



**Environmental
Protection
Agency**

Ganges Street, Sophia,
Georgetown, GUYANA
Tel.: (592) 225-0506
Fax: (592) 225-5481
Email: epa@epaguyana.org
Website: <http://www.epaguyana.org>

Environmental Permit (Renewed & Modified)

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

Reference No.:	20171121-ASLAC
Fee:	Medium (C3) i.e., US\$1100 per year
Fees Paid:	US\$ 5500 for Five (5) Year (September 2023 – August 2028)
Addressee:	AG Air Inc. Eugene F. Correia International Airport Ogle East Coast Demerara.
Activity:	Aerial Application of Fertilizers, Pesticides, Herbicides, and Seeds

AG Air 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 operation of Aerial Spraying using three (3) Ayres 510 Thrush aircraft at Burma Airstrip, Mahaicony, West Coast Berbice, hereinafter referred to as the “Project”, in the manner indicated in the application for Renewal of Environmental Authorisation submitted on April 25, 2023, and subject to the terms and conditions set forth herein under the Environmental Protection Act, existing and/or forthcoming regulations made under the said Act, and/or guidelines, best practices and standards relevant to this project.

This is a Renewal & Modification of the Environmental Permit, Reference No. 20171121-ASLAC issued on September 10, 2019, and expired on August 31, 2023.

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 Obtain approval from the **Ministry of Agriculture, NAREI for the use and dispersal of genetically modified seeds**. A copy shall be submitted to the agency upon request.

MS

- 1.2 Obtain approval for using and managing **toxic chemicals from the Pesticide and Toxic Chemical Control Board**. A copy of the Approval shall be submitted to the EPA upon receipt.
- 1.3 Make an application to the Agency to vary this 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 discharge of effluents; or
 - iv. effect any other change outlined in 20(3) of the Environmental Protection (Authorisations) Regulations.
- 1.4 Submit an Annual Plan, outlining the proposed aerial spraying location and details of the aerial spraying activities. The Annual plan shall include the following information:
 - a. Starting date, time, location, GPS coordinates, and contact information for field operator(s).
 - b. A detailed map of the location clearly displays:
 - i. The Spray area
 - i. Buffer Zones
 - ii. The designated emergency dumping location
 - iii. Non-target farmers' plots, housing areas, pastures, roadways, waterways, aquaculture, forested areas, or any other operation where human activities are taking place.
- 1.5 List all chemicals and materials to be applied, the rate of application, quantities to be applied, and an appropriate anti-drift.
- 1.6 Operator(s) shall be trained by a credibly recognized authority (PTCCB) on safely using and handling pesticides and fertilizers. Training certificates and schedules to be provided to the Agency upon request.
- 1.7 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. Ensure all firefighting equipment is maintained and serviced regularly.
- 1.8 Maintain aircraft according to Guyana Civil Aviation Authority (GCAA) approval certification as it relates to spill prevention for fertilizers, pesticides, and seeds from the aircraft.
- 1.9 Emergency spill clean-up kits shall be maintained and made readily available at the Project location. Kits should include absorbent materials, drain seals, and other appropriate tools for clean-up.

- 1.10 The Permit Holder shall provide training on good environmental practices. Records of training conducted must be made available to the EPA upon request.
- 1.11 Fire prevention and control equipment shall be maintained in accordance with **Guyana Fire Service Approval.**
- 1.12 Adhere to the **Pesticides & Toxic Chemicals Control Board Guidelines for Aerial Application of Pesticides, Guyana, 2016.**
- 1.13 Adhere to the Occupational Safety and Health Act requirements, **Cap. 99:01, Laws of Guyana.**

2.0 AIR QUALITY MANAGEMENT (Aerial drift and over-spraying)

- 2.1 Adhere to the provisions of the **Environmental Protection (Air Quality) Regulations, 2000.**
- 2.2 Members of the public and surrounding communities shall be notified at **least three (3) days** prior to the aerial application. Records of such notifications are to be submitted to the Agency as a part of the **Annual Report.**
- 2.3 The buffer zone for the aerial application of Pesticides 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 Codes	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

- 2.4 Pesticides, Herbicides and fertilizers **shall not** be dispensed from the Drones 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; resulting in pesticides and fertilizers overspray.
 - ii. which adversely affects humans or the non-target environment;

