



**Environmental
Protection
Agency**

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Environmental Permit

Issued under the Environmental Protection Act, Cap. 20:05, Laws of Guyana, the Environmental Protection (Amendment) Act, 2005, and the Environmental Protection (Authorisations) Regulations, 2000.

Reference No.:	20230221-GPLOE
Fee:	Medium (C1) - US\$500 per year
Fees Paid:	US\$ 1000 for two (2) years – January, 2024 to December, 2025

Addressee: **Mrs. Allana Heeralall**
 Environmental Management Specialist
 Guyana Utility Scale Solar PV Program
 Guyana Power & Light Inc.
 Carmichael Street, North Cummingsburg, Georgetown.

Activity: Construction and Operation of a Solar Farm.

Guyana Power and Light Inc., herein referred to as the "Permit Holder", is hereby authorised in accordance with the Environmental Protection Act, Cap. 20:05, Laws of Guyana, Environmental Protection (Amendment) Act, 2005, and the Environmental Protection (Authorisations) Regulations, 2000, to construct and operate a solar farm at Onderneeming, Essequibo, hereinafter referred to as "the Project", in the manner indicated in the Application submitted on February 21, 2023, subject to the terms and conditions set forth herein under the Environmental Protection Act, existing or forthcoming regulations made under the said Act and/or any other applicable Laws of Guyana, best practices, guidelines and standards relevant to this project.

Terms and Conditions for construction and operation to be adhered to by the Permit Holder, his servants, agents and sub-contractors:

1.0 GENERAL

- 1.1 The Permit Holder shall make an application to the Agency to vary this Environmental Permit in instances where it becomes necessary to:

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- i. Change the construction, operation, structure, or layout of the facility and all associated buildings;
 - ii. Change equipment, machine, apparatus, mechanism, system or technology serving the facility;
 - iii. Change the position and design of any outlet at the point or points of discharge of effluents; or
 - iv. Affect any other change outlined in 20(3) of the Environmental Protection (Authorisations) Regulations.
- 1.2 The Permit Holder shall comply with all applicable laws, regulations and guidelines, including but not limited to the following:
 - a. Environmental Protection Act, Cap 20:05, Laws of Guyana;
 - b. Environmental Protection (Water Quality) Regulations, 2000;
 - c. Environmental Protection (Air Quality) Regulations, 2000;
 - d. Environmental Protection (Noise Management) Regulations 2000;
 - e. Environmental Protection (Hazardous Waste Management) Regulations, 2000;
 - f. Occupational Health and Safety Act, Cap 99:10, Laws of Guyana;
- 1.3 The permit Holder shall employ or designate an employee to the role of an Occupational Health and Safety (OHS)/Environmental Officer to be responsible for the implementation and coordination of all safety requirements and terms and conditions stipulated in this Permit, as well as compliance monitoring with the preparation of all required reports.
- 1.4 The Permit Holder shall make all employees, and third parties under your direction, aware of the conditions of the Environmental Authorisation and provide training on good environmental practices.
- 1.5 Guyana Fire Service Approval shall be obtained and maintained annually and shall be submitted as a component of the Environmental Annual Report. The Permit holder shall maintain fire prevention and control equipment in accordance with the Guyana Fire Service Approval.
- 1.6 The Permit Holder shall submit to the EPA upon receipt, the requisite approvals from the Central Housing and Planning Authority (CH&PA), the relevant Municipality or any other authority with jurisdiction and oversight over the Project.



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- 1.7 The Permit Holder shall utilise the land in accordance with the plan submitted to the Agency. All specifications of location, pathways, reserve and boundary lines must be adhered to, unless otherwise authorised; evidence of which must be provided to the Agency.
- 1.8 The Permit Holder shall ensure at all times that the construction of the Solar Photovoltaic Grid System is done in such a manner that will result in minimal impact on public health and the environment.
- 1.9 Construction works shall not be executed between 18:00 hrs. to 06:00 hrs., on any day, close to communal areas unless, approval is sought from the EPA. This requirement does not apply for large concrete pours or asphalt laying and earth removal where work in the early morning and late evening is required.
- 1.10 The Permit Holder shall ensure all equipment used shall be monitored and maintained in accordance with the manufacturer's specifications. A maintenance schedule shall be made available to the EPA upon request.
- 1.11 The Permit Holder shall ensure that appropriate barriers, equipment/material staging areas, and all supporting infrastructure, facilities and equipment associated within the project site are provided, maintained and removed upon completion of works. Once works are completed, rehabilitation measures must be implemented to restore any disturbances to the environment.
- 1.12 The Permit Holder shall ensure that access is provided to all properties adjacent to the site for the duration of the project construction. Place warning signs at strategic locations and create walk paths to avoid accidents with individuals in the nearby communities.
- 1.13 The Permit Holder shall undertake construction, including clearing of vegetation, at a pace slow enough to ensure that terrestrial animals and aquatic fauna can move to other locations.
- 1.14 The Permit Holder shall ensure that all excavated materials are handled in such a way to not negatively impact habitats or pose a significant hazard to human health and the environment.
- 1.15 The Permit Holder shall identify suitable areas for material stockpile and equipment during the construction phase.



