




**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.:	20210518-GSCAW
Fee:	Large (C2) i.e., US\$ 2000 per year
Fees Paid:	US\$10,000 for Five (5) years (November 2021- October 2026)
Addressee:	Guyana Sugar Corporation Inc. Eugene F. Correia International Airport Ogle East Coast Demerara. 
Activity:	Aerial Application of Agrochemicals (Fertilizers and Herbicides) supported by Agrochemical Transportation and Storage.

Guyana Sugar Corporation Inc., hereinafter referred to as the "Permit Holder", is hereby authorized in accordance with the Environmental Protection (Amendment) Act, 2005, and Environmental Protection (Authorizations) Regulations, 2000, for the aerial application of Fertilizers and Herbicides in Regions 2, 3, 4, 5 and 6 hereinafter referred to as the "Project", in the manner indicated in the Application for Environmental Authorisation submitted on May 18, 2021, and subject to the terms and conditions set forth herein and any forthcoming regulations made under the said Environmental Protection Act, and/or any other applicable laws, guidelines, best practices and standards relevant to this project.

The Permit Holder, His Servants, Agents and/or Sub- Contractors shall comply with the following Terms and Conditions for Operation:

1.0 OPERATION OF AERIAL SPRAYING

- 1.1 Adhere to the Pesticides & Toxic Chemicals Control Board Guidelines for Aerial Application of Pesticides, Guyana, 2016.
- 1.2 Adhere to the requirements of the Occupational Safety and Health Act, Cap. 99:01, Laws of Guyana.
- 1.3 Make an application to the Agency to vary this Permit in instances where it becomes


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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 discharge of effluents; or
 - iv. effect any other change outlined in 20(3) of the Environmental Protection (Authorisations) Regulations.
- 1.4 Maintain fire protection measures as determined by Guyana Civil Aviation Authority (GCAA) for aircraft such as fire extinguishers in accordance with Guyana Civil Aviation (Air Navigation) Regulations, 2001, and amendments.
- 1.5 An Environmental Management Plan (EMP) for the Project shall be submitted by **July 31, 2022**. The EMP shall include but not limited to the following information:
- 1) An Agrochemical Management Plan which shall include environmentally sound procedures for the transportation, storage and handling of the chemicals.
 - 2) A detailed map/application map of the locations sprayed, clearly displaying:
 - i. Spaying areas;
 - ii. Buffer zones;
 - iii. The designated emergency dumping location;
 - iv. No-target plot farmers plot, housing areas, pastures, roadways, waterways (within 100 meters of spray area), aquaculture, forested areas or any other operation where human activities are taking place;
 - v. An aerial spray model which predicts the air drift, decomposition and dispersion of agrochemicals released from the aircraft into the atmosphere.
 - 3) A risk assessment of the Project outlining the adverse environmental impacts and mitigation measures that are implemented to reduce their significance.
 - 4) A list of ALL chemicals and materials to be applied, the rate of application, quantities to be applied and an appropriate anti-drift. If two or more products are applied within the spray area but on separate plots; both areas must be indicated on the map (using different color codes).
 - 5) Emergency Response Plan which shall include but not be limited to local emergency response authorities, notification of national and local authorities, coordination of clean-up activities and assessment of health hazards to humans and the environment.
- 1.6 An Annual Plan outlining the 2022 aerial spraying schedule and details of the aerial

spraying activities shall be submitted to the EPA by **January 02, 2022**.

- 1.7 Operator(s) shall be trained by a credibly recognised authority (PTCCB) in the safe use and handling of pesticides and fertilizers. Training certificates and schedules must be provided in the **Annual Report**.
- 1.8 Loading of agro-chemicals and decontamination of equipment, including the aircraft shall be conducted within the area designated as Agricultural Aircraft Washing Bay located at GUYSUCO Aircraft Department, Eugene.F. Correia International Airport.

