



**Environmental
Protection
Agency**

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Environmental Permit (Renewed)

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

Reference No.:	20191004- TECHB
Fees:	Medium (C1) i.e., US\$500 per year
Fee Paid:	US\$2,500 for Five (5) years (November, 2021 to October, 2026)
Addressee:	<p>Mr. Bryan Sangster Onshore Operations Manager TechnipFMC Guyana Block "EVC" of Area AM1 Plantation Rome (North Section) McDoom District Georgetown</p> <div data-bbox="1068 718 1494 892"><p>ENVIRONMENTAL PROTECTION AGENCY Database Updated <i>[Signature]</i> 2/1/22 -</p></div>
Activity:	Operation of an Oil and Gas Service Company Equipment Base (Subsea Service Base)

TechnipFMC Guyana, hereinafter referred to as the "Permit Holder", is hereby authorised in accordance with the Environmental Protection Act, Cap. 20:05, the Environmental Protection (Amendment) Act, 2005, and the Environmental Protection (Authorisations) Regulations, 2000, to Operate the Oil and Gas Service Company Equipment Base (Subsea Service Base) at Block "EVC" of Area AM1, Plantation Rome (North Section), McDoom District, Georgetown, hereinafter referred to as the "Project", in a manner indicated in the Application for Renewal of Environmental Authorisation submitted on October 15, 2021, 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 any applicable laws, guidelines, best practices and standards relevant to this project.

This is a Renewal of Construction Permit, Reference No. 20191004- TECHB issued in April, 2020 and expired March, 2021.

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

1.0 GENERAL OPERATION

Adhere to the requirements of the Occupational Safety and Health Act, Cap. 99:01, Laws of Guyana.

- 1.1 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.
- 1.2 Maintenance of generator(s), machines, equipment and tools shall be conducted in accordance with manufacturer's specification. Summarised maintenance records shall be submitted to the EPA as a component of the **Annual Report**.
- 1.3 Heavy machinery such as cranes, forklifts, etc. shall be parked on impervious surface, to prevent fuel spills and leaks from entering the soil.
- 1.4 Standard Operating Procedures (SOPs) for safe use of tools and equipment shall be established and maintained.
- 1.5 All employees shall be trained on these SOPs outlined in **condition 1.4**. An Annual training schedule shall be submitted to the Agency as a component of the **Annual Report**.
- 1.6 Unauthorised access to high-risk areas of the Project shall be restricted and informed by signage and security measures.
- 1.7 Biodegradable, low-phosphate content and water-based cleaners shall be utilized whenever possible, to avoid the use of halogenated compounds, aromatic hydrocarbons, chlorinated hydrocarbons, petroleum-based cleaners or phenolic.
- 1.8 Emergency spill clean-up kits shall be maintained at the Project for response to spills. Kits must contain absorbent materials, drain seals and other appropriate tools for clean-up, and must be readily available and clearly identified at the Project.
- 1.9 A register of the quantities of associated hazardous materials stored onsite shall be established and maintained. A summary of the registered information shall be submitted to the Agency as a component of the **Annual Report**.
- 1.10 Obtain and maintain Guyana Fire Service Approval and submit a copy of the approval for the EPA's records.
- 1.11 Fire prevention and control equipment shall be maintained in accordance with this Guyana Fire Service Approval.

2.0 STORAGE OF CHEMICALS

- 2.1 Antifreeze, lubricants or any other liquid chemicals used at the Project shall be stored in secondary containment (bundled area). The secondary containment shall have a volume equivalent to that of the liquid stored within the largest storage container and walls shall be constructed of impermeable materials.
- 2.2 Chemical Storage Areas shall be clearly labeled with "Danger, Chemical Storage Area- Authorized Personnel Only" where applicable as a spill control measure.
- 2.3 Flammable materials shall be stored away from ignition sources. 'No Smoking' signs shall be posted where these materials are handled and stored.
- 2.4 Chemicals shall be stored in accordance with their hazard characteristics compatibility e.g., flammable, corrosive, etc.
- 2.5 Chemicals shall be stored in accordance with the manufacturer's directions or Safety Data Sheet (SDS) instructions.
- 2.6 Safety Data Sheets for all chemicals shall be readily available and easily accessible at all times at the Project.
- 2.7 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.
- 2.8 Chemical storage containers shall be inspected weekly for signs of leakage, deterioration or corrosion and damaged containers **must be replaced immediately**. Inspection reports must be maintained and signed by the appropriately qualified inspecting officer and his/her supervisor.
- 2.9 Chemical storage container inspection reports shall be summarised and submitted to the Agency as part of the **Annual Report**.

