



**Environmental
Protection
Agency**

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Environmental Permit (Renewed & Varied)

**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.:	20130118- SOLAG
Fees:	Extra Large C1 i.e., US\$ 3,100 per year
Fees Paid:	US\$15,500 - Five (5) Years (April 2023 to March 2028)
Addressee:	Mr. Earl Carribon General Manager Sol Guyana Incorporated Lot BB Rome, Agricola, East Bank Demerara.
Activity:	Operation of a Bulk Fuel Storage and Liquefied Petroleum Gas Cylinders Refilling Facility, Rehabilitation of Mooring & Berthing Facility & Transportation of Diesel via Pipeline from Rome to Guyana Shore Base Inc.'s Fuel Farm Facility.

Sol Guyana Incorporated, hereinafter 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 Operate a Bulk Fuel Storage and Liquefied Petroleum Gas Cylinders Refilling Facility, Rehabilitate a Mooring & Berthing Facility and Transport Diesel Fuel via Pipeline, at BB Rome, Agricola, East Bank Demerara, hereinafter referred to as “the Project”, in a manner indicated in the Application for Renewal of an Environmental Authorisation submitted on January 25, 2023 and 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 other applicable laws, guidelines, best practices, approvals, directives and standards relevant to this project.

This is a Variance of the Environmental Permit (Renewed & Varied), Reference No. 20130118- SOLAG, issued on April 12, 2023, and expiring on March 31, 2028. The Environmental Permit (Renewed & Varied) is issued pursuant to the Environmental Protection (Authorisation) Regulations, 2000.

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

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1.0 OPERATION

- 1.1 The Permit Holder shall comply with the provisions of the Environmental Protection Act Cap. 20:05, Petroleum Exploration and Production Act, 1986, the Petroleum Exploration and Production (Amendment) Act, 1992, the Pesticides and Toxic Chemicals Act, No. 13 of 2000, the Pesticides and Toxic Chemicals Regulations, No. 8 of 2004, and the Pesticides and Toxic Chemicals (Amendment) Regulations, No.8 of 2007, Laws of Guyana.
- 1.2 The Permit Holder shall comply with any lawful directives given by the Agency from time-to-time, including directives in furtherance of the implementation of any international or other obligation for the environmental protection of Guyana.
- 1.3 The Permit Holder shall notify the Agency in writing and obtain its approval for **ANY** proposed changes to the operation at least **twenty-one (21) calendar days** prior to making the change. The notification shall contain a description of the proposed change in operation. 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 operation' means a change in the nature or functioning of the facility, or an extension, or any additional installation, which may have consequences for the environment. Changes to operation may include but not be limited to the following:
 - i. changes in the construction, operation, structure, or layout of the facility and all associated buildings;
 - ii. changes of equipment, machine, apparatus, mechanisms, systems or technology serving the facility;
 - iii. changes in the position and design of any outlet at the point or points of discharge of effluents; or
 - iv. any other change outlined in 20(3) of the Environmental Protection (Authorisations) Regulations.
- 1.4 Ensure the construction and maintenance of a fence around the site to act as a deterrent to other activities conducted in the area.
- 1.5 Ensure construction materials such as bitumen, asphalt, aggregates, etc., are obtained from approved sources only. Additionally, take all necessary precautions to minimise potential adverse impacts on public health and the environment in the transport, storage and handling of construction materials and wastes, including the covering of trucks and barges containing such material which may release fugitive dust that can affect surrounding receptors.
- 1.6 Avoid construction works between 18:00 hrs. and 06:00 hrs. on any day. However, for continuous concrete pour, prior approval must be sought from the EPA.
- 1.7 Strictly adhere to the requirements from Maritime Administration Department (MARAD); Sea and River Defence; and Drainage & Irrigation Laws of Guyana. Cap.

64:03 submitted on **March 27, 2025.**

- 1.8 Construct adequate drainage system at the facility and ensure that the land is level and appropriately built up to avoid floods and contamination of the receiving waters.
- 1.9 Avoid any river and road traffic hazards or unnecessary inconveniences to the general public through appropriate planning and management of the construction site.
- 1.10 Identify suitable areas for material stockpile and equipment during construction and operation.
- 1.11 All building\construction materials stored in tiers shall be stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, falling or collapse.
- 1.12 Practice the use of caution signs to warn against potential hazards or to caution against unsafe practices.
- 1.13 Ensure that trucks are equipped with the necessary signage to reflect warning of impending danger of parked or moving trucks with construction materials.
- 1.14 Remove all construction tools, equipment and waste material from site upon completion of construction works.
- 1.15 The jetty shall be appropriately designed for its intended purpose, including, for example, but not limited to; safety, life span, corrosion resistance and maintenance, ease of access, ease of refilling and with the least number of environmental impacts possible.
- 1.16 The Permit Holder shall maintain a Standard Operating Procedure (SOP) for fuel transfer operations via the pipeline including a checklist of measures to follow during filling operations.
 - i. All employees shall be trained on the SOP and an annual training schedule shall be maintained and submitted to the Agency upon request.
- 1.17 The Permit Holder shall maintain a Damage Prevention Plan outlining the steps taken to prevent damage to the pipe by excavation or other means and shall contain the following:
 - i. Excavator operator requirements;
 - ii. Operation response on an incident;
 - iii. Enforcement;
 - iv. Reporting; and
 - v. Community communication and public pipeline awareness.
- 1.18 The Permit Holder shall adopt and comply with the Guyana National Bureau of Standards "*Guidance for the Design, Construction, Modification, and Maintenance*

of Petrol Filling Stations” and any forthcoming code of practice/guideline pertaining to the operation of fuel storage facilities.

