




**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.:	20211122-SEPGA
Fee:	Small (C1) - US \$100
Fees Paid:	US\$100 (1 year – October, 2022 to September, 2023) 

Addressee: Dr Mahender Sharma
Guyana Energy Agency
295 Quamina Street,
South Cummingsburg
Georgetown. Guyana

Installation of 0.6 MW Solar Photovoltaic Grid-Connected System

Guyana Energy Agency, 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 undertake the construction/installation of Photovoltaic systems at Leguan Island, Region 3, hereinafter referred to as the "Project", in the manner indicated in the Application submitted in the Application for Environmental Authorisation submitted on November 24, 2021, and subject to the terms and conditions set forth herein and any forthcoming regulations, best practices, guidelines and standards relevant to this project..

The Permit Holder, his Servants, Agents and Sub-Contractors shall comply with the following Terms and Conditions of this Environmental Permit:

1.0 GENERAL CONSTRUCTION AND OPERATION

- 1.1 Notify the Agency in writing of any proposed changes in the construction and operation of the Hotel at least **fourteen (14) days before** making the change. The notification shall contain a **description of the proposed change in construction**. It is not necessary to make such a notification if **an Application to vary** this permit has been made and the Application contains a description of the proposed change. In this condition 'change in construction' includes but is not limited to, any change in the nature or functioning, or an extension, of the installation, which may have consequences for the environment.

Note: For more information please see **Regulation 20** of the **Environmental Protection (Authorisations) Regulations 2000**.

- 1.2 Adhere to the requirements of **the Occupational Safety and Health Act, Cap. 99:01, Laws of Guyana**.
- 1.3 Ensure that employees are equipped with appropriate protective gear at all times during construction activities. These include protective headgear, respirators, safety vests, safety boots, etc.
- 1.4 Ensure that all excavated materials are managed safely to avoid negative impacts to habitats or any risk to human health and the environment.
- 1.5 Minimise any road traffic hazards or unnecessary inconveniences to the general public through appropriate planning and management of the construction site.
- 1.6 Remove all construction tools, equipment, machinery, and waste materials from the site, upon the completion of construction works.
- 1.7 Make all employees, and third parties under your direction, aware of the conditions of the Environmental Authorisation and provide training on good environmental practices.
- 1.8 Obtain and maintain approval from the Guyana Fire Service and provide fire protection measures in accordance with this approval.
- 1.9 All plans, specifications of location, pathways, reserve and boundary lines shall be adhered to, unless otherwise authorised; evidence of which must be provided to the Agency.
- 1.10 **The Permit Holder shall submit to the EPA upon receipt, the requisite approvals from the Central Housing and Planning Authority (CH&PA), Guyana Power and Light or any other authority with jurisdiction and oversight over the Project.**
- 1.11 Construction activities are not permitted between 22:00 hrs and 06:00 hrs on any day unless prior EPA approval has been requested and granted. Large concrete pours that require activities in the early morning or late evening, are exempt from this condition.
- 1.12 Ensure appropriate barriers, equipment/material staging areas, and all supporting infrastructure, facilities and equipment associated with the Project 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.

- 1.13 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 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.
- 1.15 Ensure photovoltaic system panels are installed in accordance with the manufacturer's installation instructions.

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.

2.0 WATER AND SOIL QUALITY MANAGEMENT

- 2.1 Adhere to the provisions of the **Environmental Protection (Water Quality) Regulations, 2000.**
- 2.2 Maintain the integrity of the existing waterways adjacent and within the project site at all times. Any discharges into the environment must 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:
 - pH 5.0-9.0;
 - Temperature < 40 °C;
 - Biological Oxygen Demand (BOD) < 50 mg/L;
 - Chemical Oxygen Demand (COD) < 250 mg/L;
 - Total Suspended Solid (TSS) < 50 mg/L;
 - Oil and Grease < 10 mg/L; and
 - Chloride < 0.2 mg/L.
- 2.3 Monitor the parameters specified above, in Condition 2.2, **annually**; sample points should include the final discharge point(s) from the project site, as well as, an upstream and downstream sample from the receiving body of water. The results should be compiled and incorporated into the project's Annual Report submission. The Agency reserves the right to request an independent analysis from an EPA-approved certified laboratory.
- 2.4 Take all practicable precautions to prevent erosion, siltation and sedimentation of existing water bodies/drains within the vicinity of the project site during the

construction and operation phases.