3.0 STORGAE OF MULTIPHASE FLOW METERS

- 3.1 Notify the EPA of the intent to store multiphase flow meters containing Cs 137 at the approved location at least seventy-two (72) hours before arrival.
- 3.2 Submit an inventory of all multiphase flow meters containing Cs 137 to the Agency at least seventy -two (72) hours before arrival. The inventory should be completed

in accordance with the requirements of the Application Form for Nuclear Safety and Radiation Protection.

- 3.3 Adhere to the TechnipFMC Operating, Radiation Safety and Emergency Procedures approved 2017.
- 3.4 At all times apply the "As Low as Reasonably Achievable" (ALARA) principle to reduce radiation exposure.
- 3.5 Submit an agreement with the manufacturer/ provider of the multiphase meters to collect all spent sources within three (3) Months of issuance of this permit.
- 3.6 Adhere to the TechnipFMC Subsea Service Base -Guyana Site Security Plan. Secure all sealed radioactive sources at all times against unauthorized removal and tampering.
- 3.7 Conduct a leak test of all multi-phase flow meters containing a radioactive source upon receipt. Submit Leak Test Certificate within three months of testing.
- 3.8 Label all packages, with at least two labels on opposite sides of the package. All packages shall be marked with the United Nations number assigned to the material.
- 3.9 Maintain an inventory of all stored radioactive sources on site. Update the inventory quarterly and submit it as part of the Annual Report.
- 3.10 Do not store radioactive sources with explosives or highly flammable substances.
- 3.11 Mark the storage area with hazard signs to indicate the presence of radiation.
- 3.12 Immediately notify the EPA in the event a multiphase meter containing a radioactive source is lost or stolen.
- 3.13 No human limb shall be placed inside the pipe containing the radioactive source.
- 3.14 Monitor the area and personnel for radiation exposure to ensure it does not exceed 1mSv in a year.

4.0 WATER QUALITY

- 4.1 Adhere to the provisions of the **Environmental Protection (Water Quality) Regulations, 2000.**
- 4.2 Maintain the integrity of the existing waterways at all times. Discharges into the environment should be in accordance with the Guyana National Bureau of Standards (GNBS) *Interim Guidelines for Industrial Effluent Discharge into the Environment*. The following are the allowable limits for the general environment and should not be exceeded:

- pH 5.0-9.0;
- Temperature < 40 °C;
- Biological Oxygen Demand (BOD₅) < 50 mg/L;
- Chemical Oxygen Demand (COD) < 250 mg/L;
- Total Suspended Solid (TSS) < 50 mg/L;
- Oil and Grease < 10 mg/L; and

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.

- 4.3 Discharge of untreated wastewater into the surrounding waterways is **strictly prohibited**.
- 4.4 All wastewater (excluding sewage) shall be directed to the double walled fibre glass tank for collection and treatment. This wastewater shall be collected and disposed by an EPA authorized Hazardous Waste Treatment Facility.
- 4.5 Maintain adequately sloped interceptor drains to collect storm flow. Drains shall be kept flowing and free of debris and vegetation.
- 4.6 Storm water discharges shall be directed away from the wastewater holding tank.
- 4.7 Fuel/lubricants including waste oils shall not be drained from equipment onto the ground or into waterways.

