



**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.:	20230206-GWIWI
Fee:	Medium (C1) - US\$500 per year
Fees Paid:	US\$ 2500 for five (5) years – October, 2023 to September, 2028

Addressee: Nigel Niles
Director, Corporate Services
Guyana Water Inc.
Corporate Complex
Vlissengen Road and Church Street
Bel Air Park
Georgetown

Activity: Construction and Operation of Water Treatment Plant

Guyana Water 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 water treatment plant at Nooitgedacht, Wakenaam Island, hereinafter referred to as "the Project", in a manner indicated in the Application dated February 6th, 2023, subject to the terms and conditions set forth herein under the Environmental Protection Act, Cap. 20:05, existing and/or forthcoming regulations made under the said Act, and/or any applicable laws, best practices, directives, 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

Environmental Permit - Ref. No.: 20230206-GWIWI

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- 1.1 The Permit Holder shall make an application to the Agency to vary this Environmental Permit in instances where it becomes necessary to:
 - 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 emissions or 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 submit a **Waste Management Plan (WMP)** within **four (4) months of the issuance of this permit**. The WMP must address but not be limited to the following:
 - 1.3.1 A detailed effluent discharge treatment and monitoring plan to address the wastewater (backwash water) deriving from the Water Treatment Plant, inclusive of the management of the proposed settling pond.
- 1.4 The Permit Holder shall establish an Occupational Health and Safety (OSH)/ Environmental Department with suitably qualified and competent employees to implement and coordinate all safety requirements, and terms and conditions stipulated in this Permit, as well as compliance monitoring with the preparation of all required reports; and act as direct liaison with the Agency for all matters relating to compliance and monitoring.
- 1.5 The Permit Holder shall make all employees, and third parties under its direction, aware of the conditions of the Environmental Authorisation and provide training on good environmental practices.
- 1.6 Guyana Fire Service Approval shall be obtained and maintained annually and shall be submitted to the Agency within a reasonable time. The Permit holder shall



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maintain fire prevention and control equipment such as fire extinguishers and sand buckets in accordance with the Guyana Fire Service Approval.

- 1.7 The Permit Holder shall seek and submit to the Agency within a reasonable time, the requisite approvals from the relevant Municipality or Neighbourhood Democratic Council (NDC) and any other authority with jurisdiction and oversight of the Project.
- 1.8 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.
- 1.9 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.
- 1.10 The Permit Holder shall ensure that access is provided to all properties adjacent to the site for the duration of the construction phase of the project. Place warning signs at strategic locations and create walk paths to avoid accidents with individuals in the nearby communities.
- 1.11 The Permit Holder shall maintain a septic system on-site at all times. 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 tanks 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.

2.0 WELL MANAGEMENT

- 2.1 The Permit Holder shall ensure that the top of the well casing is at least 0.3 meters above the ground to prevent surface water from draining into the well.
- 2.2 The Permit Holder shall inspect the well cap regularly for damaged, cracked, or dislocated casings and make repairs as soon as issues are detected to prevent contamination of groundwater.
- 2.3 The Permit Holder shall not store, temporarily or otherwise, hazardous material/waste in close proximity to the well and/or pumping equipment.
- 2.4 The Permit Holder shall ensure that pumps, piping, and equipment are thoroughly disinfected before going back into the well and the well should be shock chlorinated after any repairs/modifications.



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- 2.5 The Permit Holder shall inspect nearby wastewater disposal systems (e.g., septic tanks) regularly and make repairs as soon as issues are detected.
- 2.6 The Permit Holder shall ensure that well surging is adequately done before well use.

3.0 WATER AND SOIL QUALITY MANAGEMENT

- 3.1 The Permit Holder shall comply with the provisions of the **Environmental Protection (Water Quality) Regulations, 2000**.
- 3.2 The Permit Holder shall maintain the integrity of the existing drainage channels and keep them free of debris at all times.
- 3.3 The Permit Holder shall ensure that discharges into the environment are in accordance with the *Guyana National Bureau of Standards Interim Guidelines for Industrial Effluent Discharge into the Environment/ World Health Organisation Standards/ World Bank Standards and are within the limits presented below*.