- 1.19 The Permit Holder shall establish and maintain a register of the types and quantities of fuel and associated hazardous materials stored onsite. A summary of the registered information shall be submitted to the Agency as a component of the Annual Report.
- 1.20 The Permit Holder shall adhere to the requirements of the Occupational Safety and Health Act, Cap. 99:01, Laws, of Guyana.

2.0 FUEL HANDLING AND STORAGE

- 2.1 Fuel shall at all times be stored above-ground, in a cool, dry place and away from ignition sources. ‘**No Smoking**’ signs shall be posted where fuel is handled or stored.
- 2.2 The Permit Holder shall obtain and maintain Guyana Fire Service Approval and submit a copy of the approval for the Agency’s records.

2.2.1 Fire prevention and control equipment shall be maintained in accordance with this Guyana Fire Service Approval.

- 2.3 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. A summarised inspection report shall be submitted to the Agency as a component of the Annual Report.
- 2.4 Containment bunds shall remain sealed and all piping shall enter or exit the bund over the wall. Bunds shall provide total containment, and no part of the tank infrastructure (e.g., dispenser, filling hoses and valves) shall protrude outside the bund wall.
- 2.5 Fuel storage tanks shall be inspected annually, to verify their integrity, and maintained in accordance with the manufacturer’s specifications. Areas to inspect include tank foundation, connections, coatings, tank walls and piping systems. A summarised inspection report shall be compiled and submitted to the Agency as a component of the Annual Report.
- 2.6 Protection measures, such as anti-corrosive paints and coatings, shall be maintained to minimise corrosion of the fuel tanks and pipelines.
- 2.7 The Permit Holder shall install electronic meters to monitor the flow of fuel along the pipeline from the Permit Holder’s facility to GYSBI’s fuel farm facility.
- 2.8 Calibrate and maintain the electronic meter system in accordance with the manufacturers’ recommendations; calibration certificate must be submitted to the Agency upon completion of calibration.

- 2.9 Maintain loading and discharge pumps, piping, filters and separation units, and submit a Maintenance Schedule to the Agency as a component of the Annual Report.
- 2.10 Install containment sumps (transitions sumps) where the underground pipe is brought above ground **by September 30, 2023.**
- 2.10.1 Constructed sumps shall be liquid-tight (i.e., to both contain spilled or leaked fuel to groundwater or surface water intrusion).
- 2.10.2 All penetration fittings on all sump entries shall be liquid tight.
- 2.11 Maintain leak detection mechanisms, such as:
- i. Alarms for safe fill levels on tanks;
 - ii. Gauging systems;
 - iii. Dipstick measurements; and
 - iv. Emergency electric shut down buttons for pumps.
- 2.12 The leak detection methods for piping shall entail:
- i. An automatic line-leak detector (pressurized-piping system);
 - ii. Groundwater monitoring;
 - iii. Periodic piping tightness testing;
 - iv. Interstitial testing soil-vapour monitoring; and
 - v. Under-pump check valve (suction system).
- 2.13 The safe fill level shall be clearly identified on the gauge and set at 90% to prevent overfilling. In the event of overfilling, all discharges shall be released into the containment bund.
- 2.14 Spill safety mechanisms (emergency shut-off system) shall be installed at both the SOL facility and the Guyana Shore Base Inc. (GYSBI) fuel farm in the event that there is an emergency at either end of the transfer line.
- 2.15 The Best Available Technology/ Technique (BAT) shall be utilised and maintained to capture fuel lost during the unloading of fuel to storage tanks and refuelling of equipment.
- 2.16 Secondary containment, drip trays or other overflow and drip containment measures shall be utilised and maintained at connection points or other possible overflow points.

3.0 LIQUIFIED PETROLEUM GAS (LPG) CYLINDER REFILLING

- 3.1 The Permit Holder shall adopt and comply with the Guyana National Bureau of Standards "*Specification for the storage, handling and transportation of LPG*"

cylinders" and any forthcoming code of practice/guidelines pertaining to the operation of Liquefied Petroleum Gas (LPG) filling facilities.

