

CERTIFICATE OF ENVIRONMENTAL CLEARANCE



[Pursuant to the Environmental Management Act, Chapter 35:05, section 36 (1), and the Certificate of Environmental Clearance Rules, Rule 7 (1) (a)]

The Environmental Management Authority (EMA) of Trinidad and Tobago
Hereby Certifies the issue of a Certificate of Environmental Clearance
(CEC)

CEC5976/2020

To **Atlantic LNG Company of Trinidad and Tobago** for the Specific Purpose of ***“The Drilling and Operation of two (2) Disposal Injection Wells for the Disposal of Produced Water and Processed Liquids”*** at the **Atlantic LNG Company of Trinidad and Tobago’s facility, Atlantic Avenue, Point Fortin**

Date of Issue: **July 07, 2021**


CHAIRMAN

Please Note:

1. The issuance of this Certificate is not authorization to commence any works related to the project unless all other approvals from statutory, regulatory and relevant agencies are obtained.
2. The Certificate shall cease to have any validity, force or effect if the activity for which the Certificate was granted, does not commence within three years from the date of issue.

CERTIFICATE OF ENVIRONMENTAL CLEARANCE



**Pursuant to the Environmental Management Act,
Chapter 35:05, section 36 (1), and the
Certificate of Environmental Clearance Rules, Rule 7 (1) (a)**

The **Environmental Management Authority (EMA)** of Trinidad and Tobago hereby certifies the issue of a Certificate of Environmental Clearance (CEC), subject to the terms and conditions set forth in this CEC:

CEC No.: 5976/2020

To:	Atlantic LNG Company of Trinidad and Tobago (hereinafter referred to as the CEC Holder)
of Business Address:	Princes Court Corner of Keate Street and Pembroke Street PORT-OF-SPAIN
for the specific purpose of:	The drilling and operation of two (2) disposal injection wells for the disposal of produced water and processed liquids
at the following geographic location:	at the Atlantic LNG Company of Trinidad and Tobago's facility, Atlantic Avenue, Point Fortin

under the following designated activities of the CEC (Designated Activities) Order (as amended):

	ACTIVITY	DEFINITION
27	Establishment of infrastructure for pipeline systems	The establishment, modification or expansion (inclusive of associated works) of a pipeline or pipeline systems for transmission of produced fluids, crude oil or natural gas.
36	Establishment of a facility for hazardous or toxic substance handling	The establishment, modification, expansion, decommissioning or abandonment of a facility for handling, storage, treatment or disposal of hazardous substances.

NAB

TERMS AND CONDITIONS:

1. GENERAL

- 1.1 The CEC Holder shall take notice that the issuance of this certificate is **not authorisation** to commence any works related to the project. Works related to the project shall only commence when all approvals from other statutory, regulatory and relevant agencies are obtained. These include but are not limited to:
- The Commissioner of State Lands of the Ministry of Agriculture, Land and Fisheries (CoSL);
 - The Water Resources Agency of the Ministry of Public Utilities (WRA);
 - The Ministry of Energy and Energy Industries (MEEI);
 - The Occupational Safety and Health Authority and Agency of the Ministry of Labour and Small Enterprise Development (OSHA);
 - The Point Fortin Borough Corporation of the Ministry of Rural Development and Local Government (PFBC); and/or
 - The Trinidad and Tobago Fire Service of the Ministry of National Security (Fire Service).
- 1.2 The CEC Holder shall take notice that the grant of the CEC with conditions does not exempt the CEC Holder from the requirement to ensure compliance with all other relevant legislative provisions having the force of law;
- 1.3 The CEC Holder shall take notice that the project design, description and scope, as well as the prevention, mitigation and monitoring measures for the anticipated impacts presented in the application for this certificate and any other additional information provided in writing, form part of the conditions to which the CEC Holder shall adhere, unless modified by a listed condition within this certificate;
- 1.4 The CEC Holder shall submit a finalised scope of works and a detailed scheduling for such, to the EMA at least 20 working days prior to the commencement of any works related to the project;

