

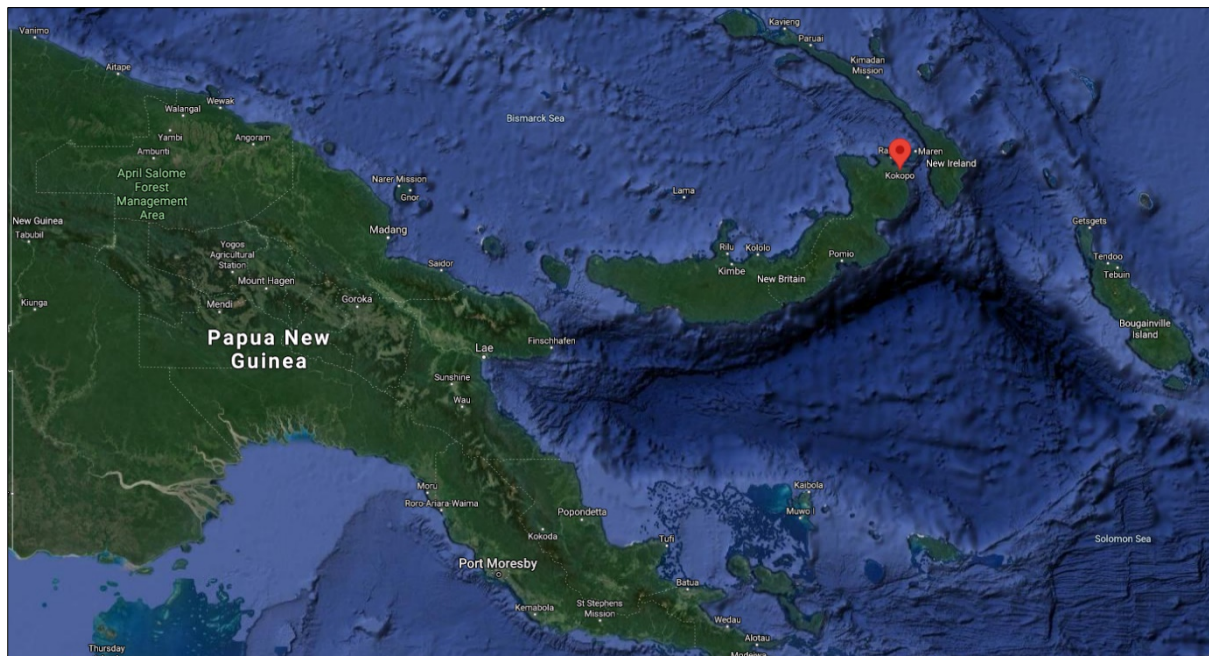
# Independent Power Producer (IPP) for a Renewable Energy Generation Facility



## Call for Expressions of Interest (EOI)

### Solar plus Storage Generation Facility for the Gazelle Electricity Grid near Kokopo in East New Britain, PNG

EOI Number: PPL GF-01



Revision	Date	Description	Author	Reviewed	Approved
0	08 Nov 2021	Release	GS	LD	KT

## Contents

1.	Expression of Interest .....	1
1.1.	Project Overview .....	1
1.2.	Project Information .....	2
1.1.1	Generating Facility (GF) .....	2
1.1.2	Site Details .....	2
1.1.3	Land & Permitting .....	2
1.1.4	Electrical Point of Connection .....	3
1.1.5	SCADA & Communications .....	3
1.1.6	GF Generation Forecasting .....	3
1.1.7	Grid Modelling and Grid Impact Assessment Studies .....	3
1.1.8	Network Rules (GC Requirements) .....	3
1.1.9	PPA Termsheet .....	4
1.1.10	Generation Levy .....	4
1.1.11	Tax Exemptions .....	4
1.3.	Governance .....	4
1.4.	EOI and Project Implementation Timetable .....	4
1.5.	How to Prepare your Submission .....	5
1.6.	Submitting your EOI .....	6
1.7.	Evaluation Criteria .....	6
1.8.	Important Notes .....	6
2.	Appendix A – Intended Site Details .....	7
3.	Appendix B - Gazelle SLD - POC marked .....	9
4.	Appendix C - Network Rules .....	10
5.	Appendix D - PPA Termsheet .....	11

# 1. Expression of Interest

## 1.1. Project Overview

As a core component of its economic growth and climate resilience strategy, the Government of Papua New Guinea is looking to increase its use of renewable energy sources.