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- 1.16 The Permit holder shall ensure that the photovoltaic system panels are installed in accordance with the manufacturer's installation instructions.
- i. Clearly identify on the site plan the point of interconnection with the utility supplied wiring system and provide details on main breaker and photovoltaic (PV) breaker.
 - ii. Ensure that Photovoltaic plates are placed horizontally at about four (4) ft above ground level and are tilted at 60 and azimuth at 540 angles in a southern (South East) direction, to minimise sun glare on the surrounding environment.
- 1.17 The Permit Holder shall ensure that the Solar Photovoltaic Grid is at least 100 m from any adjoining community or commercial activities within the Project area.

2.0 WATER AND SOIL QUALITY MANAGEMENT

- 2.1 The Permit Holder shall adhere to the provisions of the **Environmental Protection (Water Quality) Regulations 2000**.
- 2.2 The Permit Holder shall maintain the integrity of the existing waterways at all times. Discharges into the environment shall be in accordance with the Guyana National Bureau of Standards (GNBS) Interim Guidelines for Industrial Effluent Discharge into the Environment. The following are the allowable limits for this type of project and should not be exceeded:
- i. Total Suspended Solid (TSS) < 50 mg/L;
 - ii. Oil and Grease < 10 mg/L.
 - iii. pH 5.0-9.0;
 - iv. Temperature < 40 °C;
 - v. Biological Oxygen Demand (BOD) < 50 mg/L;
 - vi. Chemical Oxygen Demand (COD) < 250 mg/L;
 - vii. Chloride < 0.2 mg/L.
- 2.3 The Permit Holder shall take all practicable measures to avoid erosion, siltation and sedimentation of existing water bodies within the vicinity of the project site. Do not discharge wastewater from washout and/or cleanout of concrete, paint, and other construction materials into waterways unless appropriately treated.
- 2.4 The Permit Holder shall construct and maintain drainage systems capable of handling the probable maximum precipitation event.



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- 2.5 The Permit Holder shall avoid soil and water contamination from fuel, grease, waste oils and other petroleum products that might be used at the facility.
- 2.6 The Permit Holder shall ensure that all oils, fuel, paints, and chemicals are stored in a designated area, at least 10 meters away from waterways.
- 2.7 The Permit Holder shall as far as practicable, conduct refueling, oil changes, and maintenance of vehicles, machinery, and other equipment on an impervious base. Spills should be cleaned up immediately utilizing the best practicable means.
- 2.8 Disposal of excavated materials into surrounding waterways is strictly **prohibited**.
- 2.9 The Permit Holder shall not discharge or dump solid waste and/or trade effluent directly into receiving waters without prior treatment. Install and maintain a grease trap/ an oil-water separator(s) at the final discharge point of the on-site sewage facility through which all effluent must pass before final discharge.

3.0 AIR QUALITY MANAGEMENT AND NOISE ABATEMENT

- 3.1 The Permit Holder shall comply with the **Environmental Protection (Air Quality) Regulations, 2000** and the **Environmental Protection (Noise Management) Regulations 2000**.
- 3.2 The Permit Holder shall monitor noise emissions to determine compliance with the **Guyana National Bureau of Standards (GNBS)** Guidelines for Noise Emissions into the Environment. Sound levels from noise-making devices shall not exceed the limits below, at a distance of 15 metres (50 ft) from the source or property boundary, whichever is closer.