- 3.2 Store LPG cylinders in an open-air storage area or cage with a protective roof overhead. There must be adequate ventilation and air movement in any LPG gas bottle storage area.
- 3.3 LPG gas bottle storage shall be kept in a location that does not hinder the escape of people.
- 3.4 The Permit Holder shall ensure that LPG gas storage (propane gas storage) is well away (at least 6 metres) from any combustible or waste materials.
- 3.5 The Permit Holder shall ensure that gas bottle storage areas must be free from sources of ignition.
- 3.6 The Permit Holder shall ensure that the required fire extinguisher(s) must be located no more than 50-feet from the storage location.
- 3.7 The Permit Holder shall ensure that LPG gas bottle storage is prevented from falling, movement or physical damage by storing them in approved cages/racks, securing the cylinders with LPG gas cylinder safety chains or using other approved retention methods.
- 3.8 The Permit Holder shall ensure that storage areas for LPG cylinders are sectioned and labelled appropriately.
- 3.9 The Permit Holder shall ensure that LPG cylinders are inspected for signs of leakage or corrosion and that damaged cylinders are replaced **immediately**. Inspection reports shall be maintained on site and made available to the Agency upon request.
- 3.10 A Material Safety Data Sheet (MSDS) for LPG must be located in close proximity to the LPG gas cylinder storage area for fast reference in a gas bottle safety emergency.
- 3.11 The Permit Holder shall ensure that cylinders are always stored upright so that the LPG gas cylinder safety pressure relief value is in the vapour section of the cylinder.
- 3.12 The Permit Holder shall ensure that any LPG cylinder that has ever been filled as a full cylinder. Only gas cylinder storage purged with inert gas can be once again considered empty.
- 3.13 The Permit Holder shall ensure that gas detectors are installed and maintained at the LPG filling station to sound an alarm at 2,000ppm of LPG, i.e., approximately 10% of the explosive limit of gas.
- 3.14 Stopping of transporting vessels in-transit, to conduct any activity beside refuelling or delay due to traffic or adherence to road user regulations is **prohibited**.

- 3.15 **Transportation of LPG must not occur during severe weather conditions.**
- 3.16 Transporters must be trained in HAZMAT handling and transporting before undertaking any transportation of LPG.
- 3.17 The Permit holder shall ensure that LPG cylinders are securely stored on transporting vessels so that environmental risk is minimized. This includes, but is not limited to:
- 3.18 Guidelines on how to place/stack hazardous chemicals onto transporting vehicles.
- 3.19 Instructions on how to properly secure hazardous chemicals on transporting vehicles to minimize moving/shifting.
- 3.20 Implement and enforce lower speed limits for vehicles transporting LPG, especially in residential and commercial zones.
- 3.21 The Permit Holder shall ensure that specialized training is provided to drivers on the importance of speed management and its impact on safe transportation.
- 3.22 The Permit Holder shall submit documentation which must include the name and addresses to verify liability for transporting LPG (bulk) to customers.

4.0 PIPELINE SECURITY

- 4.1 The Permit Holder shall install closed-circuit television (CCTV) cameras throughout the length of the pipeline, and ensure their operation on a 24-hour basis.
- 4.2 Appropriate barricades shall be placed along the pipeline where the areas are high traffic zones and along the pipeline that runs over any waterways.
- 4.3 The Permit Holder shall install and maintain a casing or secondary containment for portion of the pipeline that runs above waterways.
- 4.4 The Permit Holder shall erect and maintain clear signs that state **"Do Not Sit or Stand on the Barricade and Pipeline"** along the pipeline to warn road users.
- 4.5 A warning sign shall be placed and maintained, as close as practical, on each side of a public road where section(s) of the pipeline is buried.
- 4.6 The Permit Holder shall erect and maintain warning signs as close as practical to each section of the pipeline that is located aboveground. The following shall be written legibly on a background of sharply contrasting colour on each line marker/sign:

- i. The word **"Warning," "Caution,"** or **"Danger"** followed by the words **"Fuel"**

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(or name of fuel transported) Pipeline”; and

- ii. The names of person(s) the telephone number (including area code) where the operator can be reached at all times.

5.0 PIPELINE TRANSFER OF FUEL

- 5.1 A risk-based pipeline Integrity Management Plan shall be maintained and shall contain, but not be restricted to, the following:
 - i. Methods for inspecting and testing pipeline integrity;
 - ii. The process for continued integrity assessment;
 - iii. Repair criteria; and
 - iv. Timelines for integrity actions.
- 5.2 Pipelines shall not be located under buildings to ensure access for easy maintenance.
- 5.3 The Permit Holder shall perform periodical maintenance and/or repair work on fittings, pipes and hoses in accordance with manufacturer's specifications. A tentative schedule outlining the planned maintenance activities, and reports of maintenance activities completed shall be maintained and submitted to the EPA, upon on request.
- 5.4 The Permit Holder shall perform an evaluation of the cathodic protection system and corrosion threat for the covered segment of the pipeline on an annual basis, and submit the evaluation report to the Agency as a component of the Annual Report. The evaluation shall include but not be limited to:
 - i. An electrical survey (i.e., indirect examination tool/method);
 - ii. Leak repair and inspection records;
 - iii. Corrosion monitoring records; and
 - iv. Exposed pipe inspection records.
- 5.5 The Permit Holder shall obtain and review fuel analysis data each calendar year for corrosive agents from pipelines and report same to the EPA as a component of the Annual Report.
- 5.6 Whenever any portion of the buried pipeline is exposed, the exposed portion shall be examined for evidence of external corrosion (if the pipe is bare), or if the coating is deteriorated. If there is external corrosion and remedial action is required, the Permit Holder shall investigate circumferentially and longitudinally beyond the exposed portion (by visual examination, indirect method, or both) to determine whether additional corrosion requiring remedial action exists in the vicinity of the exposed portion.
- 5.7 The Permit Holder shall inspect and test pressure limiting equipment to determine whether it is in safe operating condition and has adequate capacity. Pressure testing

of the pipeline shall be done at least once every **six (6) months** and the Pressure testing certificate shall be submitted to the Agency within seven (7) calendar days of receipt.