PNG Power Ltd (PPL), the state-owned, vertically integrated utility is responsible for electricity generation, transmission, and distribution throughout PNG.

PPL has major transmission and distribution networks in Port Moresby, Ramu Valley and Gazelle Peninsula (Rabaul) that are partly supplied by hydropower plants. It also supplies electricity to 16 regional centres which are predominantly powered by diesel generators.

The current capacity of PPL's Gazelle generating fleet is approximately 10MW of diesel generation and 10MW of hydro power.

In an effort to reduce its electricity costs and the reliance on diesel, PPL has undertaken an initial feasibility study which has concluded that this grid is suitable for the inclusion of a solar and storage generation facility. This project has received approval from the PPL Board and Kumul Consolidated Holdings (KCH).

PPL is now seeking Expressions of Interest (EOI) for an Independent Power Producer entity (Seller) to provide a renewable energy Generation Facility (GF) which will be connected to the Gazelle Grid.

The Seller is to be suitably qualified and experienced in the financing, installation and operation of solar farms. Under the 2021 National Energy Authority (NEA) Act this project is classified as a "small scale generation project" which reserves generation licenses to Papua New Guinea Citizen Companies. As such this EOI is reserved for Papua New Guinea Citizen Companies who are suitably qualified and experienced in solar farms.

The Private Sector Development Initiative (PSDI)<sup>1</sup> is providing technical assistance to PPL and KCH for this project.

This GF will consist of a 5MW Solar Farm coupled with a battery with approximately 5MW/2.5MWh capacity. The first-year energy production will be a minimum of 9,000MWh. The purpose of the battery is to provide ramping and grid stability functions.

The term of the power purchase agreement (PPA) is to be 15 years (Term).

The proposed scope of works for the Seller is to include (but not limited to) the following:

- Arrangement of finance for the GF, based on the PPA with PPL as the offtaker for the Term
- Engineering, Procurement and Construction (EPC) of the GF
- Commissioning and Testing of the GF to meet specified performance criteria
- Operation and Maintenance (including site up-keep and security) to meet KPIs of the GF for the Term
- Ongoing metering, billing and necessary administration for the GF for the Term
- Refurbishment and handover of the GF to PPL at the end of the Term

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<sup>1</sup> PSDI is a technical assistance program undertaken in partnership with the Government of Australia, the Government of New Zealand, and the Asian Development Bank.

The intended land for the 5MW Solar Farm is currently undergoing the necessary development approval process by the East New Britain Provincial Government.

The intent of this EOI is to identify interested Respondents who wish to participate in the subsequent Request for Tender (RFT) process.

Based on the received EOI submissions, PPL will shortlist 3-4 potential Sellers who will be invited to submit a full binding tender response.

EOI and Tender costs are to be borne by the Respondent.

## **1.2. Project Information**

### **1.1.1 Generating Facility (GF)**

The GF is to be designed, financed, procured, installed, grid connected, commissioned, owned, operated, and maintained by the Seller for the duration of the Power Purchase Agreement (PPA). The Seller shall handover the GF to PPL at the end of the PPA term.

The GF will consist of a Solar Farm with an AC-coupled battery (to provide ramping and grid stability functions). For the purposes of this EOI, the requirements of the GF are as follows:

- 5MW at the connection point
- 66kV connection voltage
- 9,000MWh (minimum) first-year energy production
- 5MW/2.5MWh (approximately) battery capacity
- the maximum ramp rate (up or down) of the GF is required to be 400kW within any 60 second interval

The final GF requirements will be based on the EOI responses received and subject to PPL's grid modelling and grid impact assessment studies.

