensure environmental sustainability and social-economic impacts are managed well during project implementation without causing adverse environmental impacts. The subprojects are categorised as Level 2B and require environment permits and EMP by CEPA. ADB categories the sub projects as category B which requires IEE and EMP.
6. All T1 subprojects have complied with the environmental requirements by ADB and CEPA. Environmental monitoring and audits continues throughout the life cycle of the project. Kimbe-Biala Transmission Line (KBTL) subproject has been completed in December

2018. The environmental monitoring of KBTL subproject has ceased after completion. The environmental monitoring is ongoing for Divune Hydro Power Project, Divune TL (DTL) and Ramazon TL projects. Since these sub projects construction works are currently on going.

1.3 Institutional Arrangements

7. TEIP is responsible for monitoring Contractors CEMP for all subprojects. An International specialist will be engaged to assist in strnghtening capacity, supervision and guidance of the environmental assessment process for all subprojects under the MFF, providing if necessary capacity building and on job training.
8. The Project EO of PIU is responsible for monitoring the contractors' implementation of the EMP and to coordinate EMP implementation of the project .A contractor's representative is responsible to implement the CEMP on-site is stationed at the contactors site office. The contractor reports to the Project Slte Engineers and EO of PMU.

1.4. Work Progress

9. Over the six month period from January to June 2020 he following activities were recorded and reported by the TEIP PMU currently implementing the subprojects. Kimbe Bialla 66kV TL has been completed. However, household connections are an ongoing activity.
10. The sub projects for T1 were expected to be competed end of June 2020, however further extended to end of October 2020. For the two projects under additional funding for T1 Lake Hagy and Ru Creek rehad works have been completed and the two hydros have been restored to their full operation capacity. Table 2 shows the brief update on progressive works at each sub project site.

Table 2: Brief update on work status for T1

No.	TRANCHE 1 SUBPROJECTS	SCOPE OF WORK	CONTRACTOR	WORK STATUS
1	Kimbe Bialla 66KV Transmission Line	Construction of a new 66 kV TL connecting Kimbe and Bialla towns with a length of over 142km.	Angelique International Limited	66 TL completed Household connection ongoing 80%
2	Divune Hydro Power	Construction of a new run-of-river hydropower plan with a capacity of 3MW	Joint Venture of AG Investment and Hunan Lishui Hydro & Power Co. Ltd.	Intake -100% Penstock- 100% Powerhouse – 90 % Surge tank- 95 %
3	Divune 33kV TL	Construction of 33kV TL from Popondetta town to Kokoda station; over 70km	PPL/Contractor	Pole erection- 75% Stringing- 70%
4	Ramazon 33kV TL	Construction of 33kV TL from Kokopau Buka to Tearoki Mission; over 40km	PPL	Pole Erection-85% Stringing-75%
5	Lake Hargy HPP Rehabilitation	Rehabilitate the Lake Hargy Hydropower facility back to its rated operating capacity of 2 x 750 kW.	Joint Venture AG Investment and Dong Fang Electric International Corporation	Completed and commissioned December 2019
6	RuCreek HPP Rehabilitation	Refurbishment of the powerhouse including replacement and installation of new delectromechanical equipment.	Vortex	Completed and commissioned November 2019

2.0 Environmental Monitoring

11. Monitoring of the environmental issues identified in the EMP and CEMP have been going during the construction period for each sub project. Contractor's monthly reports for T1 sub projects have been up to date . Monitoring of activities for this period was from July to December 2019.

2.1 Monitoring Methods

12. .Each sub project site follows a standard monitoring process listed below.

- Carryout Site Inspection
- Review of Contractors EMP monthly reports
- Review Contractors' progress monthly report
- Meeting with Contractors' Environment Officers

2.2 Monitoring Schedule

13. Environment audits and reporting by the PMU are required every six months. For 2019 monitoring of T1 subprojects schedule is outlined below..

Table 3: Monitoring Schedule T1

SUBPROJECT	CONTRACTOR	RESPONSIBILITIES	MONITORING PERIOD
Divune Hydro Power	Joint Venture of AG Investment and Hunan Lishui Hydro & Power Co. Ltd.	TEIP PMU EO, Contractor's HSE officer, PRO and Project Site Manager	Monthly reports January to June 2020 Environment Audit – None done due to COVID 19 lock down period
Divune 33kV TL	PPL/Contractor	TEIP PMU EO, PPL Transmission Line Supervisor, PSO	Monthly reports January to June 2020 Environment Audit – None done due to COVID 19 lock down period from end of March to early June 2020
Ramazon 33kV TL	PPL	Project Transmission Line Engineer, Project Site Supervisor and Project Site Officer	Monthly reports January to JUNE 2020 Environment Audit – No environment audit done due to COVID 19 lock down

2.3 Monitoring Activities

14. There was no monitoring audit carried out from PIU due to the Corona Pandemic that restricted movement and social distancing. However, the contractors continued to monitor their CEMP and provide reports during this monitoring period.
15. For RTL, no site visit however, the site officer and TL supervisor provides monitoring checklists. Ramazon TL monitoring activities includes;
 - Daily monitoring and monthly reporting as required by the CEMP using a standard checklist
 - Reporting incident reports
 - Providing reports to the PMU at the end of each month.