5.8 Pressure sensors shall be installed at the beginning and the end of the pipeline and the pressure of the system shall be recorded before and after every transfer.

5.9 The Permit Holder shall respond to, investigate, and correct the cause of:

- i. any gas odour;
- ii. unintended closure of valves or shutdowns;
- iii. any increase or decrease in pressure or flow rate outside normal operating limits;
- iv. loss of communications;
- v. the operation of any safety device; and
- vi. any foreseeable malfunction of a component, deviation from normal operation, or personnel error, which may result in a hazard to persons or the environment.

5.10 A patrol program shall be established to observe surface conditions on and adjacent to the transmission line right-of-way for indications of leaks, construction activity, and other factors affecting safety and operation.

5.11 Pipelines shall be inspected for leaks once every thirty (30) minutes when transfer of fuel occurs.

6.0 MOORING AND BERTHING FACILITY

6.1 Mooring and berthing activities shall be conducted in accordance with the most recent edition of the International Safety Guide for Oil Tankers and Terminals (ISGOTT).

6.2 The Permit Holder shall ensure that access routes to the sea dam and reserves are kept clear and maintained in accordance with Maritime, Sea and River Defence and Drainage & Irrigation Laws of Guyana.

6.3 All construction and operation works shall be conducted in accordance with the Sea Defence and Drainage and Irrigation Laws of Guyana.

6.4 The Permit Holder shall conduct periodic maintenance of the jetty by painting, resurfacing, clearing debris, or performing other necessary reparative works without causing physical disruption to the watercourse.

6.5 The Permit Holder shall ensure that all trucks/barges used to transport construction materials to the site shall be covered to prevent fugitive dust from affecting the surrounding receptors.

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- 6.6 The Permit Holder shall take necessary precautions to avoid erosion, siltation, and sedimentation of the Demerara River.
- 6.7 The Permit Holder shall install sediment controls along the site perimeter to receive sediments from surface runoff.
- 6.8 The Permit Holder shall ensure that sediments are removed before it accumulates to half of the above-ground height of the perimeter control.
- 6.9 The Permit Holder shall maintain a vegetated buffer zone along the edge of the Demerara River in order to provide riverbank stability.
- 6.10 The Permit Holder shall ensure that vessels are moored in depths that allow them to remain afloat but prevent propellers from disturbing bottom sediments.
- 6.11 The Permit Holder shall protect susceptible sloped surfaces with suitable revetment and appropriate cover to ensure the stability of slopes and avoid erosion.
- 6.12 Before mooring, the Terminal's Officer in Charge and the tanker's Captain shall verify details of the mooring plan, safe access plan, and the Terminals Operating limits. Any deviation from the agreed mooring plan required by changing weather conditions, among other unforeseen circumstances, shall be communicated to the Captain as soon as possible.

7.0 SHIP TO SHORE/SHORE TO SHIP BUNKERING ACTIVITIES

- 7.1 Bunkering activities, ship to shore or shore to ship, shall be conducted in accordance with the most recent edition of the International Safety Guide for Oil Tankers and Terminals (ISGOTT).
- 7.2 The Permit Holder shall submit to the Agency an approved Bunkering Plan (Ship to Shore/Shore to Ship) **by April 30, 2023**. Bunkering activities shall be in accordance with this Plan.
- 7.3 The Bunkering (Ship/Shore) Safety Checklist shall be completed and signed by the officer responsible before the bunkering operation commences. Checklists shall be available to the Agency, upon request. The facility's Terminal Information Booklet must be provided to the tanker at least 24-hours before tanker arrival.
- 7.4 The Permit Holder shall verify that environmental conditions (weather, tide action, etc.) for bunkering are acceptable prior to the commencement of activities.
- 7.5 The Permit Holder shall inspect all hoses, valves and pipeline (where accessible) prior to all bunkering activities to reduce the possibility of spillage.
 - i. When a tanker is alongside the berth, fire-fighting equipment must be on the tanker and the terminal and ready for immediate use.