During Construction

Construction Limits: 90 dB during the daytime (06:00 h - 18:00 h)

75 dB during the night-time (18:00 h - 06:00 h)

During Operation

Residential Limits: 75 dB during the daytime (06:00 h - 18:00 h)

60 dB during the night-time (18:00 h - 06:00 h)

- 3.3 The Permit Holder shall carry out all construction and operation activities in a manner to avoid, minimise, and control potential noise disturbance to the surrounding environment.

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- 3.4 All sound-making devices, such as generators, must be placed on foundations properly designed to ensure effective damping of vibrations; housed in an enclosure constructed using materials with good insulation properties (e.g., hollow concrete blocks, insulation boards, solid clay bricks, etc.); and equipped with silencers/mufflers to reduce the noise level. Equipment must be consistently maintained and those that become obsolete replaced.
- 3.5 The Permit Holder shall place stockpiles downwind to avoid materials being transported by wind to sensitive receptors (e.g., residences, schools, etc.). Confine loading and offloading activities, as far as possible, to this location.
- 3.6 The Permit Holder shall minimise the potential for particles to become airborne by keeping drop heights at a minimum when loading and/or offloading materials such as sand, aggregates, etc.
- 3.7 The Permit Holder shall cover materials susceptible to wind erosion e.g., sand at all times during storage and transport (to and from the construction site) to prevent material loss and reduce the emission of particulate matter into the environment.
- 3.8 The Permit Holder shall employ dust suppression methods, such as, watering or erecting dust screens/fences to control dust emissions from material stockpiles and other dust-generating components of the project.
- 3.9 The Permit Holder shall keep the engine idling during on-loading and off-loading activities to a minimum during construction.
- 3.10 The Permit Holder shall record and promptly investigate and address complaints of excessive noise, dust, and vibrations from the public.
- 3.11 The Permit Holder shall record, investigate and address complaints of excessive noise, dust and vibrations from the public promptly upon receipt. Maintain a record of all complaints received and the action taken.

4.0 FUEL AND HAZARDOUS/ WASTE MANAGEMENT

- 4.1 The Permit Holder shall adhere to the provisions of the **Environmental Protection (Litter Enforcement) Regulations 2013** and the **Environmental Protection (Hazardous Waste Management) Regulations, 2000**.
- 4.2 The Permit Holder shall adhere to **Regulation 6(1) of the Environmental Protection (Expanded Polystyrene Ban) Regulations 2015** which states that *"no food service establishment shall sell or provide food for consumption,*



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either on or off the said establishment's premises, in expanded polystyrene food service products.

- 4.3 The Permit Holder shall maintain good housekeeping, sanitary and hygienic practices and the aesthetic quality of the surroundings at all times.
- 4.4 The Permit Holder shall promote proper solid waste management and disposal practices at the site. In particular, dispose of or contract an authorized waste disposal service to dispose of waste at the nearest designated waste management site. Place covered garbage receptacles at strategic locations around the project site.
- 4.5 Dumping of waste into the surrounding environment is **strictly prohibited**. Waste, inclusive of waste oil and/or fuel, shall not be stored within 10 meters of any waterways.
- 4.6 The Permit Holder shall conduct refueling, oil changes and maintenance of equipment on an impervious base.
- 4.7 The Permit Holder shall ensure that spill equipment is available and utilised for containing and mitigating spills from fuel, bitumen, waste oils, lubricants, curing compounds, concrete admixtures, paints etc.
- 4.8 The Permit Holder shall designate an area for the storage of fuel, used oil, washing detergents, sanitisers and other hazardous materials. Hazardous materials/ waste storage areas shall be clearly labelled and secured.
- 4.9 Hazardous waste shall be contained in bunded/kerbed storage areas. These areas shall adhere to the following requirements:
- i. Be situated in low-traffic areas;
 - ii. No interceptor drains shall be constructed; and
 - iii. Be bunded to provide 110% containment of the largest volume of hazardous materials stored therein.
- 4.10 The Permit Holder shall ensure that adequate toilets, waste disposal and sanitary facilities are provided at project site.
- 4.11 The Permit holder shall construct and maintain a septic system on site; the septic tank shall not be located within 1.5 m of a building or property boundary and should be accessible for cleaning and de-sludging. Any modification to the septic tank shall be in accordance with the **Guyana National Bureau of Standards**

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(GNBS) Code of Practice for the Design and Construction of Septic Tanks and Associated Secondary Treatment and Disposal Systems.