2.4 Monitoring Results

16. For each of the sub projects , the CEMP activities monitored for each project site is outlined below .

2.4.1 Divune Hydro Power

HEALTH, SAFETY & ENVIRONMENTAL PLANNING

17. HSE Planning is an integrated part of the whole project and therefore very activity on site passed through careful planning and execution. Any hazard identified during the planning stages would have to be corrected before commencement of work. Also the use of the “Next Month” Action Plan sheet helped to prioritised important HSE activities below;
 - There were no recordable injuries for this reporting period.
 - There were no trainings, no Near Misses, no environmental disturbances and no security issues.
 - The HSE team was at the village during the market days for continuous awareness and condoms distributions
 - HSE Statistics at the project site were recorded and the reported to PPL through these monthly reports. The JV company summaries its monthly statistics as nil injuries recorded.
 - There were two safety talks during this reporting period, the first one is the general HSE briefing while the other is the HIV/AIDS awareness

- There were no activities impacting on the environment.
- Workers and individual supervisors were reminded of the importance of their PPE. Every worker was working with expected minimum safety ware.
- Corono virus awareness was also conducted by the contractor HSE team
- Contractor has provided a checklist attached as annex 4. This checklist will be verified in the next monitoring period.

2.4.2 Divune TL

18. The monitoing activites for DTL are shown below in table 4. The transmission lines for PPL team is completed and for the contractor ongoing with the last 30 percent outstanding task. Checklist provided in annex 2.

Table 4: DTL Monitoring Results

ACTIVITIES	MONITORING RESULTS
Land Acquisition and clearance of ROW and other areas	Clearance of ROW is ongoing with 90 percent of the TL has been cleared and Affected Person compensated.
Material Transport	Transporting of materials such as poles and cables are secured and no accidents reported at the time of reporting.
Increased traffic and operating speeds	Only license drivers are allowed to drive PPL vehicles to and from project site. Sign boards are used to advise drivers along the road to slow down during working hours. No complaints and near missed accidents reported.
Dust and air quality	Dust is not a big issue as it often rains in the area. The project area is mostly rural so the air quality is not an issue.
Construction waste management	All construction waste are transported back to the designated storage area. all waste scrape will be recycled. Other waste materials disposed off at approved local land fills.
Storage and handling of fuel and lubricants	All fuel and lubricants are also stored in a designated area.
Community health and safety	Awareness has been carried out during initial stages of project and most of the communities are well aware of the issues. No issues at the time of reporting
Community consultation and grievances	Consultations are ongoing currently during CBC works and TC pay outs. Grievances are also issues PPL deals with on a daily basis, however, manageable.
Workers health and safety	Health and safety of workers is paramount and all workers are strictly in PPE during working hours.

2.4.3 Ramazon TL

19. The construction phase is now at Siara Village last part of the Selau Constituency. Construction crew had been minimizing from 14 to 7 casuals engage to keep the progress of the construction and also includes the MSK installation of Kits and meters. There are disturbance or issues with the communities PPL supports them in providing effective communication in regards to MSK installation roll. the compliance checklist with regard to the environmental Safety and hazardous materials at the construction site is outlined below in table 5. Checklist provided as annex 1.

Table 5: RTL Monitoring Results

Issues	Actions to Mitigate
Traffic and speed operation	Have safety cones on site and sign boards slowing vehicle at high speed.
Covid 19 Awareness	Though information of template
Dust and air	Control of vehicle at high speed from 100mtr away, having 2 x spotters before and after construction site
Workers Health and Safety	Having PPL uniforms on site during construction. Drinking of water and clean water. This includes hand washing of staff after and before work. Hand wash drums, we have fabricated and the laydown site.
Community consultation	Community awareness is always maintain chiefs and elders were involve to minimize drunkards from assaulting and harassing PPL staff
Meeting with linesmen	1. Linesmen attendance. 2. Health and safety of the Covid 19 spread. 3. Work Progress
Accidents	NIL accidents
Complain from community	NIL