Additionally, the GF shall be compliant with, but not limited to, the following requirements:

- International standards, guidelines and best practices
- Designed and operated to withstand local conditions
- All applicable rules and regulations
- Design life of 25 years

### **1.1.2 Site Details**

Refer to [\*Appendix A – Intended Site Details\*](#).

Please note that this is the land that is intended to be used for the GF, but is subject to finalizing the necessary approvals.

### **1.1.3 Land & Permitting**

Respondents are to provide details of their land requirements for their specific GF solution.

Please note that for the purposes of this EOI, respondents are to assume that the land for the GF will be provided to the Seller free of charge for the Term.

However, it is likely that the land will be provided to the Seller via a Lease Agreement, in which the annual lease cost will be added to the fixed component (Refer Returnable Schedule RS5).

PPL will secure all development permits and approvals from governing agencies necessary for the installation of the GF by the successful Respondent. The Respondent will be responsible for securing the necessary construction permits for the project.

#### **1.1.4 Electrical Point of Connection**

The Respondent can assume that the electrical Point of Connection (**POC**) for the GF will be the network of side of the 66kV circuit breaker which is to be located just within the site boundary (and closest to the existing power line).

The Seller shall supply the HV transformer, switchgear, metering, and any other equipment required for a compliant connection. PPL will only be responsible to connect from the network side of the 66kV circuit breaker to the existing power line.

The Seller shall not be responsible for any transmission line or line augmentation outside of the site boundary.

Refer to *Appendix B - Gazelle SLD - POC marked*.

#### **1.1.5 SCADA & Communications**

The Seller is to allow for a SCADA & Communications system to be implemented which will provide PPL with the ability to monitor and react to system dynamics and alarms. Details to be determined with PPL at a later stage.

#### **1.1.6 GF Generation Forecasting**

The Seller is to allow for the following:

- Long term forecasting based on historical average weather data on an annual and monthly basis
- Short term forecasting using on-site measuring equipment to provide both the Seller and PPL with the ability to react to fluctuations in irradiance on a daily and half-hourly basis.

Final forecasting requirements to be determined with PPL at a later stage.

#### **1.1.7 Grid Modelling and Grid Impact Assessment Studies**

PPL will act as the network operator for the GF.

Based on the EOI responses received, PPL will conduct grid modelling and grid impact assessment studies and will provide the relevant outputs to the Seller.

#### **1.1.8 Network Rules (GC Requirements)**

The Seller shall adhere with all PPL Network Rules.

Refer to *Appendix C - Network Rules* for the Rules.

### 1.1.9 PPA Termsheet

A PPA Termsheet has been developed for the purposes of this EOI. Refer to [Appendix D - PPA Termsheet](#).

A full PPA version will be made available at the time of the RFT.

### 1.1.10 Generation Levy

As per Section 61 of the NEA Act, generator license holders are required to pay a quarterly Generation Levy to the NEA for administration of the Act.

It is calculated as K0.009 per kWh that is generated and transmitted and is to be paid by the Seller.

### 1.1.11 Tax Exemptions

PPL may seek tax exemptions for the project from the Government of PNG.

However, for the purposes of this EOI, please assume that the Seller will not be exempt from taxes, including all corporate income tax, withholding tax, sales and/or value added tax, import duties and tariffs arising from or connected with the project.

## 1.3. Governance

The PSDI is providing technical assistance to PPL for the preparation and execution of this tender. PSDI is a member of the Project Steering Committee (PSC) for the tender, which is chaired by the CEO of PPL and includes senior PPL staff and representatives from Kumul Consolidated Holdings. The evaluation of EOIs and project proposals will be conducted by the PSC, who will make a recommendation to the PPL Board. The PPL Board has the authority to award the contract. The involvement of PSDI is strictly limited to technical assistance, no financing is being offered.