- 7.6 Bunker hoses shall not be connected over the water ways.
- 7.7 The Permit Holder shall ensure that the filling of tanks is properly supervised to reduce the risk of spillage.
- 7.8 The Permit Holder shall have sufficient and appropriate drip containment and spill response equipment at the location of the bunkering operations which shall be readily available for deployment.
- 7.9 The Permit Holder shall ensure that only employees who are trained to use spill equipment in the event of an emergency, are involved with the bunkering process.
- 7.10 The Permit Holder shall utilize leak detection devices during bunkering (e.g., overfill alarms, instrumentation/procedures to perform volumetric checks, etc.).
- 7.11 The Permit Holder shall maintain and ensure that the supplier maintains, at least **two (2)** of the following means of communication:
 - a. Handheld radios;
 - b. Telephones;
 - c. Talk-back systems;
 - d. Signalling lamps;
 - e. Search lights;
 - f. Loud hailers;
 - g. Closed circuit television; or
 - h. Electrical controls for tanker whistles.
- 7.12 Upon completion of all bunkering operations, hoses shall be fully drained before disconnection takes place.
- 7.13 Upon completion of bunkering operations, hoses shall be disconnected above a drip pan of an appropriate size within a bunded area.

8.0 WATER QUALITY

- 8.1 Strictly adhere to the provisions of the **Environmental Protection (Water Quality) Regulation, 2000.**
- 8.2 The Permit Holder shall maintain oil-water separators at strategic locations on the storage facility through which all effluents shall pass before the final discharge.
- 8.3 Perimeter drains shall be maintained on site and shall be adequately sloped to collect storm flow.
- 8.4 The Permit Holder shall maintain the integrity of the existing waterways at all times. Discharges into the environment shall be in accordance with the Guyana National

Bureau of Standards (GNBS) *Guidelines for Industrial Effluent Discharge into the Environment*. The following are the allowable limits for this type of project and shall not exceed:

- i. Total Suspended Solid (TSS) < 100 mg/L;
- ii. Oil and Grease < 10 mg/L; and
- iii. Total Petroleum Hydrocarbon (TPH) < 40 mg/L.

- 8.5 A water quality monitoring plan shall be submitted to the Agency for approval. Monitoring shall be conducted in accordance to the approved plan and the results shall be submitted to the Agency as part of the Annual Report.
- 8.6 Discharge of fuel from ships/vessels to the fuel storage tanks shall be conducted under the strict guidance of the Bunkering Supervisor and the shut-off mechanism shall be activated in the event of a spill.
- 8.7 The Permit Holder shall avoid soil and water contamination from fuel, grease, waste oils and other petroleum products.
- 8.8 The Permit Holder shall store all oils, fuel, paints and chemicals in a designated area away from watercourses.
- 8.9 The Permit Holder shall adequately store, cover and protect raw materials and waste, especially in rainy conditions to avoid runoff into the Demerara River.

9.0 AIR QUALITY AND NOISE MANAGEMENT

- 9.1 Strictly adhere to the provisions of the **Environmental Protection (Air Quality) Regulations, 2000** and the **Environmental Protection (Noise Management) Regulations, 2000**.
- 9.2 The Permit Holder shall handle and store liquid fuel in such a manner so as to prevent the emission of offensive odours.
- 9.3 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 shall not exceed the limits below, at a distance of 15 metres (50ft) from the source or property boundary, whichever is closer.

Industrial Limits: **100 dB** during the daytime (06:00 h - 18:00 h)
80 dB during the night-time (18:00 h - 06:00 h)

- 9.4 Records of each monitoring exercise shall be maintained and results submitted to the Agency as a component of the Project's Annual Report.
- 9.5 All significant noise-producing equipment, such as generators, shall be equipped with silencers or mufflers and/or be enclosed in suitable acoustic enclosures to reduce

noise levels impacting the surrounding environment and to achieve compliance with Guyana National Bureau of Standards (GNBS) requirement.

- 9.6 All generators and machines/equipment shall be serviced in accordance with manufacturers' specifications to ensure efficiency and reduce the level of noise produced. A summarised maintenance report shall be submitted as a component of the Annual Report.
- 9.7 The Permit Holder shall ensure that exhaust stacks are at least **two (2) meters above** the tallest nearby building to minimise adverse fumes/soot impacts to the contiguous areas.
- 9.8 In the event of equipment malfunction or inefficiencies which may result in visible emissions to air or, in the event of malfunctions leading to abnormal emissions, the operator shall:
- Investigate and undertake remedial action immediately;
 - Adjust the process or activity to minimize those emissions; and
 - Record the events and actions taken. This shall be submitted in the Annual Report.

- 9.9 Comply with the *World Health Organization (WHO) Air Quality Guidelines for Particulate Matter in the Environment*, not exceeding the limits below:

PM_{2.5}: 10µg/m³ annual mean

25 µg/m³ 24-hour mean

PM₁₀: 20µg/m³ annual mean

50 g/m³ 24-hour mean

- 9.10 Comply with the *World Health Organization (WHO) Air Quality Guidelines for Air pollutants in the Environment*, not exceeding the limits below, and not limited to the list of pollutants:

- CO- 9 ppm (8h)
- H₂S- 10 ppm (8h)
- NO₂- 0.1 ppm
- VOC- 100 ppm

An air quality monitoring plan including but not limited to sampling point/s displayed on a map and frequency of sampling shall be submitted to the Agency for approval.

- 9.11 Monitoring shall be conducted in accordance to the approved plan and the results shall be submitted to the Agency as part of the Annual Report.