5.0 AIR QUALITY AND NOISE MANAGEMENT

- 5.1 Adhere to the provisions of **the Environmental Protection (Noise Management and Air Quality) Regulations, 2000**.
- 5.2 Noise emissions shall be monitored at the Project's boundary to determine compliance with Guyana National Bureau of Standards (GNBS) *Guidelines for Noise Emissions into the Environment*, not exceeding the industrial limits listed below:

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)

The Permit Holder shall determine a noise quality monitoring plan and submit this plan along with noise quality test results to the Agency as part of the Annual Report. Monitoring shall be conducted by trained personnel using calibrated Type 2 Sound Level Meters.

- 5.3 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 to achieve compliance with Guyana National Bureau of Standards (GNBS) requirement.

- 5.4 Stack heights and configurations shall be determined using the Good Engineering Practice Stack Height (HGEP) Formula to avoid excessive ground level concentrations of contaminants:

$$H_{GEP} = H + 1.5 L$$

HGEP = good engineering practice stack height, measured from the ground-level elevation at the base of the stack

H = height of nearby structure(s) measured from ground-level elevation at the base of the stack

L = lesser dimension, height (H) or projected width, of nearby structure(s)

The proposed stack height as determined by the HGEP (inclusive of calculations and google map image showing the buildings under consideration) shall be submitted to the EPA for approval by **December 31, 2021**.

6.0 WASTE MANAGEMENT

- 6.1 In accordance with the **Environmental Protection (Litter Enforcement) Regulations, 2013**, promote good sanitation and solid waste disposal practices on site; covered garbage receptacles must be placed at strategic locations at the facility.
- 6.2 Waste materials shall not be burnt on site. All solid waste and sewage shall be disposed by an EPA Authorised Waste Disposal Company.
- 6.3 Good house-keeping, sanitary, and hygienic practices shall be maintained at all times. The facility's surroundings shall be kept free of vegetation and litter.
- 6.4 Waste collection areas shall be kept clean. Dry methods shall be used when cleaning around waste handling and disposal areas (e.g., sweeping, use of absorbents).
- 6.5 A septic tank system shall be maintained on site for collection of all sewage. The septic tank should not be located within 1.5 m of a building or property boundary and should be accessible for cleaning and de-sludging. Any modification to the Septic tanks must be in accordance with the Guyana National Bureau of Standards (GNBS) Code of Practice for the Design and Construction of Septic Tanks and Associated Secondary Treatment and Disposal Systems.

7.0 HAZARDOUS WASTE MANAGEMENT

- 7.1 Adhere to the provisions of the **Environmental Protection (Hazardous Waste Management) Regulations, 2000**.



7.2 Hazardous waste 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, Presswash, Oil and Oily Absorbents

7.3 Hazardous waste containers shall be labelled with the following:

- i. The words "**Hazardous Waste**"
- ii. The type of waste
- iii. Beginning accumulation date- Date when the container was first placed in the Hazardous Waste Storage Area. Should the hazardous waste container be reused, the date hazardous waste was first placed in the container shall be recorded on the container.

7.4 Waste oil containers shall be labelled with the following:

- i. The words "**Waste Oil or 'Used oil'**"
- ii. Beginning accumulation date

7.5 Hazardous waste shall be stored in a covered, bunded area. This area shall include the following:

- i. Signage- "**Hazardous Waste Storage Area**"
- ii. Low traffic
- iii. No floor drains
- iv. Secondary containment capable of containing 110% of the largest volume therein.

7.6 Hazardous waste shall be treated and/ or disposed by an EPA authorised Hazardous Waste Disposal Facility. All hazardous waste treatment and disposal shall be documented on a Waste Manifest Form which must be submitted to the EPA as a component of the **Annual Report**.

8.0 COMPLIANCE MONITORING AND REPORTING

8.1 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).

8.2 The Company shall respond to all environmental emergencies (e.g., chemical spills, fires, etc.) in accordance with the **Emergency Response Plan (ERP)** submitted

to the EPA.