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- 1.5 The CEC Holder shall ensure that all proposed supporting infrastructure, facilities and management systems, required to maximise the effectiveness of mitigation measures, are installed/implemented and functioning prior to the commencement of any related works;
- 1.6 The CEC Holder shall ensure the fulfilment of the following requirements for all written reports, plans or notifications, submitted to the EMA in respect of this certificate:
 - a. The CEC number and the relevant CEC condition(s) are stated in the title or cover letter of the document;
 - b. One (1) digital copy (PDF format) of each report, plan or notification;
 - c. All reports, plans or notifications shall be addressed to the **Office of the Manager – Permit Monitoring and Complaints, Environmental Management Authority, #8 Elizabeth Street, St. Clair, Port-of-Spain** and submitted via email to PMC@ema.co.tt.
- 1.7 The CEC Holder shall designate a primary and secondary officer who will be responsible for compliance monitoring and communicating with the EMA in respect of this certificate. The CEC Holder shall provide the name and contact details of the designated officers to the EMA at least 20 working days prior to the commencement of any works related to the project. The CEC Holder shall notify the EMA of any changes to the contact officers at least five (5) working days of such change;
- 1.8 The CEC Holder shall facilitate any Inspector duly appointed under the Environmental Management Act, Chapter 35:05 to enter the premises of the proposed project at any time to make observations, inspect or copy documents, interview personnel and take samples and/or photographs as these relate to meeting the requirements of this CEC.

2. MODIFICATIONS

- 2.1 The CEC Holder shall seek the approval of the EMA for any proposed variations to the design, layout and scope of works in circumstances where:
 - a. Modifications are required by other regulatory, statutory and other relevant agencies and which do not result in any increased adverse environmental impact and risk and/or change the nature or main characteristics of the project. These include, but are not limited to the CoSL, WRA, OSHA, MEEI, PFBC and/or Fire Service.

In the event that jurisdiction or authority for any approvals or modification requirements relevant to the activities approved by this CEC changes, the CEC Holder shall identify, liaise and comply with the requirements of the new holder of said jurisdiction or authority.

- b. The CEC Holder wishes to make a modification or modifications.

Requests for modification(s) under the circumstances above must be submitted to, and approved by, the EMA prior to the commencement of any works related to such modification(s);

- 2.2 The CEC Holder shall be required to apply for and obtain a new CEC before proceeding with the project where modifications to the project scope are such that the associated works result in an increased adverse environmental impact and/or bring it within the description of any designated activity of the CEC (Designated Activities) Order (as amended).

3. WATER

- 3.1 The CEC Holder shall ensure that there is no direct discharge of untreated produced water, processed liquids, drilling muds, cuttings and liquid phase from the drilling pits or other drilling waste into the receiving environment at any time during the project's activities.

Records of volumes of the combined produced water and processed liquids stream injected into the two (2) disposal wells shall be submitted to the EMA on a quarterly basis from the date of commencement of injection of this combined wastewater stream into the wells;

- 3.2 The CEC Holder shall ensure that runoff from drilling areas and other process areas is segregated from stormwater runoff. Runoff from these areas shall not be allowed to enter into drainage systems designed for non-process and municipal effluent. Runoff from drilling and other process areas shall not be discharged into the receiving environment;
- 3.3 The CEC Holder shall ensure that the tanks, connecting hoses and other equipment utilised during drilling activities are carefully inspected prior to and during operation to minimise leaks and spills. All mechanical equipment shall be fitted with drip trays/oil sumps and sorbent pads to reduce the amount of oily waste channelled to the drilling pit. Inspection records shall be maintained by the CEC Holder and made available to the EMA upon request;