5.0 EMERGENCY MANAGEMENT

- 5.1 The Permit Holder shall employ or designate an employee to the role of an Occupational Health and Safety (OHS)/Environmental Officer who would be responsible for the implementation and coordination of all safety requirements and terms and conditions stipulated in this Permit, as well as monitoring, compliance and making all required reports to the EPA.
- 5.2 The Permit Holder shall monitor the working environment at all times for occupational hazards relevant to the specific construction and operation activities of the project.
- 5.3 The Permit Holder shall equip all employees with and train them in the use of personal protective equipment (PPE) relevant to their job specification, such as, hi-visibility vests, respirator, hard hats, gloves, and appropriate footwear. Create and maintain a log of Personal Protective Equipment distributed to employees and provide distribution log to officer of the Agency upon request during compliance inspections.
- 5.4 The Permit Holder shall ensure that a first aid kit is equipped according to the Guyana Red Cross standards and must be located on site at times. Additionally, communication and transportation systems must be in place to respond to emergencies.
- 5.5 The Permit Holder shall ensure that the Fire Safety Certificate is renewed annually and all firefighting equipment are maintained and serviced regularly. Fire Safety Certificate should be submitted to Officers of the Agency upon request during compliance inspection and in the Annual Report.
- 5.6 The Permit Holder shall ensure all employees are trained in the use of firefighting equipment, such as, fire extinguishers and understand the firefighting protocol.

6.0 COMPLIANCE MONITORING AND REPORTING

- 6.1 The Permit Holder shall monitor the implementation of the conditions of this Environmental Permit, insofar as they involve adherence by employees and all third parties under your direction.
- 6.2 The Permit Holder shall report to the Agency any non-compliance(s) with this Environmental Permit.



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- i. Within **twenty-four (24) hours** of the time the Holder of this Environmental Permit becomes aware of the non-compliance, with the anticipated manner in which it may endanger human health or the environment may be impacted.
 - ii. Within **seventy-two (72) hours** of the time the Holder of the Environmental Permit becomes aware of the non-compliance, submit to the Agency a written report containing a description of the non-compliance, its cause, the period of non-compliance including exact dates and time and the anticipated time it is expected to continue if the non-compliance(s) has not been corrected.
- 6.3 The Permit Holder shall submit an **Environmental Annual Report** to the EPA on your compliance with this Environmental Permit on or before **March 31, each year**.
- 6.4 The Permit Holder shall notify the EPA within **twenty-four (24) hours** of the occurrence of any environmental emergencies (e.g., oil spills, hazardous materials/wastes spill, sudden onset disaster, natural, technological or human-induced factors that cause or threaten to cause severe environmental damage as well as harm to human health or livelihood).
- 6.5 The Permit Holder shall notify the Agency in writing of any change of name or ownership of the Permit Holder's facility within **thirty (30) days** after the change occurs.
- 6.6 The Permit Holder shall notify the Agency within **twenty-one (21) days** in event of death, bankruptcy, liquidation or receivership of the Permit Holder or if the Company becomes a party to an amalgamation.
- 6.7 The Permit Holder shall comply with any lawful directions given by the EPA from time-to-time in furtherance of the implementation of any international or other obligation for the environmental protection of Guyana.
- 6.8 It is the responsibility of the Permit Holder to ensure the permitted activity and premises are secured and that all practicable steps necessary to prevent fires, explosions, leaks or suspected leaks and spills at the permitted premises are taken.



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7.0 INSTITUTIONAL AUTHORITY/LIABILITIES

- 7.1 The Permit Holder shall be liable for any material environmental harm caused by polluting the environment, pursuant to **s. 39 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.**
- 7.2 The Permit Holder shall be liable for any serious environmental harm caused by polluting the environment, pursuant to **s. 39 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.**
- 7.3 The Permit Holder shall be liable for any activity that causes or is likely to cause pollution of the environment unless all reasonable and practicable measures are taken to prevent or minimize any resulting adverse effect, pursuant to **s. 19 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.**
- 7.4 The Permit Holder shall be liable for discharging, causing or permitting the entry into the environment, of any contaminant in any amount, concentration or level excess of that prescribed by the regulations or stipulated by this Environmental Permit, pursuant to **s. 19 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.**
- 7.5 The Permit Holder shall be liable to compensate any person who suffers any loss or damage as a result of contravening conditions 7.3 and 7.4 of this Environmental Permit, pursuant to **s. 19 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.**
- 7.6 The Permit Holder shall not be indemnified by the Agency for any activity that causes or is likely to cause pollution to the environment, resulting from adverse effects through the discharge, any contaminant in any amount, concentration, ultra-hazardous substances, chemicals or otherwise, and shall be rendered liable to prosecution and to penalties prescribed under the Environmental Protection Act and Regulations.
- 7.7 The Permit Holder shall be liable of any gross negligence or willful misconduct caused by the Permit Holder, his Servants and/or Agents, to the environment, biodiversity, protected species and natural habitat with respect to any release, discharge, or spill, of contaminant fluids, oil or lubricants.
- 7.8 Should the Permit Holder contravene or be likely to contravene any condition of this Permit, the Agency (EPA) may serve on him an Enforcement Notice in