## 1.4. EOI and Project Implementation Timetable

PPL is working towards the following schedule for this EOI, subsequent RFT, tender completion and project implementation:

Item	Timing
Issue EOI	08 November 2021
Register your Interest	At soonest
Last Date for Questions	03 December 2021
<b>EOI Submission Date</b>	<b>10 December 2021</b>
Completion of EOI Evaluation and shortlisting of Respondents	18 February 2022
Release of Tender	01 March 2022
Tender Submission	06 May 2022
Tender Evaluation, Award, and PPA signing	05 August 2022
Financial Close	16 December 2022
Engineer, Procure, Construct & Commission	January 2023 – November 2023
Commercial Operation	30 November 2023
Commencement of PPA Term	01 December 2023

## 1.5. How to Prepare your Submission

**Step 1** - Carefully read all parts of the EOI package and ensure you understand the requirements.

**Step 2** - Register your interest in responding to the EOI as soon as possible, by sending an email to the PPL contact below so that you can be notified of any updates to the EOI and any answers to questions that have been submitted.

Any questions and/or requests for clarifications must be addressed by email to PPL before the Last Date for Questions in Section 1.4 above. PPL will endeavour to respond to all questions within 5 working days. PPL will make all questions and answers that it provides available to all Respondents.

**Step 3** - Please complete all EOI Returnable Schedules in native format and include **all** the relevant requested documentation (see Step 5) in your submission.

The list of EOI Returnable Schedules are as follows:

- Cover Sheet
- RS1 - Organisation
- RS2 - Project Specifics
- RS3 - Components
- RS4 - Energy
- RS5 - Price
- RS6 - PPA Term Sheet Compliance
- RS7 - Team & Track Record
- RS8 - Project Schedule

**Step 4** - Please print and sign the Cover Sheet

**Step 5** - Please include **all** the relevant documentation requested in the EOI Returnable Schedules.

For your EOI submission, please use the following folder structure as applicable:

- ✓ Cover Sheet (Signed)
- ✓ EOI Returnable Schedules (in native format)
- ✓ RS1 - Organisation
- ✓ RS2 - Project Specifics
- ✓ RS3 - Components
- ✓ RS4 - Energy
- ✓ RS5 - Price
- ✓ RS6 - PPA TS Compliance
- ✓ RS7 - Team & Track Record
- ✓ RS8 - Project Schedule

## 1.6. Submitting your EOI

Complete EOIs must be submitted by email to PPL by 4pm POM time on the **EOI Submission Date**.

PPL contact for this EOI submission and questions/requests for clarifications is:

Name: Kero Tom

Position: a/Senior Manager Business Development – Generation

Email: [ktom@pngpower.com.pg](mailto:ktom@pngpower.com.pg)

All questions/ requests for clarification pertaining to this EOI and proposed project must be submitted to the PPL contact via email. Only questions submitted in this manner will be answered.

## 1.7. Evaluation Criteria

The following criteria (not in order of importance or weighting) will be used to evaluate the EOI submissions:

- Acceptance of the PPA Termsheet
- Capability and experience with similar IPP projects, preferably in PNG or Pacific Islands
- Capacity to deliver and operate the GF
- Ethical conduct
- Financial strength, organisational structure, and capacity to mobilize required funding
- Health and safety credentials
- Indicative PPA price range in Kina per MWh
- Quality and completeness of EOI response
- Quality of technical solution and compliance with EOI requirements

Shortlisted Respondents will be invited to respond to the RFT. Any contract award will be made in accordance with the terms of the RFT.

## 1.8. Important Notes

It is currently intended that Respondents will need to submit a response to this EOI in order to qualify for any subsequent RFT.

However, this EOI does not constitute a commitment, implied or otherwise, that PPL will take action in this matter, including issuing an RFT.