10.0 WASTE MANAGEMENT

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- 10.1 In accordance with the **Environmental Protection (Litter Enforcement) Regulations, 2013**, the Permit Holder shall promote good sanitation and solid waste disposal practices on site. Covered garbage receptacles shall be placed at strategic locations at the facility, and waste shall be collected and disposed at an approved waste disposal facility.
- 10.2 Burning of garbage is **strictly prohibited**.
- 10.3 Solid waste receptacles shall be secured when not in use.
- 10.4 The Permit Holder shall establish and maintain a waste disposal manifest which shall include details of the:
- i. Type of waste produced;
 - ii. Quantity of waste;
 - iii. Storage method, etc.

11.0 HAZARDOUS WASTE MANAGEMENT

- 11.1 The Permit Holder shall strictly adhere to the provisions of the **Environmental Protection (Hazardous Waste Management) Regulation 2000**.
- 11.2 Waste oils recovered from oil-water separator or from the servicing of generators shall be stored in a covered bunded area to minimize adverse impacts to the environment in the event of a spillage.
- 11.3 The bunded area shall be clearly labelled and have the capacity to provide 110% containment of the total volume of waste oils stored.
- 11.4 Oil/fuel contaminated absorbent materials shall be appropriately stored and disposed by double wrapping in heavy duty garbage bags. All contaminated absorbent materials shall be disposed of at an authorized Hazardous Waste Disposal Facility.
- 11.5 Fuel/lubricants including waste oils shall not be drained from equipment onto the ground or into waterways.
- 11.6 All hazardous wastes shall be stored in containers appropriate for the waste stream. That is:

a) Sealed Plastic Containers

- i. Water- based wastes
- ii. Fountain Solutions, Pre- Press

b) Sealed Metal Containers

- i. Solvents and Petroleum- based products
- ii. Waste ink, Press wash, Oil and Oily Absorbents

- 11.7 All hazardous waste containers shall be labelled with the following:
- The words **"Hazardous Waste"**
 - The type of waste; and
 - Beginning accumulation date - Date when the container was first placed in the Hazardous Waste Storage Area, and should the hazardous waste container be reused, the date hazardous waste was first placed in the container shall be recorded on the container.
- 11.8 Hazardous waste shall be stored in a covered, bunded area. This area shall include the following:
- Signage- **"Hazardous Waste Storage Area"**;
 - Low Traffic
 - No floor drains; and
 - Secondary containment capable of containing 110% of the largest volume therein.
- 11.9 All hazardous waste shall be treated and/ or disposed by an Agency authorised Hazardous Waste Disposal Facility. All hazardous waste treatment and disposal shall be documented on a Waste Manifest Form which shall submitted to the Agency as a component of the Annual Report.

12.0 SPILLS AND EMERGENCY MANAGEMENT

- 12.1 The Permit Holder shall employ and maintain appropriate procedures in keeping with good international industry practice (GIIP) to minimize spill risks, detect leaks, capture spills and minimize the release of hydrocarbons during transport/transfer, resale and other Project related activities.
- 12.2 Notify the Environmental Protection Agency **within one (1) hour** of the occurrence of any environmental emergencies (e.g., oil spills, hazardous materials/wastes spills, 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).
- 12.3 All near misses, spills and unwanted/accidental discharges, **amounting to less than imperial five (5) gallons**, must be recorded and reported to the Agency as a component of the Annual Report.
- 12.4 Discharges of contaminants amounting to **five (5) imperial gallons or more** must be reported to the Agency by submitting an "Incident Notification Form for Spills in Onshore Operations" using the most recent template provided by the Agency, **within forty-eight (48) hours** of the incident. A follow-up incident notification form shall be submitted **within seventy-two (72) hours** of the submission of the initial notification form (a total of five days after the discharge of the contaminants).

- 12.5 The Permit Holder shall establish procedures for analysing accidents and failures for the purpose of determining the causes of the failure and minimizing the possibility of a recurrence. This information shall be made available to the Agency upon request.
- 12.6 Maintain an Emergency Response Plan (ERP) for the entire facility, inclusive of the pipeline system. The ERP shall contain, but may not be restricted to the following:
- i. Spill detection and mitigation procedures;
 - ii. Escape, evacuation and rescue plan and assessment;
 - iii. A list of responsible parties and duties;
 - iv. A list of regulatory agencies to be notified;
 - v. Names and addresses of response organizations;
 - vi. Training procedures;
 - vii. A list of equipment to be utilized;
 - viii. Testing procedures to ensure that equipment to be used remain in working condition; and
 - ix. Clean up and hazardous waste disposal procedures.
- 12.7 The Permit Holder shall ensure that the facility is equipped with an internal communications or alarm system capable of providing immediate emergency instruction to facility personnel.
- 12.8 The Permit Holder shall establish SOPs for operating, 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.
- 12.9 The Permit Holder shall ensure that all the facility's communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, are tested and maintained in accordance with manufacturer's specifications and GIIP.
- 12.10 Emergency spill clean-up kits shall be maintained at fuel storage areas for response to potential spills. Kits shall contain absorbent materials, drain seals and other appropriate tools for clean-up.
- 12.11 Appropriate clean-up equipment such as spill trays, oil spill clean-up recover pump, oil spill dispersant spray system or sorbent pads shall be readily accessible to respond to any spills that may occur onsite.
- 12.12 The Permit Holder shall install an emergency shut-off switch for the bunkering operations. The switch must be inspected and tested before every operation or as required by the manufacturer.
- 12.13 The Permit Holder shall Schedule training on simulated spill incident and response exercises for response personnel. Spill alert and reporting procedures, deployment of spill control equipment, and the emergency care/treatment of people and animals impacted by the spill.