- 3.4 The CEC Holder shall ensure that the drilling pit design includes:
- A liner so that the bottom and sides of the pit have a coefficient of permeability no greater than 1×10^{-7} centimetres per second (cm/sec). Liners shall be compatible with the material to be contained and of sufficient strength and thickness to maintain the integrity of the pit;
 - Construction to a depth so that the bottom of the pit is at least five (5) metres above the top of the seasonal high water table. Record of the depth relative to the top of the high water table must be submitted to the EMA at least 20 working days prior to drilling activity;
 - Measures (e.g. careful siting, installation of berms) to prevent natural surface drainage from entering the pit or breaching during storm events;
 - Installation of a perimeter fence or screen around the pit to prevent unauthorised access, where applicable;
- 3.5 The CEC Holder shall ensure that the procedures for hydrostatic testing are conducted in accordance with the MEEI guidelines for pipelines of this size, range and purpose. Hydrostatic test discharges shall be released at a controlled rate so as not to cause erosion and/or flooding in the receiving drainage system. Further, hydrostatic test discharges shall be treated to comply with the permissible levels prescribed in Schedule II of the Water Pollution Rules, 2019 (WPR);
- 3.6 The CEC Holder shall ensure that the injection pressure does not exceed the fracture gradient of the formation. The CEC Holder shall monitor and record the injection pressures, injection rates and fracture pressures for the injection wells. Copies of all monitoring reports shall be submitted to the EMA on a quarterly basis from the date of commencement of injection of produced water and processed liquids into the wells.

If monitoring shows that there are significant changes in the relationship between injection pressure and injection flow rate, the CEC Holder shall immediately take measures to correct the problem and inform the EMA and the MEEI within 24 hours of detecting such change.

Within ten (10) working days of the detection of significant changes in the relationship between injection pressure and injection flow rate, a report shall be submitted to the EMA and the MEEI detailing the following:

- Cause of change in the relationship between injection pressure and injection flow rate;
- Measures implemented to correct the problem;
- An estimate of the time (or a statement of the time taken) for the situation to return to normal;
- A discussion of the environmental impacts likely to result/or resulting from the change.

- 3.7 The CEC Holder shall implement an inspection and maintenance program to ensure the internal and external structural integrity of the combined produced water and processed liquids transmission pipeline, the two (2) storage tanks and components, injection wells, injector pumps and ancillary equipment. This programme shall include, but not be limited to, ensuring the absence of corrosion, leakage in the casings, tubings or packers of the injection wells. The CEC Holder shall conduct regular maintenance and replacement of equipment to minimise infiltration, leaks and spills into the environment.

Records of such inspections and maintenance shall be submitted to the EMA every six (6) months from the commencement of the injection programme;

- 3.8 The CEC Holder shall ensure that equipment, aggregate and other raw materials are stored on-site in specially designated areas and shall be bermed and placed at a location to prevent aggregate runoff into the marine environment;
- 3.9 The CEC Holder shall ensure that sediment-retention measures are utilised prior to the commencement of any earthworks, so as to prevent migration of sediment off-site. These shall include, but not be limited to:
- Establishment of berms at the boundaries of the development;
 - Establishment of sediment sieves or silt traps within drains exiting the site;
 - The protection of stockpiles of erodible material (e.g. excavated material or fill) using geo-textiles and/or geo-membrane materials;

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- 3.10 The CEC Holder shall conduct weekly inspections of the sediment-retention measures, and within 24 hours of, or as soon as practical after, periods of intense rainfall (more than 10 mm per hour of rainfall), to verify functionality of such control measures and facilitate necessary maintenance works or upgrading.

The CEC Holder shall document each inspection. Documentation shall include, but not be limited to, the following:

- Date the inspection was conducted;
- Prevailing weather conditions and rainfall events;
- Name(s) of person(s) who conducted the inspection;
- Observed site conditions to determine whether containment measures were breached, including, but not limited to, oily stains, turbid runoff, etc.

Copies of all inspection reports shall be made available to any Inspector upon request;

- 3.11 The CEC Holder shall conduct one (1) groundwater sampling exercise to establish the baseline quality prior to the commencement of injection activities at the site. Sampling shall be conducted at a minimum of three (3) groundwater well locations on-site, one (1) hydrologically up-gradient and two (2) down-gradient of the two (2) disposal wells. The locations, including Global Positioning System (GPS) coordinates (UTM Zone 20N, WGS 84 Datum), of these groundwater monitoring wells shall be submitted to the EMA within five (5) working days of approval by all relevant regulatory bodies. The parameters to be analysed shall include pH, total petroleum hydrocarbons (TPH), chlorides (as Cl⁻), phenolic compounds (as phenol), chemical oxygen demand (COD), lead (Pb), nickel (Ni), zinc (Zn), arsenic (As), Benzene, Ethylbenzene, Toluene, Xylene, (BTEX) and Diglycolamine (DGA).