- 2.5 Avoid soil and water contamination from fuel, grease, waste oils and other petroleum products that might be used at the project site during construction. Ensure that all oils, fuel, paints and chemicals are stored in a designated area, at least 10 meters away from waterways.
- 2.6 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 utilising the best practicable means.
- 2.7 Adequately store and/or cover temporary stockpiles of construction materials and excavated waste in a secured designated area to prevent release into the surrounding environment, especially in rainy conditions. As stated above, the designated area should not be placed within 10 meters of any water body.
- 2.8 Disposal of excavated materials into surrounding drains is strictly prohibited.
- 2.9 Do not discharge or dump solid waste and/or trade effluent directly into receiving waters without prior treatment. Install and maintain grease trap/ an oil-water separator(s) at the final discharge point of the onsite sewage facility through which all effluent must pass before final discharge.
- 2.10 Prevent excessive or inappropriate use of cleaning chemicals. The use of biodegradable/water-based cleaning products is encouraged.
- 2.11 Construct and maintain drainage systems capable of handling the probable maximum precipitation storm event.

3.0 NOISE ABATEMENT AND AIR QUALITY MANAGEMENT

- 3.1 Comply with the Environmental Protection (**Air Quality**) Regulations, 2000 and the Environmental Protection (**Noise Management**) Regulations 2000.
- 3.2 Comply with the Guyana National Bureau of Standards (GNBS) *Guidelines for Noise Emissions into the Environment*. Sound levels from noise-making devices should 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

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- **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 Carry out all construction and operation activities in a manner to avoid, minimise and control potential noise disturbance to the surrounding environment.
- 3.4 All sound-making devices, such as generators, must be placed on foundations properly designed to ensure effective damping of vibrations; housed in enclosures 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 Minimise adverse fumes/soot impacts to the contiguous areas by installing the exhaust stack of generators on site, at least 2 metres above the tallest building nearby.
- 3.6 Comply with the *World Health Organisation (WHO) Air Quality Guidelines for Particulate Matter in the Environment*, not exceeding the limits below:
- PM_{2.5}**: 25 µg/m³ 24-hour mean
- PM₁₀**: 50 µg/m³ 24-hour mean
- 3.7 Conduct Air Quality Monitoring for the parameters listed in Condition 3.6 on an **annual basis**. Submit proposed sample points to the EPA for approval prior to the commencement of monitoring. Prepare monitoring and include it in the Annual Report submitted to the Agency.
- 3.8 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 Locate 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.
- 3.10 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.
- 3.11 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 emission of particulate matter into the environment.
- 3.12 Keep engine idling during on-loading and off-loading activities to a minimum during construction.



hr

- 3.13 Record, and promptly investigate and address complaints of excessive noise, dust and vibrations from the public.

4.0 FUEL AND HAZARDOUS/ WASTE MANAGEMENT

- 4.1 Comply with the **Environmental Protection (Litter Enforcement) Regulations, 2013** and the **Environmental Protection (Hazardous Waste Management) Regulations, 2000**.
- 4.2 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, either on or off the said establishment's premises, in expanded polystyrene food service products."*
- 4.3 Maintain good house-keeping, sanitary and hygienic practices and the aesthetic quality of the surroundings at all times.
- 4.4 Promote proper solid waste management and disposal practices at the project site. In particular, dispose or contract an authorised waste disposal service to dispose waste at the nearest designated waste management site. Place covered garbage receptacles at strategic locations around the project site.
- 4.5 Reuse waste materials where practical during and after construction activities, where practicable. Dumping of waste (Construction or otherwise) into the surrounding environment is strictly **prohibited**.
- 4.6 Construct and maintain a septic system on site; the septic tank should 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 must be in accordance with the Guyana National Bureau of Standards (GNBS) Code of Practice for the Design and Construction of Septic Tanks and Associated Secondary Treatment and Disposal Systems.
- 4.7 Prepare and submit to the Agency a report on the hazardous waste activities during the construction phase **no later than forty-five (45) days after construction is completed**; by March 31 every year after that (see Condition 6.5). The report must include the following:
- (a) the name, location and type of project;
 - (b) types and quantities (in metric units) of hazardous waste generated;
 - (c) manner of storage, use, any applied treatment standards/methods and disposal of these substances;
 - (d) data concerning off-site shipments of waste, i.e. local disposal facility utilised, country to which hazardous waste is shipped, purpose of