3.0 WATER QUALITY

- 3.1 Adhere to the provisions of the **Environmental Protection (Water Quality) Regulations, 2000.**
- 3.2 The aerial application of Pesticides, Herbicides, and Fertilizers into waterways adjacent to the required buffer zone is **STRICTLY PROHIBITED.**
- 3.2 An oil-water separator shall be constructed and maintained at the final discharge point of the secondary containment for the fuel storage area. GPS coordinates for the final discharge point shall be submitted to the EPA by **October 31, 2023.**
- 3.3 Stormwater shall be treated via the oil-water separator prior to final discharge.
- 3.4 All equipment re-fueling shall be conducted on an impervious base to prevent leakage into the soil and surrounding waterways.
- 3.5 The effluent generated by the designated area (collection pond) shall be treated and tested prior to discharge into the environment. Testing shall be in accordance with the Guyana National Bureau of Standards (GNBS) *Interim Guidelines for Industrial Effluent Discharge into the Environment and shall not exceed the limits below:*

Parameter	Daily Maximum Concentration	Units	Sample type
pH	(pH 5.0-9.0)		Grab
Temperature	<40	°C	Grab
Total Suspended Solids (TSS)	< 50	mg/L	Composite
Oil and Grease	< 10	mg/L	Composite
Biochemical Oxygen Demand (BOD)	< 50	mg/L	Composite
Chemical Oxygen Demand	>250	mg/L	Grab
Phosphorus	<2	Mg/L	Grab

The following information from the above testing shall be recorded and submitted cumulatively as a component of the project's **Annual Report:**

- i. The laboratory certificate;
- ii. Training certificate for individual(s) who performed the sampling;
- iii. Certificate of calibration for the equipment used;
- iv. The exact place, date, and time of sampling;
- v. The analysis of the results of the monitoring conducted;
- vi. Copies of original laboratory analytical reports.

- 3.6 GPS Coordinates for this final discharge point(s) shall be submitted to the EPA by **October 31, 2023.**

4.0 FUEL HANDLING, STORAGE AND TRANSFER

- 4.1 Adopt and comply with the National SOP "Guidance for the Design, Construction, Modification, and Maintenance of Petrol Filling Stations" and any forthcoming code of practice/guidelines pertaining to the operation of fuel storage.
- 4.2 Fuel shall at all times be stored above-ground and away from ignition sources. '**No Smoking**' signs shall be posted where fuel is handled or stored.
- 4.3 Existing secondary containment around the fuel tanks shall be inspected monthly for cracks and breakage to ensure they are liquid-tight to withstand hydrostatic pressure of any contained liquid when full.
- 4.4 The base of the secondary containment of the fuel storage facility shall be impervious material.
- 4.5 All secondary containment shall remain sealed and all piping must enter or exit the containment over the wall. Secondary containment shall provide total containment, and no part of the tank infrastructure (e.g., dispenser, filling hoses, and valves) shall protrude outside the containment.
- 4.6 Discharge from the secondary containment is **Strictly Prohibited.**
- 4.7 Wastewater from the secondary containment shall be channeled to the oil-water separator for treatment.
- 4.8 Fuel storage tanks shall be visually inspected to verify their integrity.
- 4.9 Protection measures for fuel storage tanks such as painting and coating shall be maintained to minimise corrosion of fuel tanks.
- 4.10 Overfill protection shall be installed and maintained on all fuel tanks. This may include an automatic shut-off device or an audible or visible overfill alarm.

FUEL TRANSFER

- 4.11 The Best Available Technology/ Technique (BAT) shall be employed to capture fuel lost during the unloading of fuel to storage tanks.
- 4.12 Secondary containment, drip trays or other overflow and drip containment measures shall be installed and maintained at connection points or other possible overflow points.

- 4.13 A Standard Operating Procedure (SOP) for fuel transfer operations including a checklist of measures to follow during filling operations shall be established and maintained. A copy of this SOP shall be made available to the EPA upon request.
- 4.14 All employees shall be trained on the SOP outlined in **condition 4.13**. An Annual training schedule shall be maintained and submitted to the EPA upon request.

5.0 WASTE MANAGEMENT

- 5.1 In accordance with the **Environmental Protection (Litter Enforcement) Regulations, 2013**, promote good sanitation and solid waste disposal practices on site. Covered garbage receptacles shall be placed upon impervious bases at strategic locations, both within and outside the facility.
- 5.2 Burning of waste is **strictly prohibited**. All solid waste shall be disposed of at an approved solid waste disposal site by an EPA Authorised Waste Disposal Company.
- 5.3 Good housekeeping, sanitary, and hygienic practices shall be maintained at all times. The Project's drains and surroundings shall be kept free of vegetation and litter.
- 5.4 Solid waste receptacles shall be secured when not in use.
- 5.5 Promote waste minimization and the reuse and/or recycling of waste and other materials where practical.
- 5.6 Waste collection areas shall be kept clean. Dry methods shall be used when cleaning waste handling and disposal areas (e.g., sweeping, use of absorbents).
- 5.7 Acid-contaminated waste shall be disposed of by an EPA-authorized Hazardous Waste Disposal Facility where applicable.
- 5.8 Septic Tank(s) shall be maintained in accordance with Guyana National Bureau of Standards Code of Practice for the Design and Construction of Septic Tanks and Associated Secondary Treatment and Disposal Systems.
- i) The septic tank shall not be located within 1.5 meters of a building or property boundary;
 - ii) septic tanks shall be installed with a sand and charcoal filter bed, or other appropriate design for further treatment; and
 - iii) shall be accessible for cleaning and de-sludging.
- 5.9 Any modification to the Septic tank shall 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*.