The report of the baseline groundwater quality shall be submitted to the EMA within 30 working days of the sampling event;

- 3.12 The CEC Holder shall conduct groundwater monitoring during the injection activities at the same locations used for baseline groundwater monitoring including the minimum of three (3) groundwater well locations on-site, one (1) hydrologically up-gradient and two (2) down-gradient of the two (2) disposal wells.

The parameters to be monitored shall include pH, total petroleum hydrocarbons (TPH), chlorides (as Cl⁻), phenolic compounds (as phenol), chemical oxygen demand (COD), lead (Pb), nickel (Ni), zinc (Zn), arsenic (As), Benzene, Ethylbenzene, Toluene, Xylene, (BTEX) and Diglycolamine (DGA).

Groundwater shall be monitored monthly from the commencement of injection activities for the lifetime of the project or until such time as required by the EMA.

In the event that the following parameters, BTEX, DGA and/or phenols are detected in groundwater samples, all injection activities shall cease until the root cause of the contamination has been determined and corrective measures are implemented to prevent the release of these contaminants into the groundwater.

Monitoring reports shall include the GPS coordinates for the groundwater monitoring wells and a comparison with the baseline groundwater quality. The results of such monitoring and any corrective and/or preventive action taken shall be submitted to the EMA within 30 working days of each sampling event.

4. AIR

4.1 The CEC Holder shall ensure that any stockpiled aggregates are maintained in a damp condition, especially during periods of dry conditions, to alleviate the impacts of dust on ambient air quality. Excessive application of water shall be avoided to reduce the potential for the generation of turbid runoff.

Other dust-reduction measures that should be utilised, where applicable, include, but are not limited to:

- Use of dust screens in areas near to sensitive receptors;
- Location of stockpiles downwind of built development or receptors;
- Adoption of a speed limit for vehicles on unpaved surfaces;
- Use of non-toxic dust-suppressant chemicals.

Dust-control measures shall be monitored and maintained to ensure effectiveness;

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4.2 The CEC Holder shall, for the purposes of air-conditioning, refrigeration, pest control, soil fumigation, or use as solvents, in fire extinguishers, in dry cleaning or for any other intention, use refrigerants, fumigants, foams, aerosols or other products which:

- Are non-ozone depleting;
- Have low global warming potential;
- Are alternatives approved by the United States Environmental Protection Agency (USEPA) Significant New Alternatives Policy (SNAP) Programme.

5. NOISE

5.1 The CEC Holder shall, pursuant to the Noise Pollution Control Rules, 2001 (NPCR), apply for, and obtain, a Noise Variation from the EMA before proceeding with any works which are expected to produce noise levels that exceed the Prescribed Standards except in the following circumstances:

- Construction activities conducted on a construction site between the hours of 7:00 a.m. and 7:00 p.m. of any day.

5.2 The CEC Holder shall ensure that operational activities are in compliance with the specified standard prescribed for Zone I in the NPCR when measured at the property line;

5.3 The CEC Holder shall ensure that tools, machinery and equipment employed for all works are fitted with noise emission control systems, where applicable, to ensure compliance with standards in the NPCR. The CEC Holder shall conduct regular inspection and maintenance on these systems to ensure their proper function. Records of such inspection and maintenance shall be retained by the CEC Holder and made available to any Inspector upon request.

6. SOLID AND HAZARDOUS WASTES/MATERIALS MANAGEMENT

6.1 The CEC Holder shall ensure that any uncontaminated excavated material removed for infrastructural works are stockpiled and re-used, to the extent practical, for backfilling and landscaping on-site. Any uncontaminated material that is not re-used shall be removed from the site for recovery or disposal at a facility operated by the relevant Municipal Corporation or a person with the licenses, permits, trained/certified personnel, facilities, equipment and insurance to handle such material;