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- shipment and amount of waste shipped;
- (e) a summary of any accidents that may have occurred and any action taken; any waste minimisation efforts undertaken by the project for hazardous material/waste; and any other matter the Agency may require.
- (f) Any waste minimisation efforts undertaken by the project for hazardous material/waste; and
- (g) Any other matter the Agency may require.

The Agency considers all materials listed in Schedules I and II of the Environmental Protection (Hazardous Waste Management) Regulations, 2000, to be hazardous.

- 4.8 In the event that waste oil (from the oil-water separator or generator servicing) is stored on site, it must be stored in a covered, bunded area to minimise adverse impacts to the environment from any accidental spill.
- 4.9 All waste oil shall be disposed in accordance with the Environmental Guidelines, 2011 for the 'Removal, Treatment and Disposal of Oily Sludge' or reused as lubricant for chainsaws or other equipment/machinery.
- 4.10 Store all fuel in during the operation phase in a designated area, away from ignition sources and post 'No Smoking' signs at all points on the project site where fuel is handled or stored.
- 4.11 Install an impervious secondary containment bund around fuel tanks; the bund shall have at capacity to contain at least 110% the volume of the largest fuel storage tank.
- 4.12 Limit access to hazardous waste storage areas to only employees who are authorised and have received proper training to execute emergency response protocols in the event of a spill.
- 4.13 Record and include in a summary table the following information:
 - (a) Name and description (e.g. composition of a mixture) of the hazardous materials;
 - (b) Classification (e.g. code, class or division) of the hazardous materials;
 - (c) Quantity of hazardous materials used per month; and
 - (d) Characteristic(s) that make(s) the materials hazardous (e.g. flammability, toxicity).
- 4.14 Absorbent materials for the containment of fuel and oil and other hazardous substances must be appropriately stored in a concrete-based structure and not exposed to moisture. Used materials must be double-wrapped in heavy duty garbage bags and disposed at an authorised waste disposal site; or EPA-approved incineration facility.
- 4.15 Treat and contain all spills with absorbent materials, whether or not minor in nature.

- 4.16 Designate an area for the storage of First Aid Kit(s); Washing detergents; and Sanitizers (J's Fluid, Pine Sol, etc.) for the project.

5.0 EMERGENCY MANAGEMENT

- 5.1 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 Obtain and maintain approval from the Guyana Fire Service and provide fire protection measures such as fire extinguishers and sand buckets in accordance with this approval.
- 5.3 Ensure all employees are aware of the Environmental Management Plan (EMP) submitted to the Agency and their duties and responsibilities according to this Plan.
- 5.4 Monitor the working environment at all times for occupational hazards relevant to the specific construction and operation activities of the hotel.
- 5.5 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.
- 5.6 A first aid kit equipped according to the Guyana Red Cross standards must be located on site at times. Additionally, communication and transportation systems must be in place to respond to emergencies.
- 5.7 Ensure 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.
- 5.8 Ensure all employees are trained in the use of firefighting equipment, such as, fire extinguishers and understand the firefighting protocol.
- 5.9 Make all employees/third party contractors aware of the conditions of the Environmental Permit and provide them with training on good environmental management practices. Prepare and maintain a training file for employees which is to be made available to EPA Officers upon request during a Compliance Inspection.