Air Quality Management (Aerial drift and over-spraying)

- 1.9 Adhere to the provisions of the Environmental Protection (Noise Management and Air Quality) Regulations, 2000.
- 1.10 Members of the public and surrounding communities shall be notified at **least three (3) days** prior to the aerial application. A copy of this notification shall be submitted to the EPA as a component of the **Annual Report**.
- 1.11 A qualified Agronomist, Entomologist or an Extension Officer shall confirm by documentation, that the mixture and concentration of pesticides and fertilizers per unit hectare, frequency of applications, time of day, and weather conditions to effectively control the targeted pest were conducted according to the Guyana Rice Development Board (GRDB) and National Agricultural Research and Extension Institute (NAREI) Standards. This information shall be submitted as a component in the **Annual Report**.
- 1.12 The buffer zone for aerial application of Pesticide shall be in accordance with the World Health Organisation (WHO) minimum buffer zone requirements see below:

Table 1.1 Illustrating the buffer zone Requirements

World Health Organisation Pesticide Toxicity Class	Colour Code	Minimum Buffer Zone (meter)
1a-Extremely Hazardous	Red	Aerial Application Prohibited
1b- Highly Hazardous	Red	Aerial Application Prohibited
II-Moderately Hazardous	Yellow	1600 m
III- Slightly Hazardous	Blue	900 m
IV/U- Unlikely to present acute hazard	Green	700 m

- 1.13 Pesticides and fertilizers **shall not** be dispensed from the aircraft under the conditions listed below, including but not limited to wind speed; direction, humidity, temperature inversion and lapse as well as volatility:
 - i. whereby the applied pesticides and fertilizers would drift outside of

- the target area to be treated and cause or create a hazard;
- ii. which adversely affects humans or the non-target environment; or
- iii. result in pesticides and fertilizers overspray.

Transportation of Agrochemicals

- 1.14 A highly visible and legible label shall be affixed to the vehicle transporting the agrochemicals and shall include the following information:

Danger
Contains Hazardous Materials

- 1.15 Agrochemicals shall be transported in sealed and labelled metal or plastic containers suitable for the chemicals being transported.
- 1.16 Each individual container of agrochemicals shall be labelled with the contents of the container (agrochemical name) and the hazardous characteristic or property of the agrochemical contained therein.
- 1.17 A trained operator or carrier shall supervise, monitor and control the transportation of agrochemicals.
- 1.18 Emergency spill cleanup kits shall be maintained on each vehicle for response to potential spills. Kits shall contain absorbent materials, drain seals and other appropriate tools for clean-up.

Storage of Agrochemicals

- 1.19 Agrochemicals used at the Project shall be stored in bunded/kerbed storage areas. This area shall satisfy the following requirements:
- i. Low traffic;
 - ii. No floor drains; and
 - iii. Bunded area which shall provide 110% containment of the largest volume stored therein.
- 1.20 The agrochemicals storage area shall be clearly labeled with "Danger, Hazardous Storage Area- Authorized Personnel Only" where applicable as a spill control measure.
- 1.21 Where applicable, chemical storage areas shall possess ventilation in accordance with at least one of the following:
- i. Gravity ventilation to the outside with a capacity of one cubic foot per minute per square foot or floor space;
 - ii. Mechanical ventilation with on/ off switches at points of ingress that are capable of exhausting to the outside; or
 - iii. Natural ventilation.

- 1.22 Agrochemicals shall be stored away from ignition sources and in accordance with their hazard characteristics compatibility.
- 1.23 Agrochemicals shall be stored in appropriate containers.
That is:
- a) **Sealed Plastic Containers:**
 - i. Water- based wastes; and
 - ii. Fountain Solutions, Pre- Press.
 - b) **Sealed Metal Containers:**
 - i. Solvents and Petroleum- based products; and
 - ii. Waste ink, Press-wash, Oil and Oily Absorbents.
- 1.24 Agrochemical containers shall be labelled with the following:
- i. The words "**Hazardous Materials**";
 - ii. The type of chemicals; and
 - iii. Beginning accumulation date- date when the container was first placed in the Chemical Storage Area. Should the chemical storage container be reused, the date chemical was first placed in the container shall be recorded on the container.
- 1.25 Agrochemical storage containers shall remain closed during storage, except when it is necessary to add or remove waste.
- 1.26 Safety Data Sheets for all agrochemicals shall be readily available and easily accessible at all times at the agrochemical storage area, on the aircraft and on the vehicle used for the transportation of the agrochemicals.
- 1.27 Agrochemical storage containers shall be inspected for signs of leakage, deterioration or corrosion and damaged containers shall **be** replaced **immediately**. Inspection reports must be maintained and signed by the appropriately qualified inspecting officer and his/her supervisor. The report must be provided to the EPA upon request.
- 1.28 All employees shall be trained on Hazardous Material Communication and Emergency Preparedness Response. An Annual training report shall be submitted to the Agency upon request.
- 1.29 Pesticide containers should be decontaminated as per their SDS in the sump constructed at the GUYSUCO Agricultural Aircraft Washing Bay.
- 2.0 WATER QUALITY**
- 2.1 Adhere to the provisions of the **Environmental Protection (Water Quality) Regulations, 2000.**
- 2.2 A sump shall be maintained at the Agricultural Aircraft Washing Bay.