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- 6.2 The CEC Holder shall ensure that at the end of the construction and drilling phases, the project site is cleared of all scrap material and debris;
- 6.3 The CEC Holder shall ensure that washings from premix concrete trucks, associated with the project, are not discharged into any municipal drains or watercourses;
- 6.4 The CEC Holder shall ensure that non-hazardous solid waste such as, but not limited to, domestic garbage, inert construction/demolition materials and refuse including metal scrap and empty containers (except those previously used to contain hazardous materials) generated from all phases of the proposed project, is collected, sorted into recyclable and non-recyclables, and stored in receptacles which are clearly labelled, durable and sturdy, fitted with covers and of adequate capacity, until ready for recovery or disposal. As far as practical, such waste shall not be left easily accessible to pests and vermin, or allowed to litter the ground. The recovery or disposal of non-hazardous waste shall take place at a facility operated by the relevant Municipal Corporation or a person with the licenses, permits, trained/certified personnel, facilities, equipment and insurance to handle such waste;
- 6.5 The CEC Holder shall ensure that hazardous wastes (defined as wastes that presents a risk to human health, property or the environment due to their physical, biological or chemical characteristics¹) such as lead-acid batteries, waste chemicals and used oils, are segregated from non-hazardous waste. Wastes shall be clearly labelled, dated and securely stored in receptacles designed for such waste. Commingling of incompatible wastes shall be prevented and the storage area shall allow for inspection to monitor integrity of receptacles and spills or releases. Inspection of stored waste onsite shall be conducted on a weekly basis and inspection reports maintained by the CEC Holder and made available to any Inspector upon request;
- 6.6 The CEC Holder shall ensure that hazardous waste is not stored onsite for more than 90 days from the time the waste receptacle is full. The recovery or disposal of hazardous waste shall be handled by a person with the licenses, permits, trained/certified personnel, facilities, equipment, and insurance to handle such waste;
- 6.7 The CEC Holder shall ensure that contaminated materials and substances generated from spill response and spill clean-up are handled as hazardous waste;

¹A characteristic refers to one or more of the following properties of a waste or a component or constituent of the waste, which renders it as hazardous at specific quantities, concentrations or thresholds, explosive, oxidising, flammable, corrosive, irritant, infectious, toxic, eco-toxic, carcinogenic, teratogenic, mutagenic and radioactive.



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- 6.8 The CEC Holder shall ensure that empty chemical containers that possess one or more of the characteristics above are handled as hazardous waste. Partially used or unused chemicals discarded as waste shall be secured in their original containers, where practical, and returned to the supplier for recovery or disposal or transferred to a person with the licenses, permits, trained/certified personnel, facilities, equipment, and insurance to handle such waste;
- 6.9 The CEC Holder shall ensure that a manifest accompanies the hazardous waste from its movement from the site on which it was generated to its final destination where it is subjected to treatment for recovery or disposal. Manifests shall include, but not be limited to, the following:
- Generator name and contact information;
 - Site location of generated waste;
 - Transporter/Company name and contact information;
 - Description of type, including waste code, and quantity (in kilograms or litres) of waste collected;
 - Type of waste container collected;
 - Special handling instructions;
 - Certification of person/facility accepting waste.

Certificates of recovery or disposal shall be maintained by the CEC Holder and made available for review, upon request by the EMA;

- 6.10 The CEC Holder shall implement its Waste Management Plan for the proposed project. The plan shall document the treatment, storage (including facilities) and location(s), and handling procedures for all waste, and shall include a clear waste-tracking mechanism to track waste consignments from the originating location to the final waste treatment and disposal location(s).

Relevant records, such as chain of custody forms and disposal/remediation certificates, shall be maintained by the CEC Holder and made available for review by the EMA upon request;

- 6.11 The CEC Holder shall ensure that drill cuttings, after separation from the drilling muds, are stored within a bermed area that has been lined, as laid out by conditions within this CEC. The stored drill cuttings shall be kept covered with geo-textiles and/or geo-membrane materials until the drill cuttings are used for back-filling the drilling pits;

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6.12 The CEC Holder shall implement measures for management of the drill pits that include, but are not limited to:

- Daily inspections until the drill pits are closed;
- Removal of free hydrocarbon from the pit surface, as necessary;
- Removal of pit contents, if applicable, upon completion of operations, and disposal in accordance with conditions within this certificate;
- If applicable, removal, recycling and/or disposal of the pit liner shall be carried out by a person with the licenses, permits, trained/certified personnel, facilities, equipment, and insurance to handle such material;
- Reinstatement of the pit area following completion of operations.