6.0 COMPLIANCE MONITORING AND REPORTING

- 6.1 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.
- 6.2 Monitor the implementation of the conditions of this Environmental Permit, insofar as they involve adherence by employees and all third parties under your direction.
- 6.3 Report to the Agency **any non-compliance(s)** with this **Environmental Permit**:
- 6.3.1 Within **twenty-four (24) hours** of the time the Holder of the Environmental Permit becomes aware of the non-compliance and the anticipated manner in which it may endanger human health or the environment.
 - 6.3.2 Within **seventy-two (72) hours**, submit to the Agency a written report containing:
 - a. a description of the non-compliance;
 - b. its cause;
 - c. the period of non-compliance, including exact dates and times, or the predicted time it is expected to continue if not yet addressed; and
 - d. the corrective measures taken or planned taken to correct the non-compliances.
- 6.4 Submit **Environmental Annual Reports** to the EPA on or before **March 31** every year on your compliance with this Permit.
- 6.5 Notify the EPA within **twenty-four (24) hours** of the occurrence of any environmental emergencies such as a sudden onset of disaster, accident, natural, technological or human induced factors that cause or threaten to cause severe environmental damage as well as harm to human health or livelihood.
- 6.6 Inform the Agency prior to or within **thirty (30) days** of any change of name or ownership of the project.
- 6.7 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.

7.0 INSTITUTIONAL AUTHORITY/LIABILITIES


- 7.1 **The Permit Holder shall not commence any construction on the site until all other necessary approvals from relevant Sector Agencies are obtained and submitted to the EPA.**
- 7.2 The EPA reserves the right to conduct regular inspections of the Permit Holder's construction activities as part of its monitoring and enforcement requirements under the Environmental Protection Act, Cap 20:05 and the Environmental Protection (Authorisations) Regulations, 2000.
- 7.3 The Permit Holder, His Servants and/or Agents shall at all times, allow entry to the permitted project/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.
- 7.4 The EPA shall have the right to cancel or suspend this Permit for breach of any of the terms and conditions contained herein.
- 7.5 The Permit Holder shall be strictly liable for any loss or damage to the environment through any act caused intentionally or recklessly, through the adverse effect of any discharge or release, or cause or permit the entry of pollution, contaminant in any amount, concentration or level in excess of that prescribed by the regulations or stipulated by this Environmental Permit, which are attributed to the Project, pursuant to s. 39 and s. 19 (1) and (2) of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.
- 7.6 The Permit Holder shall compensate any Party who suffers any loss or damage as a result of the attributed Project (See: s. 19 (3)(e) of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.)
- 7.7 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.
- 7.8 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.



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- 7.9 Should the Permit Holder contravene or is likely to contravene any condition of this Permit, the Agency (EPA) may serve on him an Enforcement Notice in accordance with Section 26 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.
- 7.10 Where it appears to the Agency that the Permit Holder is engaged in any activity that may pose serious threat to natural resources or 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.
- 7.11 This Environmental Permit is effective for the period stipulated herein, **October 2022 to September 2023**.
- 7.12 This **Environmental Permit** shall remain valid until **September 30, 2023**, unless otherwise suspended, cancelled, modified or varied, in accordance with the provisions of this Permit or the Environmental Protection Act, Cap. 20:05, Laws of Guyana and the Environmental Protection (Authorisations) Regulations, 2000.
- 7.13 This Permit must 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 **March 31, 2023**."
- 7.14 Any late submission of the application required by Condition 7.12 beyond the date specified therein, may require the Permit Holder to pay, in addition to the application fee, a late penalty fee (accruing at the time such obligation was first owed for renewal) at a rate of **two thousand dollars (GY\$2,000.00) per day for every business day late**, until such application is submitted to the Agency, without prejudice to any other rights of the Permit Holder in connection therewith.
- 7.15 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, its Regulations and other applicable laws of Guyana.

Signed by  on behalf of the Environmental Protection Agency.

Kemraj Parsram
Executive Director


Executive Director

Date 19.10.2022

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I hereby accept the above 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, the Environmental Protection (Authorisations) Regulations, 2000, and any existing or forthcoming regulations, best practices, guidelines and standards made under this Act.

NAME:	MAHENDER SHARMA
SIGNATURE:	
DESIGNATION:	CHIEF EXECUTIVE OFFICER
DATE:	Oct. 19, 2022