The Respondents warrant that the information provided in their EOI response is complete and accurate.

Respondents are encouraged to seek independent tax and legal advice in preparing their EOIs.

Respondents accept that information and analysis contained in their EOI response become the property of PPL upon submission.

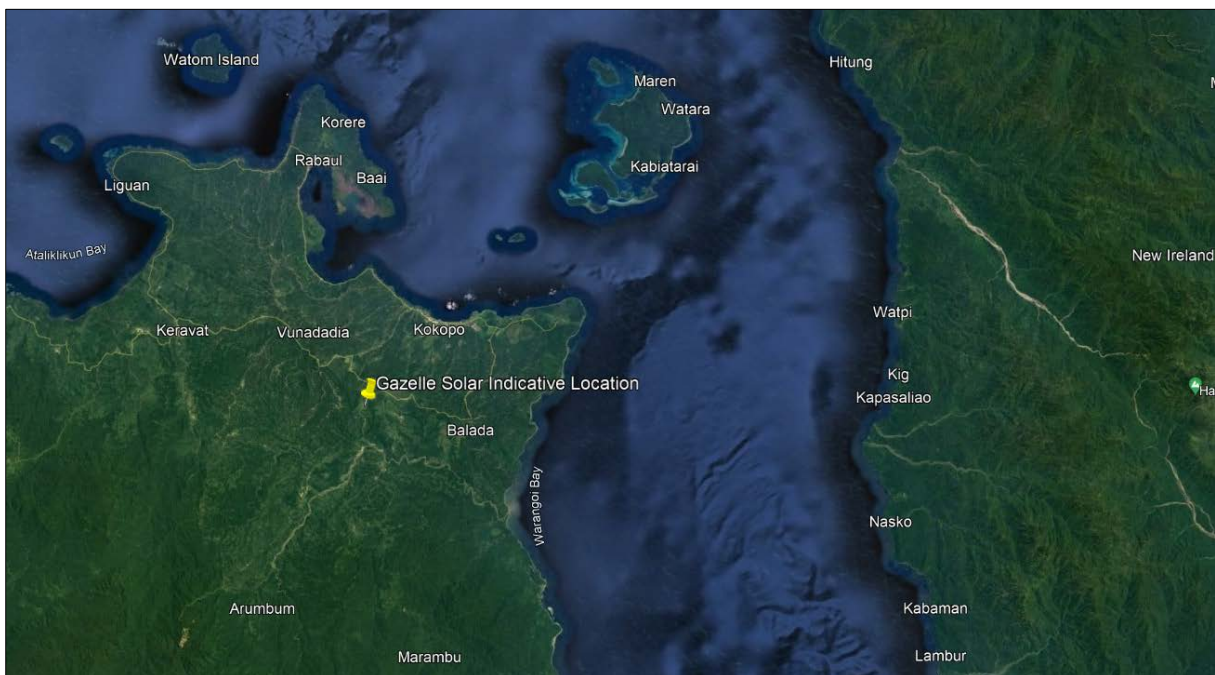


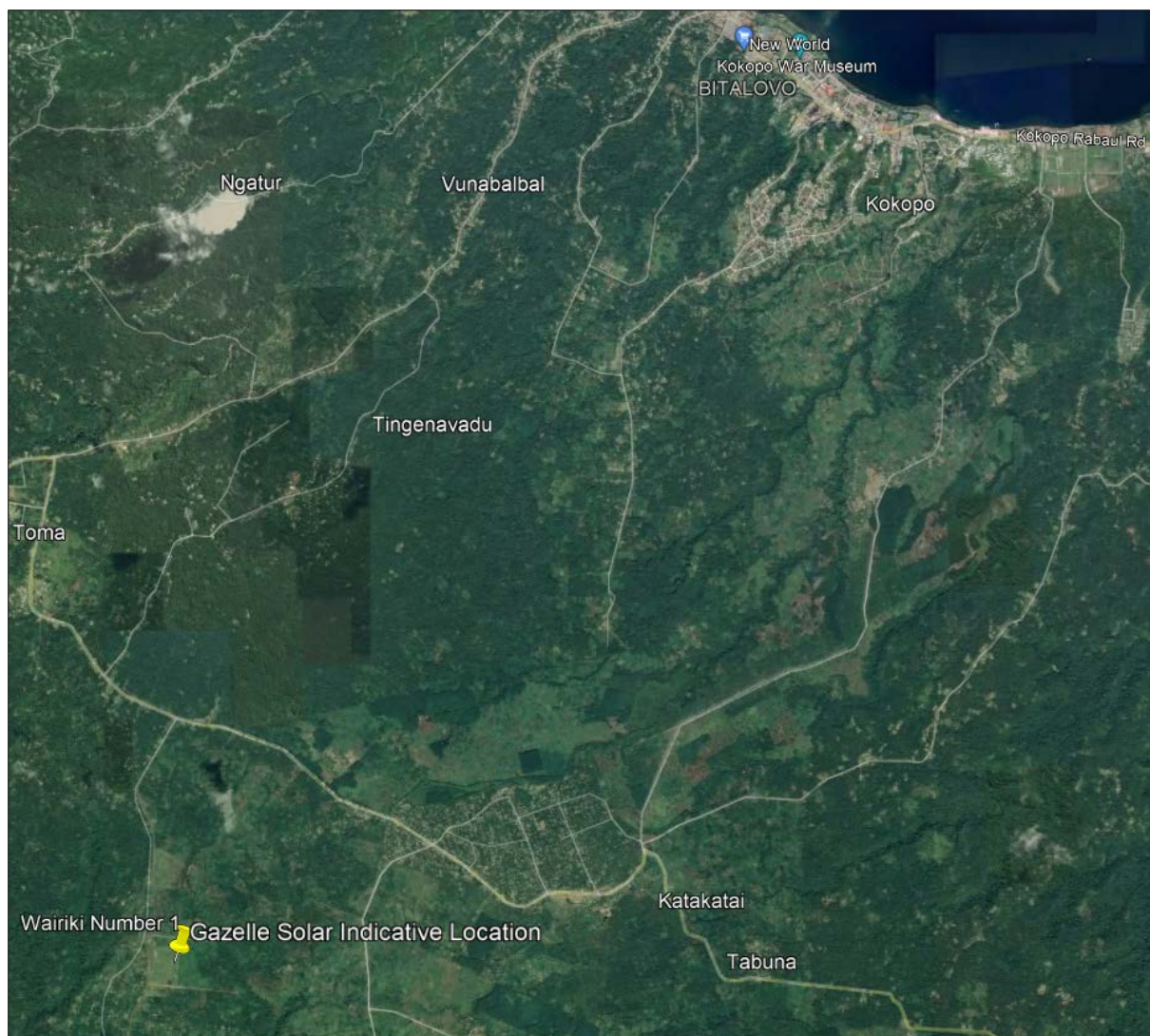
## 2. Appendix A – Intended Site Details

Please refer to the following documents:

- *Intended Site Details (Land Parcel 5560)*

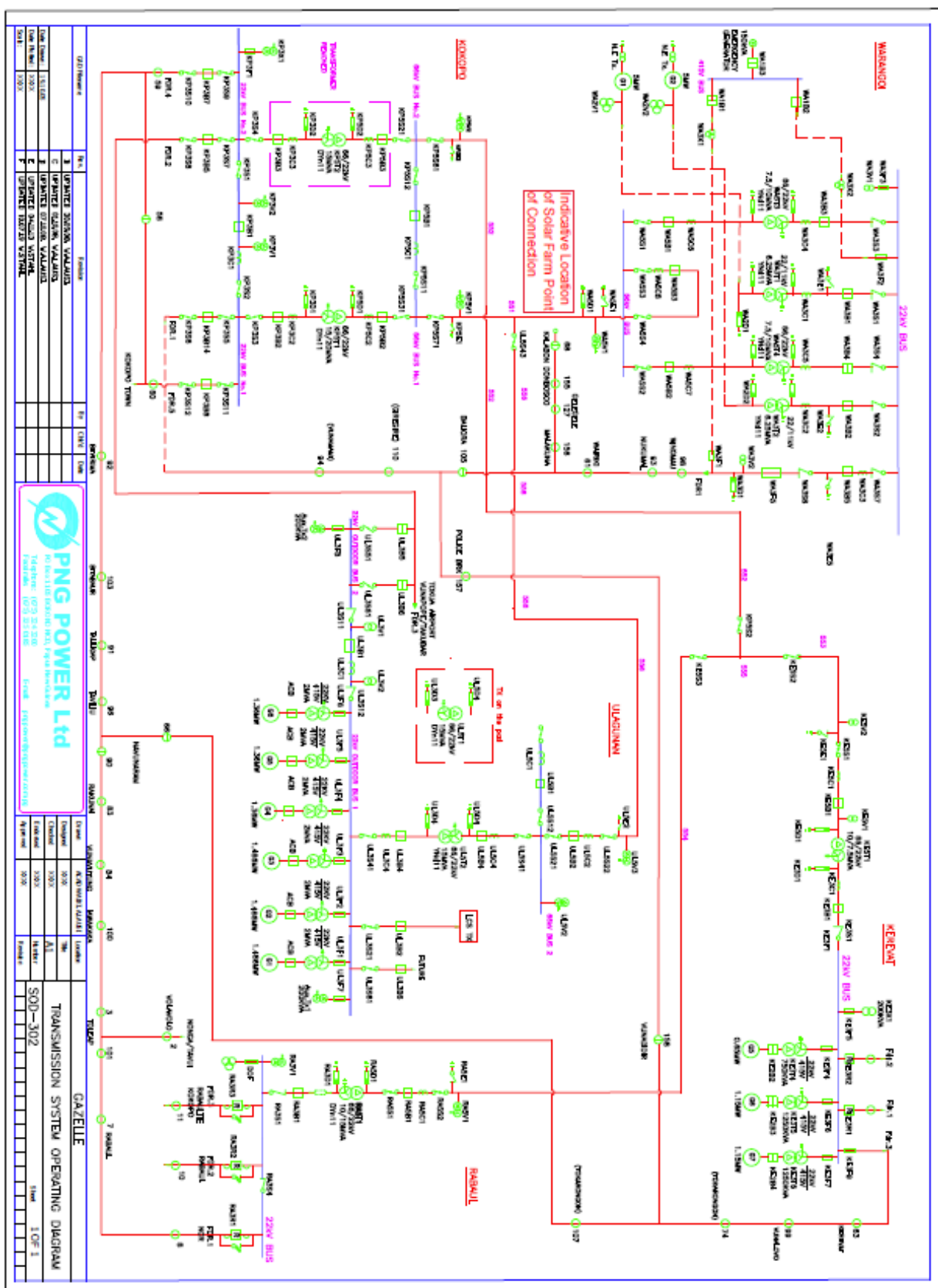
Additionally, the images below show the intended site location:







### 3. Appendix B - Gazelle SLD - POC marked



## 4. Appendix C - Network Rules

*Please refer to the following documents:*

- *PNG Grid Code*
- *PNG TPA Code*

## 5. Appendix D - PPA Termsheet

Item #	Key Term	Detail
1	Parties	<b>PNG Power Limited</b> (PNG company no. 1-44680) of Section 12, Allotment 1, Cordia Street (off Wards Road), Hohola, (P.O Box 1105, Boroko), National Capital District, Papua New Guinea ( <b>PPL</b> ). <b>[Party B]</b> [insert name] of [insert address] ( <b>Seller</b> ).
2	Commercial Operation Date ( <b>COD</b> )	30 November 2023
3	Delays to COD	If COD is delayed due to a PPL action or inaction, then PPL will pay the Seller delay damages. If COD is delayed due to a Seller action or inaction, then the Seller will pay PPL delay damages.
4	Term	15 years from COD. At the end of the term, the Generation Facility ( <b>GF</b> ) will transfer to PPL at no cost.
5	PPL Securities	PPL will provide a Letter of Credit, noting that there will be no State Guarantee
6	Seller Securities	Seller to provide suitable guarantees during both the construction and operation phases
7	Currency	The currency of the PPA will be Papua New Guinea Kina (PGK)
8	Interconnection Point	The Point of Connection (POC) is the network side of the 66kV Circuit Breaker
9	Minimum Quantity of Electrical Energy	The first-year energy production will be a minimum of 9,000MWh. Subsequent years will be based on an agreed degradation rate.
10	Maximum Quantity of Electrical Energy	The annual maximum energy production will be agreed between the parties
11	Principle Obligations of the Parties	PPL commits to purchase between the Minimum and Maximum Quantities of Electrical Energy for each year, if the GF is capable of producing at least the Minimum Quantity of Electrical Energy for each year.  The Seller guarantees that if the GF is not curtailed the GF will be able to deliver the Minimum Quantity of Electrical Energy for that year.  The Seller is responsible for the operation and maintenance of the GF accordance with all relevant standards and regulations.
12	Dispatch and Curtailment	From COD and for the Term, the Seller shall dispatch all of the Electrical Energy produced by the Generation Facility to PPL at the Interconnection Point. However, the Parties acknowledge that there may be times when PPL needs to curtail the output of the GF.
13	Minimum Payment	PPL shall pay for all Electrical Energy delivered at the Interconnection Point. Should PPL issue curtailment dispatch orders that result in an annual energy production less than the Minimum Quantity of Electrical Energy for that year, PPL will pay for the Minimum Quantity of Electrical Energy for that year.

Item #	Key Term	Detail
14	Underperformance Fees	If curtailment dispatch orders would not result in an annual energy production less than the Minimum Quantity of Electrical Energy for that year but the GF produces less than the Minimum Quantity of Electrical Energy for that year, then the Seller will pay PPL Underperformance Fees.
15	Annual True-Up	Energy payments and Underperformance Fees will be calculated and paid for on a monthly basis, with an annual true-up on each anniversary of COD.
16	Insurance	The Seller must at all times during the Term maintain the Minimum Insurance Requirements.
17	Force Majeure	A party affected by a Force Majeure event will be excused from performance and will not be liable to the other Party for any failure in carrying out its obligations under the Agreement but only to the extent of the force majeure event. The affected Party will use best endeavours to resolve the Force Majeure event as quickly as possible, with all reasonable assistance from the other Party.
18	Termination	The following will be causes for termination: <ul style="list-style-type: none"> <li>• Failure to meet Condition Precedent</li> <li>• Seller event of default</li> <li>• PPL event of default</li> <li>• Prolonged Force Majeure event</li> </ul>
19	Step-in Rights	The Financier shall have the right to step-in if the Seller underperforms, via a direct agreement. PPL shall have the right to step-in if the Seller causes a Material Breach or if there is an Emergency Event.
20	Limitations of Liability	Each Party will only be liable to each other for the following: <ul style="list-style-type: none"> <li>• any liability to pay any liquidated damages</li> <li>• any liability in the case of fraud, willful misconduct, or willful default</li> <li>• any liability of PPL to make the payments for the supply of electricity as required</li> <li>• any liability of PPL to pay any purchase price for the GF on Termination</li> <li>• any liability of the Seller to the extent of amounts received (or would have been received) by the Seller in respect of such liability under any of the insurance policies</li> </ul>
21	Taxes	Each Party will be solely liable for payment of their own tax liability as it falls due.
22	Governing Law	Papua New Guinea