Records of inspection and disposal certificates shall be maintained by the CEC Holder and made available to the EMA upon request;

6.13 The CEC Holder shall ensure that pit closure be completed as soon as practical, but not longer than six (6) months, after completion of drilling activities. If the drilling waste is to be buried in the pit (i.e. the Mix-Bury-Cover disposal method), the following minimum conditions should be met:

- The pit contents shall be dried out as far as possible;
- If necessary, the waste shall be mixed with an appropriate quantity of subsoil (typically three parts of subsoil to one part of waste by volume);
- Topsoil shall not be used for mixing or as part of the subsoil, but shall be placed over the subsoil to fully reinstate the area.

The CEC Holder shall ensure that the pit contents comply with the requirements of this certificate;

6.14 The CEC Holder shall ensure that the solid phase of the pit contents is subjected to testing in accordance with the Louisiana Administrative Code (LAC), Title 43, Natural Resources, Part XIX, Office of Conservation - General Operations, Subpart 1. Statewide Order No. 29-B, Section 313 - Pit Closure Techniques and On-site Disposal of Exploration and Production Waste - (September 2020, or latest version).

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The CEC Holder shall close the pit in accordance with the relevant subsection of Section 313 once the results conform to the criteria as listed in Section 313 of the LAC. Results of testing conducted to ensure compliance with the pit closure criteria shall be submitted to the EMA at least two (2) weeks prior to pit closure.

If there is exceedance for any of the contaminants identified in Section 313 of the LAC, the pit contents shall be collected for remediation by a firm with the appropriate licenses, permits, trained/certified personnel, facilities, equipment and insurance to perform this function. The final results of the tests (i.e. following remediation) shall be submitted to the EMA for approval at least ten (10) working days prior to final disposal;

- 6.15 The CEC Holder shall conduct testing of all remediated waste material to ensure their suitability for reuse. The remediated material must be in compliance with the latest versions of International Guidelines for remediation (e.g. Alberta Tier 1 Soil and Groundwater Remediation Guidelines, December 2010, Louisiana Administrative Code (LAC), Title 43, Part XIX, Office of Conservation – General Operations Subpart 1. Statewide Order No. 29-B, December 2014) in situations where local standards have not yet been formalised. The choice of remediation guideline(s) used must be suitable for the purpose for which the remediated material is to be re-used;
- 6.16 The CEC Holder shall submit, to the EMA, copies of the remediation and/or disposal certificate for all remediated waste materials at least ten (10) working days prior to reuse of remediated material;
- 6.17 The CEC Holder shall ensure that process chemicals and liquid wastes are stored in containers equipped with secondary containment which are designed, constructed and operated to collect or contain any releases. Safety Data Sheets (SDS) for chemicals shall be kept on-site in a readily accessible area and communicated to its users. Measures shall be taken to prevent contact between incompatible substances in the event of a release;
- 6.18 The CEC Holder shall ensure that there are separate, secure, impervious bunded facilities for the storage of any fuels and, lubricants during the proposed activity, so as to minimise their release to the environment through spills and accidents. These bunds shall have a capacity of at least 110 % of the maximum volume of the largest tank (or 25 % of the aggregate total capacity of the tanks, whichever is greater) and shall incorporate a drainage sump and an additional minimum wall height of 150 mm to accommodate rainfall and fire-fighting foam.