- 5.10 The disposal of bulk liquid waste at any Landfill is **STRICTLY** prohibited. Liquid waste is waste that;
- i. Has a solids content of less than 20% and liberates free liquids when transported and or stored; or
 - ii. Does not produce free liquids when tested in accordance with the US EPA Paint Filter Liquids Test and liberates no free liquids when transported.

6.0 ENVIRONMENTAL EMERGENCY RESPONSE MANAGEMENT

- 6.1 The Project shall be equipped with the following:

- i. An internal communications or alarm system capable of providing immediate emergency instruction to facility personnel.
 - ii. Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment.
 - iii. Water at an adequate volume and pressure to supply water hose streams, foam-producing equipment, automatic sprinklers, or water spray systems.
- 6.2 Standard Operating Procedures (SOPs) shall be established for inspecting and maintaining safety and emergency equipment, security devices, and operating and structural equipment that are important to preventing, detecting, or responding to environmental or human health hazards. The SOP must be made available to the EPA upon request.
- 6.3 All employees shall be trained on the SOP outlined in **condition 6.2**. Records of training conducted must be made available to the EPA upon request.
- 6.4 All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, must be tested and maintained as necessary to assure their proper operation in times of emergency.
- 6.5 Aisle space must be maintained at the Project to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency.
- 6.6 All employees shall be trained on the Emergency Response and Contingency Plan and records of training conducted must be made available to the EPA upon request.

7.0 COMPLIANCE MONITORING AND REPORTING

- 7.1 Notify the Environmental Protection Agency **within one (1) hour** 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).

- 7.2 Make all employees, and third parties under your direction, aware of the conditions of the Permit and provide training on good environmental practices.
- 7.3 Monitor the implementation of the conditions of this Permit, insofar as they involve adherence by your employees and all third parties under your direction.
- 7.4 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.
- 7.5 Notify the Agency **within (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.
- 7.6 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).
- 7.7 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**.
- 7.8 Report to the Agency any non-compliance(s) with the Environmental Permit:
- I. Within **twenty-four (24) hours** of the time the Permit Holder 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.
- 7.9 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.

8.0 INSTITUTIONAL AUTHORITY/ LIABILITIES

- 8.1 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.
- 8.2 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.

- 8.3 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 offense to assault, obstruct or hinder an authorized 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.
- 8.4 EPA shall have the right to cancel or suspend this Permit for breach of any of the terms and conditions contained herein.
- 8.5 Permit Holder shall be strictly liable for the adverse effect of any discharge or release, or cause or permit the entry of pollution, a contaminant in any amount, concentration, or level in excess of that prescribed by the regulations or stipulated by this environmental authorization, 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.
- 8.6 Permit Holder shall be guilty of any offense 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 offense, and shall be liable to the penalties prescribed under the Act.”
- 8.7 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.
- 8.8 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).
- 8.9 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 minimize 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 willful 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 a result of any pollution incidents attributable to the activity for which this Permit has been issued.
- 8.10 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).
- 8.11 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's lack of due care and diligence.
- 8.12 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.
- 8.13 Where it appears to the Agency (EPA) 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 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.

Environmental Permit-Ref. No 20171121-ASLAC

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.

20:05).

- 8.14 The Permit Holder is obligated to ensure that the Operation of Aerial Spraying using Aircraft is permitted by other relevant authorities.
- 8.15 The Permit is effective for the period stipulated herein **September 2023 to August 2028**.
- 8.16 This Environmental Permit (Renewed & Modified) shall remain valid until **August 31, 2028**, 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.
- 8.17 This Permit must be renewed by submitting a completed *Application Form for Environmental Authorisation* (Operation Permit) to the Agency at least six months before this Permit expires, that is, no later than **March 31, 2028**.
- 8.18 Any late submission of renewal application(s) after the specified date as stated above, may 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.
- 8.19 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
Executive Director

Date 2024-01-19

I hereby accept the above terms and conditions upon which this Operational 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	MOWALLY JEUNE
DATE	19 / 01 / 2024
SIGNATURE	M. Jeune
DESIGNATION	ENVIRONMENTAL OFFICER