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accordance with **Section 26** of the **Environmental Protection Act, Cap. 20:05, Laws of Guyana.**

- 7.9 Where it appears to the Agency that the Permit Holder is engaged in any activity that may pose a serious threat to natural resources or the environment, or a risk of serious pollution of the environment or any damage to public health, the EPA may issue to the Permit Holder a Prohibition Notice, which may order him to immediately cease the offending activity, in accordance with **Section 27** of the **Environmental Protection Act, Cap. 20:05, Laws of Guyana.**
- 7.10 The EPA reserves the right to conduct regular inspections of the Permit Holder's activities as part of its monitoring and enforcement requirements under the Environmental Protection Act, Cap 20:05, the **Environmental Protection (Amendment) Act, 2005,** and **Environmental Protection (Authorisations) Regulations, 2000.**
- 7.11 The Permit Holder, His Servants and/or Agents shall at all times, allow entry to the permitted facility to any Officer designated by the EPA for the purposes of conducting inspections or any other legitimate business of the Agency. Pursuant to **Section 38** of the **Environmental Protection Act, Cap. 20:05, Laws of Guyana,** it is an offence to assault, obstruct or hinder an authorised person in the execution of his/her duty under the said Act or its Regulations and the Permit Holder shall be liable to penalties prescribed under paragraph (c) of the Fifth Schedule for doing so.
- 7.12 The EPA has the right to modify, cancel or suspend this Permit for breach of any of the terms and conditions contained herein.
- 7.13 **This Environmental Permit is not the final consent; all relevant Permissions shall be obtained from other regulatory bodies before commencing construction activities.**
- 7.14 This Environmental Permit is effective for the period stipulated herein, **January, 2024 to December, 2025.**
- 7.15 This Environmental Permit shall remain valid until December 31, 2025, unless otherwise suspended, cancelled, modified or varied, in accordance with the **Environmental Protection Act, Cap. 20:05, Laws of Guyana,** **Environmental Protection (Amendment) Act, 2005,** and the **Environmental Protection (Authorisations) Regulations, 2000.**



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- 7.16 This Environmental Permit shall be renewed by submitting “an Application for Renewal of Environmental Authorisation to the Agency at least six (6) months before this Permit expires, that is, no later than **June 30, 2025**.”
- 7.17 Any late submission of renewal application(s) after the specified date as stated above, may require the Permit Holder to pay, in addition to renewal fees, a late penalty fee (accruing at the time such obligation was first owed for renewal) at a rate of **two thousand dollars (GY\$2000.00) per day for every business day late**, until such renewal application is submitted to the Agency, without prejudice to any other rights of the Permit Holder in connection therewith.
- 7.18 Failure to comply with the requirements of this Permit or with applicable laws and regulations, whether existing or forthcoming, shall render the Permit Holder liable to prosecution and to penalties, inclusive of civil penalties, injunctive relief and imprisonment, as prescribed under the **Environmental Protection Act, Cap. 20:05, Laws of Guyana**, the Environmental Protection Regulations and other applicable Laws of Guyana.

Signed by _____ on behalf of the Environmental Protection Agency.




Date 2024.01.29

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I hereby accept the terms and conditions upon which this Construction Permit is granted and agree to abide by the Environmental Protection Act, Cap. 20:05, Laws of Guyana, the Environmental Protection (Amendment) Act, 2005, and the Environmental Protection (Authorisations) Regulations, 2000, and any forthcoming regulations, best practices, guidelines and standards made under this Act.

NAME:	Allana Heeralall
SIGNATURE:	
DESIGNATION:	Environmental Management Specialist
DATE:	30 th January, 2024 