Dispensing areas shall be on impermeable surfaces and located as far as practical from any natural surface waterbody and the marine environment;

- 6.19 The CEC Holder shall ensure that bunds are inspected monthly and accumulated water removed either manually or mechanically and treated, if necessary, to comply with the Schedule II of the WPR before being discharged to the environment. Records of such inspection and treatment shall be retained by the CEC Holder and made available to any Inspector upon request;
- 6.20 The CEC Holder shall ensure that its Emergency Response Plan (ERP) is reviewed and updated to reflect any significant changes in the project and response personnel and the CEC Holder shall ensure that the EMA and other relevant agencies are informed within ten (10) working days of such changes. The ERP shall be maintained by the CEC Holder and made available to any Inspector upon request;
- 6.21 The CEC Holder shall maintain a Spill Response Kit in a readily accessible area on-site with suitable and sufficient sorbents and other related supplies which will aid containment and clean-up of spills or releases. Personnel who are expected to use the Spill Response Kit shall be provided training on its use. Training records shall be maintained by the CEC Holder and made available to the EMA upon request;
- 6.22 The CEC Holder shall, prior to the commencement of the proposed activity, develop a Contingency Plan that describes the mitigation measures to be implemented in the event of migration of contaminants from the injection zone, to minimise impacts to potable water supplies and surface water bodies such as the marine environment, rivers, springs and/or ponds, where applicable. The Contingency Plan shall be submitted to the EMA and the WRA at least 20 working days prior to the commencement of any works related to the proposed activity;
- 6.23 The CEC Holder shall bear all costs associated with the investigations related to adverse environmental incidents, spills and emergencies and the response to such incidents, spills or emergencies arising out of all phases of the proposed project. Leaks and spills of potential contaminants shall be cleaned up immediately upon detection. Leaks and spills in excess of ten (10) litres of hydrocarbons or spills of any other chemical in quantities that would render it hazardous as defined within the SDS for the chemical, shall be treated as described by conditions of this certificate;

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6.24 The CEC Holder shall, within 24 hours of discovery of a spill as defined within this certificate, notify the EMA at 680-9588 of the incident. Within 48 hours of the discovery of the spill, a written report on the details of the spill shall be submitted to the EMA that includes the following:

- Nature of the spill and GPS coordinates (UTM Zone 20N, WGS 84 Datum) of the spill;
- Date of detection;
- Estimated date(s) of occurrence;
- Cause of the spill;
- Response measures taken to control and clean-up the spill, including other parties notified and/or engaged; and
- Any other information relating to the spill and the response.

6.25 The CEC Holder shall, within five (5) working days of an incident, emergency or spill, related to adverse environmental impacts, submit a written report to the EMA for review and approval outlining:

- Assessment of any damage to the environment associated with the release or incident;
- Assessment of any potential human health risks associated with the release or incident;
- A description (including dates) of the response measures taken and to be taken to address and otherwise mitigate damage or contamination to the environment and/or potential human health risks resulting from the release or incident;
- Steps (to be) taken to reduce the probability or completely prevent a recurrence;
- A Remediation and Rehabilitation plan for the affected areas.



7. PUBLIC HEALTH AND SAFETY

7.1 The CEC Holder shall take all necessary safety precautions for the duration of the project to reduce the likelihood of accidents and prevent unauthorised access to the project area. Such precautions shall include, where applicable, but not be limited to:

- Posting of visible warning signs and hazard notices, such as signs indicating any exclusion area(s) to prevent unauthorised access and activities;
- The provision of lighting measures to ensure illumination of all potential hazards, warning signs and notices;
- Proper maintenance of all measures to ensure functionality for the duration of the project.

8. PUBLIC ENGAGEMENT

8.1 The CEC Holder shall develop and implement a project-specific Grievance Redress Plan (GRP). The GRP must be operational throughout the project life cycle and incorporate the following:

- a) An understandable, accessible and culturally appropriate grievance process (i.e. how people are informed about the GRP and its purpose);
- b) Appropriately scaled mechanism(s) to address project and stakeholder needs;
- c) Clear and public process for handling grievances (i.e. who is responsible for managing queries, concerns and/or complaints; the manner in which queries, concerns and complaints related to the project are received; the procedure to be followed to address/manage queries, concerns and complaints, including proposed turnaround times; accessibility to community liaisons, etc.);
- d) The contact information and identification of at least two (2) community liaison persons responsible for managing queries, concerns and/or complaints;
- e) Transparency (i.e. the manner in which queries, complaints and/or concerns are received, documented, treated, resolved and how resolution actions are monitored);

- f) Good record-keeping protocols to facilitate effective grievance management (i.e. the manner in which resolution outcomes will be documented and communicated).