- 8.3 Make all employees, and third parties under your direction, aware of the conditions of the Environmental Authorisation and provide training on good environmental practices. Annual training schedule shall be submitted in the **Annual Report**.
- 8.4 Monitor the implementation of the conditions of this Permit, insofar as they involve adherence by your employees and all third parties under your direction.
- 8.5 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.
- 8.6 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.
- 8.7 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).
- 8.8 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.
- 8.9 Report to the Agency any non-compliance(s) with the Environmental Permit (Renewed):
 - i. Within **twenty-four (24) hours** of the time the Holder of the Environmental Authorisation for Operation 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.
- 8.10 Comply with any lawful directions given by the EPA from time-to-time in furtherance of the implementation of any international or other obligation for the environmental protection of Guyana.
- 8.11 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.

9.0 INSTITUTIONAL AUTHORITY/ LIABILITIES

- 9.1 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.
- 9.2 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.
- 9.3 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.
- 9.4 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, pursuant to s. 19 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.
- 9.5 The Permit Holder shall be liable to compensate any person who suffers any loss or damage as a result of contravening conditions 9.3 and 9.4 of this Environmental Permit, pursuant to s. 19 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.
- 9.6 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.
- 9.7 The Permit Holder shall be liable of any gross negligence or willful misconduct caused by the Permit Holder, his Servants and/or Agents, to the environment, biodiversity, protected species and natural habitat with respect to any release, discharge, or spill, of contaminant fluids, oil or lubricants.
- 9.8 Should the Permit Holder contravene or be likely to contravene any condition of this Permit, the Agency (EPA) may serve on him an Enforcement Notice in accordance with Section 26 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.
- 9.9 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 EPA may

issue to the Permit Holder a Prohibition Notice, which may order him to immediately cease the offending activity, in accordance with Section 27 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana.

- 9.10 The EPA reserves the right to conduct regular inspections of the Permit Holder's construction activities as part of its monitoring and enforcement requirements under the Environmental Protection Act, Cap 20:05, and the Environmental Protection (Amendment) Act, 2005, and Environmental Protection (Authorisations) Regulations, 2000.
- 9.11 The Permit Holder, His Servants and/or Agents shall at all times, allow entry to the permitted facility to any Officer designated by the EPA for the purposes of conducting inspections or any other legitimate business of the Agency. Pursuant to Section 38 of the Environmental Protection Act, Cap. 20:05, Laws of Guyana, it is an offence to assault, obstruct or hinder an authorised person in the execution of his/her duty under the said Act or its Regulations and the Permit Holder shall be liable to penalties prescribed under paragraph (c) of the Fifth Schedule for doing so.
- 9.12 The EPA has the right to modify, cancel or suspend this Permit for breach of any of the terms and conditions contained herein.
- 9.13 **This Environmental Permit (Renewed) is not the final consent; all relevant Permissions should be obtained from other regulatory bodies for continued operation.**
- 9.14 This Environmental Permit (Renewed) is effective for the period stipulated herein; **November, 2021 to October, 2026.**
- 9.15 This Environmental Permit (Renewed) 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, Laws of Guyana, Environmental Protection (Amendment) Act, 2005, and the Environmental Protection (Authorisations) Regulations, 2000.
- 9.16 This Permit must be renewed by submitting a completed Renewal Application Form for Environmental Authorisation to the Agency at least six months before this Permit expires, that is, no later than **April 30, 2026.**
- 9.17 Any late submission of renewal application (s) after the specified date as stated above, may require the Permit Holder to pay, in addition to renewal fee, a late penalty fee (accruing at the time such obligation was first owed for renewal) at a rate of **two thousand dollars (GY\$2000.00) per day for every business day late, until such renewal application is submitted to the Agency**, without prejudice to any other rights of the Permit Holder in connection therewith.
- 9.18 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

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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.

Signed by *Sharifah Lazack* on behalf of the Environmental Protection Agency.

Kemraj Parsram
Executive Director

Date 2021. 11. 02

I hereby accept the above terms and conditions upon which this Environmental Permit (Renewed) 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	BRYAN Sangster
DATE	11-12-21
SIGNATURE	<i>Bryan Sangster</i>
DESIGNATION	Onshore Operations Manager