- 2.3 The sloped angle of the base of the loading area shall be maintained, directing all effluent toward the sump.
- 2.4 Best Available Technology shall be utilised to ensure that the sump does not overflow.
- 2.5 Effluent from the sump shall be treated prior to final discharge.
- 2.6 Coagulated materials generated from the treatment of contaminated effluent shall be disposed via the GUYSUCO incinerator located at La Bonne Intention
- 2.7 Water quality of **at least two water courses** within the spray area shall be monitored in accordance with the Guyana National Bureau of Standards (GNBS) *Interim Guidelines for Industrial Effluent Discharge into the Environment*. The following allowable limits should not be exceeded:

Table 1.2 Illustrating the Effluent Discharge into the Environment

Parameter	Maximum Allowable Concentration	Units	Sample Type
1. Temperature	<40	°C	Grab
2. pH	5.0 – 9.0		Grab
3. Biological Oxygen Demand (BOD)	<50	mg/L	Grab
4. Total Suspended Solids (TSS)	<50	mg/L	Grab
5. Surfactant	<0.2	mg/L	Grab

- 2.8 Effluent contained in the holding tank located a Agricultural Aircraft Washing Bay shall be monitored in accordance with the Guyana National Bureau of Standards (GNBS) *Interim Guidelines for Industrial Effluent Discharge into the Environment* stipulated in Table 1.2.
- 2.9 The Permit Holder shall determine a water quality monitoring plan and submit this plan along with the water quality test results to the Agency as part of the Annual Report.

3.0 COMPLIANCE MONITORING AND REPORTING

- 3.1 Notify the Environmental Protection Agency **within 1 hour** of the occurrence of any environmental emergencies (e.g., chemical spills, hazardous materials/wastes, chemicals 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).
- 3.2 Make all employees, and third parties under your direction, aware of the conditions of the Permit and provide training on good environmental practices.
- 3.3 Monitor the implementation of the conditions of this Permit, insofar as they involve adherence by your employees and all third parties under your direction.
- 3.4 Notify the Agency in writing of any change of name or ownership of the Permit Holder's facility within **thirty days** after the change occurs.
- 3.5 Notify the Agency **within 21 days** in event of death, bankruptcy, liquidation or receivership of the Permit Holder or if the Company becomes a party to an amalgamation.
- 3.6 Maintain and submit to the Agency records of the type, composition and quantity of contaminant released (i.e., any solid, liquid, gas, odor, sound, vibration, radiation, heat or combination of any of them).
- 3.7 Submit **Annual Reports** to the EPA on the progress of the operation and compliance with the conditions under which this Permit was granted on or before **March 31** each year.
- 3.8 Report to the Agency of non-compliance with the Operation Permit:
 - I. Within **twenty-four (24) hours** of the time the Holder of the Environmental Authorisation for Operation 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.
 - III. Submit a report to the Agency indicating the reasons and the anticipated time it is expected to continue if the non-compliance has not been corrected.
- 3.9 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.

4.0 INSTITUTIONAL AUTHORITY/ LIABILITIES

- 4.1 The EPA reserves the right to conduct regular inspections of the Permit Holder's operation as part of its monitoring and enforcement requirements under the Environmental Protection Act, Cap. 20:05, the Environmental Protection (Amendment) Act, 2005, and the Environmental Protection Regulations, 2000.
- 4.2 EPA reserves the right to review/amend the conditions attached to this Permit which also includes the review and/or amendment of permit fees in consideration of any changes in fee schedule as determined by the Agency for projects of this nature.
- 4.3 Permit Holder 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 s.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.
- 4.4 EPA shall have the right to cancel or suspend this Permit for breach of any of the terms and conditions contained herein.
- 4.5 Permit Holder shall be strictly liable for 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 authorisation, as are attributed to projects of this nature and in accordance with section 19(1), (2), and (3) of the Environmental Protection Act, Cap. 20:05.
- 4.6 Permit Holder shall be guilty of any offence in accordance with s. 39(1), (2), (3), (4) of the EP Act, Cap. 20:05, which states respectively – "every person who causes material or serious environmental harm by polluting the environment intentionally or recklessly and with the knowledge that material and/or serious environmental harm will or might result is guilty of an offence, and shall be liable to the penalties prescribed under the Act."
- 4.7 Permit Holder shall be liable to any gross negligence or willful misconduct caused by the Permit Holder, his Servants and/ or Agents, to the marine or terrestrial environment, biodiversity, protected species and natural habitat with respect to any release or discharge, spill, contaminant fluids, oil or lubricants from the fuel storage facility.
- 4.8 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).