Parameter	Units	Daily Maximum Concentration
pH	-	5-9
BOD	mg/L	50
Oil & Grease		< 10
Total Suspended Solids (TSS)		< 100
Chemical Oxygen Demand (COD)		< 250
Chlorine		< 0.2
Iron		< 0.2
Temperature	°C	< 40°C

- 3.4 The Permit Holder shall monitor the parameters listed in condition 3.3, **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 Environmental Report** submission. The Agency reserves the right to request an independent analysis from an EPA-approved certified laboratory.



- 3.5 The Permit Holder shall ensure that the quality of treated water is maintained in accordance with the World Health Organisation (WHO) Drinking Water Quality Standards (2017), Guidelines for portable water wells and not exceed the limits shown in the table below:

Parameters Heavy metals	WHO Standards (2017) mg/L
Iron	0.3
Copper	2.0
Lead	0.01
Zinc	3.0
Manganese	0.4
Parameters to be tested	
pH	(6.0 - 8.5) pH units
Nitrates	50
Sulphate	500
Chloride	250
Microbiological Parameters Tested twice yearly	WHO Standards (2017)
<i>E. coli</i>	0 count/100ml
Total coliform	0 count/100ml

- 3.6 The Permit Holder shall monitor groundwater levels and changes and modify extraction rates as necessary to prevent unacceptable adverse current and future impacts, considering future increases in demand.
- 3.7 The Permit Holder shall 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.
- 3.8 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.
- 3.9 The Permit Holder shall store fuel in a secured designated area to prevent accidental release into the surrounding environment, especially in rainy conditions. The designated area should not be within 100 m of surrounding water bodies.
- 3.10 The Permit Holder shall ensure that fuel/lubricants including waste oils are not drained from the equipment onto the ground or into waterways.
- 3.11 The Permit Holder shall store all chemicals in leak-proof containers that are kept under water-resistant cover and surrounded by secondary containment structures

(e.g., spill berms, decks, spill containment pallets) to minimize the potential discharge of chemicals in stormwater and external waterways.

- 3.12 The Permit Holder shall not discharge or dump solid waste and/or trade effluent directly into receiving waters without prior treatment.
- 3.13 The Permit Holder shall install and maintain grease trap(s)/ an oil-water separator(s) at the final discharge point of drains by the fuel tank containment area through which all effluent must pass before final discharge.
- 3.14 The Permit Holder shall ensure that the distribution system is properly maintained and checked for leaks and breakages to reduce the risk of contamination.

4.0 NOISE ABATEMENT AND AIR QUALITY MANAGEMENT

- 4.1 The Permit Holder shall comply with the **Environmental Protection (Noise Management) Regulations 2000 and the Environmental Protection (Air Quality) Regulations 2000.**
- 4.2 The Permit Holder shall 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.
- **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)
- 4.3 The Permit Holder shall ensure that all sound-making devices, such as generators, and water treatment plants, are housed in enclosures, constructed with materials of good insulation properties (e.g., insulation boards, solid clay bricks, etc.), equipped with silencers/mufflers to reduce the noise level; and placed on foundations properly designed to ensure effective damping of vibrations. Adequate equipment maintenance must be done and any obsolete tools and equipment replaced. Install vibration isolation for mechanical equipment used during the operational period.
- 4.4 The Permit Holder shall 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.
- 4.5 The Permit Holder shall 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

- 4.6 The Permit Holder shall conduct Air Quality Monitoring for the parameters listed in Condition 4.5 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.
- 4.7 The Permit Holder shall record, investigate, and address complaints of excessive noise, dust, and vibrations from the public promptly upon receipt.
- 4.8 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.