- 12.14 The Permit Holder shall annually simulate the entire ERP with relevant stakeholders as directed and/or approved by the Agency. The Agency reserves the right to attend any exercise organised in accordance with this Condition.
- 12.15 In satisfying Condition 12.14, the Permit Holder shall, at a minimum:
- i. simulate conditions in the area of operations, including but limited to, seasonal weather variations;
 - ii. cover a range of scenarios including, but not limited to, responses to large continuous gas leaks, gas leaks of a short duration and limited volume, and worst-case scenarios;
 - iii. conduct an emergency response "table top" exercise. The exercise must test the emergency response team's organization, communication, and decision making in managing a response. The emergency response scenario must not be revealed to team members before the exercise starts;
 - iv. conduct a deployment exercise of response equipment identified in the ERP. Each type of equipment must be deployed and operated although it is not necessary to deploy and operate each individual piece of equipment.
 - v. conduct a deployment exercise of any response equipment which the Permit Holder is required to maintain at the facility. Each type of this equipment must be deployed and operated; and
 - vi. comply with any further requirement which the Agency may request.
- 12.16 The Permit Holder shall produce appropriate documentation, to the EPA, evidencing the conduct of the exercises required by Condition 12.14, which documentation must be submitted no later than thirty (30) calendar days following their conduct, and include information concerning the:
- i. Type of exercises;
 - ii. Date and time of the exercises;
 - iii. Description of the exercises;
 - iv. Objectives met; and
 - v. Lessons learned.
- 12.17 The Permit Holder shall maintain an Oil Spill Response Plan (OSRP) to facilitate an effective response to an onshore or riverine fuel spill, including maintaining the equipment and other resources specified in the OSRP and conducting periodic training and drills.

13.0 COMPLIANCE MONITORING AND REPORTING

- 13.1 The Permit Holder shall monitor the implementation of the conditions of this Permit, insofar as they involve adherence by your employees and all third parties under your direction.
- 13.2 The Permit Holder shall notify the Agency in writing of any change of name or

ownership of the Permit Holder's facility within **thirty (30) days** after the change occurs.

- 13.3 The Permit Holder shall notify the Agency within **twenty-one (21) days** in event of death, bankruptcy, liquidation or receivership of the Permit Holder or if the Company becomes a party to an amalgamation.
- 13.4 The Permit Holder shall maintain and submit to the Agency records of the type, composition and quantity of contaminant released (i.e., any solid, liquid, gas, odour, sound, vibration, radiation, heat or combination of any of them).
- 13.5 The Permit Holder shall submit an **Annual Report** to the Agency containing the information required under this Environmental Permit on or before **March 31, each year**.
- 13.6 Report to the Agency any non-compliance with the Environmental Permit (Renewed & Varied):
- i. Within **twenty-four (24) hours** of the time the Holder of the Environmental Permit becomes aware of the non-compliance outlining the anticipated manner in which human health or the environment may be impacted.
 - ii. Within **seventy-two (72) hours** of the time the Holder of the Environmental Permit becomes aware of the non-compliance, submit to the Agency a written report containing a description of the non-compliance, its cause, the period of non-compliance including exact dates and time and the anticipated time it is expected to continue if the non-compliance(s) has not been corrected.

14.0 INSTITUTIONAL AUTHORITY AND LIABILITIES

- 14.1 The Permit Holder shall bear the cost of all investigations into pollution incidents, conducted at the insistence of the Agency.
- 14.2 The Permit Holder shall within **six (6) months** of the issuance of this Permit, procure insurance of such type and in such amount as is customary in the international petroleum industry for petroleum operations of this type, in respect of:
- i. Loss or damage to all assets used in Project;
 - ii. Pollution caused in the course of the Project;
 - iii. Loss or damage to property or bodily injury suffered by any third party in the course of the Project;
 - iv. Sol Guyana Incorporated's liability to its employees engaged in the Project.
 - v. Any other requirement(s) made by the Agency.
- 14.3 With respect to the policies procured in accordance with Condition 14.2 above, the Permit Holder shall, upon request, submit to the Agency,

- i. Documentary evidence that the insurer is authorised to provide the insurance in the jurisdiction and to provide evidence of the insurer's financial strength.
- ii. Details of the amount of cover and the cost profile, evidence of authorisation of the institution or parent (insurer's) to provide insurance. As well as, evidence of any supplementary cover required to cover gaps in the primary cover, inclusive of details relevant to the excess level which is the responsibility of the policyholder to cover.
- iii. Details regarding the modification, cancellation, expiration, intent to renew, renewal or non-renewal and expiry dates of the policy.
- iv. Details on whether the insurance policy is maintained or renewed so that the Agency can determine if it is acceptable or if it requires a replacement policy.
- v. The final insurance policy or certificate of insurance, evidence of financial strength and payment of premium.