3.0 Environmental Management

20. The Environmental Management System (EMS) establishes what the PIU need to do in order to manage itself so as to meet its environmental goals for T1.
- **Policy** – ADB Safeguard Policy 2009, CEPA guidelines on HP, EMP
 - **Planning** – IEE and EMP, CEMP for all sub projects and updated
 - **Implementation** – Monitoring by contractor and PMU is ongoing and reporting done at the end of each monitoring period.
 - **Checking and Correction Actions-** checklist updated and provided at the end of monitoring period and noncompliance issued to contractor where PMU finds contractor not complying with CEMP
 - **Management Review-** External Audits from financier and CEPA
21. All documentations have been implemented accordingly for all subprojects. All documents are made available to all stakeholders.
22. The EMS for T1 has been quite on track in managing the T1 subprojects environmental issues. Most of the issues encountered are manageable. However, there have been challenges faced in ensuring the contractors comply fully with the requirements and unforeseen setbacks such as the corona virus pandemic that has slightly hindered the progress of monitoring the activites of the Contractors EMP and PIU EMP.

3.1 Site Inspection and Audits

23. No site inspection was carried out due to COVID 19 lock down period from end of March to early June 2020.
24. Officer in charge of monitoring the CEMP for DHPP and DTL is a sub contractor based in Popondetta. His task is to conduct environmental monitoring every end of the month and provide reports to PPL. He is also required to be present during the environment audits conduted by the PIU.
25. For RTL monitoring is conducted by the PSO. His tasks are to provide CEMP montly reports and checklist every end of the month to PIU for verification.

3.2 Non-compliance

26. No non compliance notice was issued to DHPP, DTL or RTL as the sub projects are nearing completion. Also due to no site investigation and environment audit conducted by the PIU, there were no compliance notice issued to the contractor for T1 sub projects.

3.4 Grievance Redress Mechanism

27. No complaints on the environmental issues during this monitoring period..

3.5 Disclosure and Participation

28. Landowners of Waju have been engaged in small security contracts and minor labour works at DHPP. Most information from contractor is communicated through the Local PRO employed by the contractor. Local mothers are now engage in marketing of local fruits and vegetables to both local and international employees. The little income that they earn is used to pay for basic needs. However, as the project is winding down, other opportunities are there for the communities near project site such as free power connection, easy access to electricity for business opportunities. Enhancing living standard. Improving health and school facilities.

4.0 Conclusion and Recommendation

29. The subprojects for T1 have progressed steadily and quite behind schedule, however . monitoring of the environmental issues is on track and quite a few issues have been repeatedly overlooked by the contractors. These issues are manageable. There was no reportable environmental issue in DHPP, DTL and RTL for this reporting period. Continuous monitoring of the environmental conditions at the project site and the surrounding areas was carried out by the EPC Contractor to ensure no environmental damage or impact is experienced from any incident(s) that may occur.
30. DHPP and Divune TL environment compliance is rated at 80% and for Ramazon TL is 90%.

5.0 Annexes

Annex 1: Checklist Ramazon Transmission Line

ANNEX I: COMPLIANCE CHECKLIST

PPL COMPLIANCE CHECKLIST

Project: Ramazon TRANSMISSION Project N° 0

EO/Supervisor: CHRISTIANO AMI

Site/Selection: SELAK

Signature: [Signature] Date: 17/06/20

PERFORMANCE CRITERIA	CHECKED & OK	NOT OK... Actions taken to correct
Noise Control		
Noise and vibration levels minimized	OK	
Air Quality		
Dust Generation -Plant and Equipment	OK	
Exhaust	OK	
Access and Construction Extent		
Construction materials and access contained on site	OK	
Fuel and Hazardous Goods		
Hazardous materials stored properly	OK	
Materials safety data sheet on site	OK	
Fuelling and maintenance of Vehicle		
Fuelling being carried out in designated areas	OK	
Major repairs carried out away from construction works	OK	
Rubbish, Waste and Site Clean Up		
Waste generation kept to minimum	OK	
Excess soil and rock disposed of appropriately	OK	
Any area of potential waste contamination	OK	
Final cleanup of jobsite on completion	OK	
Prevention of Land and water contamination		
Accident Spills immediately cleaned up	OK	
Minimize potentials for spillage	OK	
Cultural Heritage		
Cultural heritage items are barricaded and protected	OK	
Appropriate training for staff on importance	OK	

Annex 2: DTL checklist

Project: Divune TL

EO/Supervisor: Richard Wasina PSO

Site/Selection: Awala to Kokoda station to Awala 50km

Signature:

Date: 15th June 2020

PERFORMANCE CRITERIA	CHECKED & OK	NOT OK... Actions taken to correct
Noise Control		
Noise and vibration levels minimized	OK	
Air Quality		
Dust Generation –Plant and Equipment	OK	
Exhaust	OK	
Access and Construction Extent		
Construction materials and access contained on site	OK	
Fuel and Hazardous Goods		
Hazardous materials stored properly	OK	
Materials safety data sheet on site		
Fuelling and maintenance of Vehicle		
Fuelling being carried out in designated areas	OK	
Major repairs carried out away from construction works	OK	
Rubbish, Waste and Site Clean Up		
Waste generation kept to minimum	OK	
Excess soil and rock disposed of appropriately	OK	
Any area of potential waste contamination	OK	
Final clean-up of jobsite on completion	OK	
Prevention of Land and water contamination		
Accident Spills immediately cleaned up	OK	

Annex 3: DHPP Checklist

Environmental Inspection Items	Implemented		N/A	Comments
	Yes	No		
1. Waste management; 1.1. Is the site kept clean and tidy (good housekeeping) 1.2. Are there separate bins for inert and Non-inert waste? 1.3. Are construction, recycled and general waste removed from site regularly 1.4. Are construction wastes removed by licensed collectors 1.5. Are oil drums and plant/equipment provided with drip trays? 1.6. Is there any oil spillage? 1.7. Is litter, foam, or other matters in nearby water/drain cleaned	 ✓ ✓ ✓ ✓	✓ ✓ ✓	 ✓	No always. Doing our best to clean up Contractor does it
2. Water; 2.1. Are waste water treatment system being used and properly maintained on site? (eg distil tank) 2.2. Are there any waste water discharged to storm drains? Is waste water treated? 2.3. Are sedimentation traps and tanks in place? 2.4. Are sand/earth bags adopted to prevent washing away of sand/silt and water waste to drains, roads and catch pits 2.5. Is the sand/mud settled out in the wheel washing bay and removed? 2.6. Are there any muddy water around the site entrance and public walk ways? 2.7. Is domestic water directed to septic tanks or chemical toilets?	 ✓ ✓	 ✓ ✓	✓ ✓ ✓ ✓	
3. Air; 3.1. Is the construction site dusty? 3.2. Are all stock piles of dusty materials covered or watered regularly 3.3. Is the cement debagging area under sheltered area 3.4. Are all vehicles carrying dusty materials covered before leaving the site? 3.5. Are dusty roads watered regularly? 3.6. Are dust controlled during rocks breaking? 3.7. Are plant/equipment well maintained? (eg. no black smoke)	 ✓ ✓ ✓ ✓ ✓ ✓	✓ ✓	 ✓ ✓	

3.8.Hoarding provided along boundaries and maintained	√			
3.9.Are speed control measures applied?				
4. Noise				
4.1.Do air compressors and generator operate with closed doors?	√			
4.2.Do air compressors and hand-held breakers have a valid noise emission labels?	√			
4.3.Any noise mitigation measures adopted?	√			
5. Storage of Chemicals and Dangerous Goods				
5.1.Are chemicals stored and labelled correctly	√			
5.2.Does storage of DG comply with license conditions.	√			
5.3.Are all proper measures to control oil spillage during maintained or to control other chemical spillage?	√			
5.4.Are spill kits/sand/saw dust used for absorbing chemical spillage readily available?	√			
6. Protection of Flora, Fauna and Historical Heritage				
6.1.Are disturbance to flora minimised?	√			
6.2.Are disturbance to fauna minimised?	√			
6.3.Are historical heritage preserved?			√	
7. Resource conservation				
7.1.Is water recycled wherever possible for dust suppression?			√	
7.2.Are leaking water pipes and water wastage prevented?	√			
7.3.Are diesel powered plants and equipment shut down while not in use to reduce excessive use?	√			
7.4.Are energy conservation practices adopted?			√	
7.5.Are metals or other alternatives used to minimise the use of timber?	√			
7.6.Are materials stored in good condition to prevent deterioration and wastage?	√			
7.7.Are pesticide used?			√	
8. Emergency preparedness and Response				
8.1.Are fire extinguishers/fighting facilities properly maintained and not expired? Escape route clearly labelled and not obstructed?	√			But not well maintained
8.2.Are there Master points on site? If yes, are they clearly labelled?	√			
8.3.Are accidents and Incidents reported and reviewed, and corrective/preventive actions identified and recorded?	√			

Annex 4: Photos

Ramazon TL/ HH connection Connection



Installation of MSK.



Termination of Service line and connection to main line.



Customer with his light as MSK energized.



DHPP – Power house