5.0 HAZARDOUS AND NON-HAZARDOUS WASTE MANAGEMENT

- 5.1 The Permit Holder shall comply with the **Environmental Protection (Hazardous Waste Management) Regulations, 2000.**
- 5.2 The Permit Holder shall promote proper solid waste management and disposal practices at the facility. In particular, the Permit Holder shall dispose of waste (construction and domestic) at the nearest designated waste management site or contract a Disposal Service to dispose of waste at a legally designated site.
- 5.3 The Permit Holder shall ensure that the surrounding environment is not littered with any form of wood, concrete, plastic, glass, and metallic waste, or any form of waste that will affect humans, flora and fauna, and related biodiversity.
- 5.4 Reuse waste material where practical such as land-filling material for the revetment of the general compound surroundings. However, this must be done in an aesthetic and controlled manner.
- 5.5 Dumping of waste into the surrounding environment, during the construction and operational phases, is strictly **prohibited**.
- 5.6 The Permit Holder shall prepare and submit to the Agency no later than forty-five (45) days after the end of the construction, a report relating to the activities for the previous year. The report shall include:
 - a. the name, location, and type of facility;
 - 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, the purpose of 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 your facility for hazardous material/waste; and any other matter the Agency may require.
- f. any waste minimisation efforts undertaken by your facility for hazardous material/waste; and
- g. any other information the Agency may require.

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

- 5.7 In the event that waste oil (recovered from the oil-water separator or from servicing of generators) is stored, the Permit Holder shall ensure that it is stored in a covered, bunded area to minimise adverse impacts to the environment in the event of spillage.
- 5.8 The Permit Holder shall treat and contain all spills with absorbent materials.
- 5.9 The Permit Holder shall ensure that all waste oil is disposed of in accordance with the Environmental Guidelines, 2011 for the 'Removal, Treatment and Disposal of Oily Sludge' or reuse waste oil as a lubricant for chainsaw or other equipment/machinery.
- 5.10 The Permit Holder shall ensure that used oil/fuel containment absorbent materials are appropriately stored in a concrete-based structure and away from waterways and disposed of by double wrapping in heavy-duty garbage bags and disposed of at the incinerator on-site or an approved hazardous waste disposal site.
- 5.11 The Permit Holder shall limit access to hazardous waste storage areas to employees who are authorised and have received proper training.
- 5.12 The Permit Holder shall 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).
- 5.13 The Permit Holder shall designate an area for the storage of the following:
 - a. Fuel.
 - b. First Aid Kit(s).

- c. Washing detergents.
- d. Sanitizers (J's Fluid, Pine Sol, etc.) for the facility.

- 5.14 The Permit Holder shall install secondary containment wherever liquid wastes are stored in volumes greater than 220 liters.
- 5.15 The Permit Holder shall ensure adequate ventilation where volatile wastes are being stored.

6.0 EMERGENCY MANAGEMENT

- 6.1 The Permit Holder shall ensure that at all times, the working environment is monitored for occupational hazards relevant to the construction activities of the solar farm and the operational phase of the entire facility.
- 6.2 The Permit Holder shall ensure that all employees must be equipped with and trained in the use of personal protective equipment (PPE) to fit their job specification such as hi-visibility vests, respirators, hard hats, gloves, and appropriate footwear and ensure appropriate utilisation of these gears. A log for the distribution of Personal Protective Equipment to employees must be maintained. Evidence of the distribution log must be presented to the officer of the Agency upon request during compliance inspections.
- 6.3 The Permit Holder shall ensure that an eye wash station is established and in working condition at all times.
- 6.4 A First Aid Kit equipped according to the Guyana Red Cross standards must be on-site at all times. Additionally, communication and transportation systems must be in place to respond to emergencies.
- 6.5 The Permit Holder shall ensure all employees are trained in firefighting protocol and the use of firefighting equipment, such as, fire extinguishers. Prepare and maintain a training file for employees which is to be made available to EPA Officers upon request during a Compliance Inspection.

7.0 COMPLIANCE MONITORING AND REPORTING

- 7.1 The Permit Holder shall comply with any lawful directions given by the Agency from time to time in furtherance of the implementation of any international or other obligation for the environmental protection of Guyana.
- 7.2 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.