14.4 This Permit is issued subject to the fulfillment of the obligations outlined in Conditions 14.2 and 14.3, above. **Failure to fulfill such obligations or commitments would constitute a breach of this Permit and will result in its immediate cancellation.**

14.5 The Permit Holder shall, within **six (6) months** of the issuance of this Permit, provide a Guarantee Agreement, to the Agency, in which a Guarantor undertakes to provide adequate financial resources for Permit Holder to pay or satisfy its environmental obligations, under this Permit and the Environmental Protection Act Cap 20:05, in the event of a pollution incident. As a consequence, Sol Guyana Incorporated will be required to:

1) Provide evidence of the following:

- a) That the Guarantor(s) are authorised to provide that guarantee or agreement in this jurisdiction.
- b) That the Guarantor(s) have sufficient financial strength for the amount of the potential liability.
- c) That the Guarantor (s) have the corporate legal capacity to enter into the agreement.

2) Agree to the following:

- a) To provide notification of cancellation, expiration, renewal or non-renewal and expiry dates of the Agreement.
- b) As well as, to provide annual audited financial statements and notification if the Affiliate(s) are no longer likely to be able to meet specified financial obligations.

14.6 The Permit Holder shall be liable for any material environmental harm caused by polluting the environment, pursuant to s. 39 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.

[Faint circular stamp and handwritten signature/initials in the bottom right corner.]

- 14.7 The Permit Holder shall be liable for any serious environmental harm caused by polluting the environment, pursuant to s. 39 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.
- 14.8 The Permit Holder shall be liable for any activity that causes or is likely to cause pollution of the environment unless all reasonable and practicable measures are taken to prevent or minimize any resulting adverse effect, pursuant to s. 19 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.
- 14.9 The Permit Holder shall be liable for discharging, causing or permitting the entry into the environment, of any contaminant in any amount, concentration or level excess of that prescribed by the regulations or stipulated by this Environmental Permit (Renewed & Varied), pursuant to s. 19 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.
- 14.10 The Permit Holder shall be liable to compensate any person who suffers any loss or damage as a result of contravening conditions 14.8 and 14.9 of this Environmental Permit (Renewed & Varied), pursuant to s. 19 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.
- 14.11 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.
- 14.12 The Permit Holder shall be liable to any gross negligence or wilful 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.
- 14.13 Should the Permit Holder contravene or be likely to contravene any condition of this Permit, the Agency may serve on him an Enforcement Notice in accordance with Section 26 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.
- 14.14 Where it appears to the Agency that the Permit Holder is engaged in any activity that may pose a serious threat to natural resources or the environment, or a risk of serious pollution of the environment or any damage to public health, the Agency 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.
- 14.15 The Agency 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 (Amendment) Act, 2005, and Environmental Protection (Authorisations)

Regulations, 2000.

- 14.16 This Permit Holder, His Servants and/or Agents shall at all times, allow entry to the permitted facility to any Officer designated by the Agency 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.
- 14.17 The Agency has the right to modify, cancel or suspend this Permit for breach of any of the terms and conditions contained herein.
- 14.18 **The Environmental Permit (Renewed & Varied) is not the final consent; all relevant Permissions should be obtained from other regulatory bodies for continued operation.**
- 14.19 This Environmental Permit (Renewed & Varied) is effective for the period stipulated herein **April, 2023 to March, 2028.**
- 14.20 This Environmental Permit (Renewed & Varied) shall remain valid until **March 31, 2028**, unless otherwise suspended or revoked in accordance with the provisions of this Permit or the Environmental Protection Act, Cap. 20:05, Laws of Guyana, the Environmental Protection (Amendment) Act, 2005, and the Environmental Protection (Authorisations) Regulations, 2000.
- 14.21 This Permit shall be renewed by submitting a completed Application Form for Renewal of Environmental Authorisation to the Agency at least six months before this Permit expires, that is, no later than **September 30, 2027.**
- 14.22 Any late submission of the application required by Condition 11.21, may render the Permit Holder liable 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.
- 14.23 Failure to comply with the requirements of this Permit shall render the Permit Holder liable to prosecution and to penalties prescribed under the Environmental Protection Act, Cap. 20:05, Laws of Guyana, and the Environmental Regulations including civil penalties and 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.

Environmental Permit (Renewed & Varied) Ref. No. 20130118- SOLAG

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

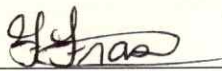
Signed by Shamfali Lazack on behalf of the Environmental Protection Agency.



Date

^{SK.}
2025.04.30

I hereby accept the above terms and conditions upon which this Environmental Permit (Renewed & Varied) 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	Fiona Fraser
DATE	02/05/2025
SIGNATURE	
DESIGNATION	Project Engineer