- 4.9 Permit Holder, his Servants and/or Agents shall be strictly jointly and severally liable as follows:
- a. For any activity that causes, or is likely to cause pollution of the environment, unless the person takes all reasonable and practicable measures to prevent or minimise any resulting adverse effect, in accordance with Section 19(1)(a) of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.
 - b. For any activity which results in the discharge, release or entry into the environment of any contaminant in any amount, concentration or level in excess of that prescribed by the regulations or stipulated by this Permit, in accordance with Section 19(1)(b) of the Environmental Protection Act, Cap. 20:05 Laws of Guyana.
 - c. The discharge or release of contaminants, such as hydraulic fluids, lubricants, fuel, or other industrial fluids relative to the Project, which are not stipulated herein, or by Regulations under the Environmental Protection Act, are strictly prohibited. Any such discharge or release shall be a violation of Section 19(1)(b) of the Environmental Protection Act.
 - d. For the compensation of any Party who suffers any loss or damage as a result of the project. (s.19(3)(e)) Environmental Protection Act, Cap. 20:05, Laws of Guyana.
 - e. For any material or serious environmental harm caused by pollution of the environment, whether intentionally or recklessly, in accordance with section 39 (1), (2), (3) and (4) of the Environmental Protection Act, 20:05, Laws of Guyana.
 - f. Any gross negligence or wilful misconduct resulting in serious risk, or adverse effects to the marine environment, biodiversity, protected species and natural habitat with respect to any release or discharge, spill, contaminant fluids, oil, or lubricants from any facilities permitted under this project.
 - g. For the payment of all costs and expenses related to the assessment of damage and investigations required, as result of any pollution incidents attributable to the activity for which this Permit has been issued.
- 4.10 The Permit Holder shall be responsible for the payment of all costs related to the assessment of damage and costs for the independent assessor (s).
- 4.11 The Agency (EPA) 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 lack of due care and diligence.

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- 4.12 Should the Permit Holder contravene or be likely to contravene any condition of this Permit, the Agency (EPA) may issue an Enforcement Notice to him, in accordance with s.26 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.
- 4.13 Where it appears to the Agency (EPA) 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 Agency may issue to the Permit Holder a Prohibition Notice, which may include an order to immediately cease the offending activity. (See: s. 27 of the Environmental Protection Act, Cap. 20:05).
- 4.14 The Permit Holder is obligated to ensure that the Operation of Aerial Spraying using Aircraft is permitted by other relevant authorities.
- 4.15 The Permit is effective for the period stipulated herein **November, 2021 to October, 2026.**
- 4.16 This Environmental Permit shall remain valid until **October 31, 2026**, unless otherwise suspended, cancelled, modified or varied in accordance with the provisions of this Permit or the Environmental Protection Act, Cap. 20:05, the Environmental Protection (Amendment) Act, 2005, and the Environmental Protection (Authorisations) Regulations, 2000.
- 4.17 This Permit must be renewed by submitting a completed *Application Form for Environmental Authorisation* (Environmental Permit) to the Agency at least six months before this Permit expires, that is, no later than **April 30, 2026.**
- 4.18 Any late submission of renewal application(s) after the specified date as stated above, shall require the Permit Holder to pay, in addition to the renewal fee, a late penalty fee (accruing at the time such obligation was first owed for renewal) at a rate of **two thousand dollars (\$2,000.00) per day for every day late**, until such renewal application is submitted to the Agency, without prejudice to any other rights of the Permit Holder in connection therewith.
- 4.19 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
Kemraj Parsram
Executive Director

Date 2021.11.22

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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.

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, the Environmental Protection (Amendment) Act, 2005, and the Environmental Protection (Authorisations) Regulations, 2000, and any existing or forthcoming regulations, guidelines, best practices and standards made under this Act.

NAME	Randley Loryce
DATE	2022-02-08
SIGNATURE	R. Loryce
DESIGNATION	Quality Assurance Officer