7.3 The Permit Holder shall report to the Agency any non-compliance(s) with this Environmental Permit:

- i. Within **twenty-four (24) hours** of the time the Holder of the Environmental Permit becomes aware of the non-compliance, the anticipated manner in which it may endanger human health or the environment.
 - ii. Within **seventy-two (72) hours**, submit to the Agency a written report containing a description of the non-compliance, its cause, and the period of non-compliance including exact dates and time.
- 7.4** The Permit Holder shall submit a report to the Agency indicating the reasons for any non-compliance and the anticipated time it is expected to continue if not corrected.
- 7.5** The Permit Holder shall notify the Agency 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.
- 7.6** The Permit Holder shall inform the Agency prior to or within **thirty (30) days** of any change of name or ownership of the project.
- 7.7** The Permit Holder shall notify the Agency within **twenty-one (21) days** in the event of death, bankruptcy, liquidation, or receivership of the Permit Holder or if the Company becomes a party to an amalgamation.

8.0 INSTITUTIONAL AUTHORITY/LIABILITIES

- 8.1** The Permit Holder shall be liable for any loss or damage to the environment intentionally or recklessly caused, through the discharge or release of any contaminant in any amount, concentration, or level in excess of that prescribed by the regulations, stipulated by this Environmental Permit or directed by the Agency pursuant to the Environmental Protection Act, Cap. 20:05, Laws of Guyana.
- 8.2** The Permit Holder shall be responsible for any act which contravenes s. 39 (1), (2), (3), and (4) of the Environmental Protection Act, Cap. 20:05, Laws of Guyana. If found guilty, the Permit Holder shall be liable to the penalties prescribed under the said Act.
- 8.3** The Permit Holder shall compensate any Party who suffers any loss or damage as a result of the Project (See: s. 19 (3)(e) of the Environmental Protection Act, Cap. 20:05, Laws of Guyana).

Environmental Permit - Ref. No.: 20230206-GWIWI

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- 8.4 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, of any contaminant in any amount, concentration, ultra-hazardous substances, chemicals, or otherwise, and shall be rendered liable to prosecution and penalties prescribed under the Environmental Protection Act and Regulations.
- 8.5 The Permit Holder shall be liable for any negligence, 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.
- 8.6 The Agency shall notify the Permit Holder immediately of any written claim or notice sent by any Complainant seeking loss or damage for negligence as a result of the Permit Holder's lack of due care or diligence.
- 8.7 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 accordance with Section 26 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.
- 8.8 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 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.
- 8.9 The Agency reserves the right to conduct regular inspections of the Permit Holder's construction and operations activities as part of its monitoring and enforcement requirements under the Environmental Protection Act, Cap 20:05, and the Environmental Protection (Amendment) Act, 2005, and Environmental Protection (Authorisations) Regulations, 2000.
- 8.10 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.
- 8.11 The Agency shall have the right to cancel or suspend this Permit for breach of any of the terms and conditions contained herein.
- 8.12 This Environmental Permit is effective for the period stipulated herein **October,**

Environmental Permit - Ref. No.: 20230206-GWIWI

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2023 to September, 2028.

- 8.13 This **Environmental Permit** shall remain valid until **September 30, 2028**, unless otherwise suspended, canceled, modified, or varied, in accordance with the provisions of this Permit or the Environmental Protection Act, Cap. 20:05, Laws of Guyana, Environmental Protection (Amendment) Act, 2005, and the Environmental Protection (Authorisations) Regulations, 2000.
- 8.14 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 **April 30, 2028**.
- 8.15 Any late submission of the application required by Condition 8.14 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.
- 8.16 Failure to comply with the requirements of this Permit or with applicable laws, directives, 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.

Kemraj Parsram
Executive Director
Executive Director

Date


2023.10.24



Environmental Permit - Ref. No.: 20230206-GWIWI

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I hereby accept the above Terms and Conditions upon which this Environmental 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 forthcoming regulations, best practices, guidelines and standards made under this Act.

NAME:	ARSHAD YACOB
SIGNATURE:	^{A.Y} PROGRAM MANAGER 
DESIGNATION:	PROGRAM MANAGER
DATE:	28/11/2023