The GRP must be submitted to the EMA within 40 working days of the effective date of this Certificate prior to the commencement of any works related to this project.

- 8.2 The CEC Holder shall notify the potentially affected stakeholders (e.g. neighbouring residents, institutions and/or businesses) of the proposed activity at least twenty (20) working days prior to the commencement of any works related to the project. Notification shall be via a combination of, but not limited to, the use of the digital and social media, mobile information units and the distribution of flyers/letters to the affected stakeholders.

Such notification shall include, but not be limited to, the following information:

- Precise location of the activity;
- Activities to be conducted;
- Project scheduling and duration;
- All associated logistics, including use of resources and infrastructure;
- Roadways that will be affected by haulage vehicles;
- Notice of any detours and traffic restrictions if traffic disruption is expected to be significant;
- Health and safety measures to be taken by the public;
- The name(s) and contact information of the Community Relations Officer(s).

- 8.3 The CEC Holder shall notify the relevant authorities, including the EMA, of the intended date of commencement at least ten (10) working days prior to the commencement of any works related to the project.

9. OTHER

- 9.1 The CEC Holder shall notify the relevant authorities, including the EMA, of the cessation of the injection of produced water and processed liquids into each of the disposal wells at least 10 working days prior to ceasing injection activities;
- 9.2 The CEC Holder shall submit a Quality Assurance Project Plan (QAPP) to the EMA for review and approval at least 30 working days prior to the commencement of operation for which pollution monitoring would be required.

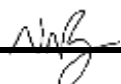
In the event that deficiencies are identified from the review of the QAPP, the Authority will inform the CEC Holder of the deficiencies to be addressed and a date for submission of an amended version. The proposed activity shall not commence prior to the approval of the QAPP.

The QAPP shall address the plan for the collection and analysis of samples in support of the certificate and the explanation of data anomalies as they occur.

At a minimum, the QAPP shall include, but not be limited to, the following:

1. Details on the standard operating procedures (SOPs) for sampling, number of samples, type of sample containers, volume of samples, preservation of samples, holding times, analytical methods, analytical method detection limits for each target pollutant, type and number of quality assurance field samples, precision and accuracy requirements, sample preparation requirements, sample handling and transportation methods, and laboratory data delivery requirements;
2. Map(s) or schematic(s) indicating the location of each sampling point;
3. Competency of personnel;
4. Name(s), address(es) and telephone number(s) of the laboratories, used by or proposed to be used by the CEC Holder.

Copies of the approved QAPP shall be retained at the location indicated on the cover page of the QAPP and made available to the EMA upon request;



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- 9.3 The CEC Holder shall ensure that a Monitoring Checklist that outlines all the precautionary and mitigation measures listed within this certificate is established and retained by persons with relevant positions of responsibility/authority. The Checklist shall be used to demonstrate adherence to all the requirements during the proposed activity. This Checklist shall be made available to any Inspector upon request.

Date of issue: **July 07, 2021**


Environmental Management Authority
CHAIRMAN

PLEASE NOTE:

1. Under section 85(3) of the Environmental Management Act Chapter 35:05, an appeal may be made to the Environmental Commission by the CEC Holder against the grant of a Certificate of Environmental Clearance with conditions.
2. The issue of this certificate does not release the CEC Holder from any responsibility or requirements under other environmental statutes or regulations or any other applicable written law or policy of Trinidad and Tobago prior to proceeding with the activity.
3. The issue of this certificate does not convey to the CEC Holder any property rights of any sort, nor does it authorise the CEC Holder to conduct the subject activity on any location which is not under the legal control or ownership of the CEC Holder.
4. This certificate becomes effective from the date of issue, but shall cease to have any validity, force or effect if works, forming part of the scope of works, for which the certificate was granted does not commence within three years of the date of issue;
5. The CEC Holder must inform the EMA of any new or relevant information related to this activity regarding adverse environmental effects.
6. Implementation of or adherence to the conditions specified in this certificate must be done in a way that ensures public health and safety.
7. This certificate must be displayed in public view at the place from which the CEC Holder carries on the designated activity for which the certificate was issued.