

APPROVAL

**Province of Nova Scotia
Environment Act, S.N.S. 1994-95, c.1 s.1**

APPROVAL HOLDER: ALTON NATURAL GAS STORAGE L.P.

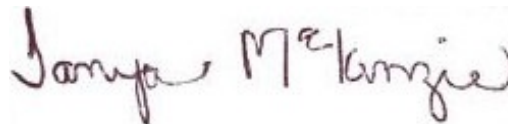
SITE PID: 20070660, 20076386, 20423000

APPROVAL NO: 2021-2887945-00

EXPIRY DATE: August 23, 2032

Pursuant to Part V of the Environment Act, S.N.S. 1994-95, c.1 s.1 as amended from time to time, approval is granted to the Approval Holder subject to the Terms and Conditions attached to and forming part of this Approval, for the following activity:

Industrial - Oil and Gas - Brine Storage Pond



Administrator: Tanya MacKenzie

Effective Date: August 23, 2022

The Minister's powers and responsibilities under the Act with respect to this Approval have been delegated to the Administrator named above. Therefore, any information or notifications required to be provided to the Minister under this Approval can be provided to the Administrator unless otherwise advised in writing.

TERMS AND CONDITIONS OF APPROVAL

Nova Scotia Department of Environment and Climate Change

Approval Holder: ALTON NATURAL GAS STORAGE L.P.

Project: Cavern Site

Site:

PID	Civic #	Street Name	Street Type	Community	County
20070660	438	BRENTWOOD	RD.	BRENTWOOD	COLCHESTER COUNTY
20076386	625	RIVERSIDE	RD.	FORT ELLIS	COLCHESTER COUNTY
20423000					

Approval No: 2021-2887945-00

File No: 92100-30-TRU-2021-2887945

Reference Documents

- Application submitted December 9, 2021 and attachments.
- Remedy Energy Services Inc. Subject: Decommissioning of the below listed well bores associated with the Alton Natural Gas Storage (ANGS) Project, dated February 1, 2022.
- Alton Natural Gas Storage Project Decommissioning & Reclamation Plan, ALT-REG-REP-001, prepared by Stantec Consulting Limited, dated December 1, 2021
- Alton Industrial Approval Application: Public and Indigenous Engagement Record, submitted February 4, 2022.

1. Definitions

- Act means Environment Act, 1994-95, c.1, s.1, and includes, unless the context otherwise requires, the regulations made pursuant to the Act, as amended from time to time.
- Department means the Nova Scotia Department of Environment and Climate Change, and the contact for the Department for this approval is:
Nova Scotia Department of Environment and Climate Change
Central Region, Truro Office
36 Inglis Place
Truro, Nova Scotia B2N 4B4

Phone: (902) 893-5880

Fax: (902) 893-0282

- c. Grab sample means an individual sample collected in less than 30 minutes and which is representative of the substance sampled.
- d. Minister means the Minister of Environment and Climate Change and includes any person delegated the authority of the Minister.
- e. Site means a place where a designated activity and/or undertaking is occurring or may occur.

2. Scope

- a. This Approval (the "Approval") relates to the Approval Holder(s) and their application and all documentation submitted to the Department prior to the issuance of this approval for the Reclamation of a Brine Storage Pond Facility (River and Cavern Sites).
- b. The Approval Holder(s) shall ensure the designated activity is carried out in accordance with this Approval and reference documents, including the application and supporting documentation.

3. General

- a. The Approval Holder(s) shall conduct the Designated Activity in accordance with the following provisions:
 - i. The Act, as amended from time to time;
 - ii. Any standard adopted by the Department, as amended from time to time.
- b. Nothing in this Approval relieves the Approval Holder(s) of the responsibility for obtaining and paying for all licenses, permits, approvals or authorizations necessary for carrying out the work authorized to be performed by this Approval which may be required by municipal by-laws, provincial or federal legislation, or other organizations. The Minister does not warrant that such licenses, permits, approvals or other authorizations will be issued.
- c. No authority is granted by this Approval to enable the Approval Holder(s) to commence or continue the designated activity on lands which are not in the control or ownership of the Approval Holder(s). It is the responsibility of the Approval Holder(s) to ensure that such a contravention does not occur. The Approval Holder(s) shall provide, to the Department, proof of such control or ownership upon expiry of any relevant lease or agreement. Failure to retain said authorization may result in this Approval being cancelled or suspended.
- d. If there is a discrepancy between the reference documents and the terms and conditions of this Approval, the terms and conditions of this Approval shall apply.

- e. Any request for renewal or amendment of this Approval is to be made in writing, to the Department, at least ninety (90) days prior to the Approval expiry.
- f. The Approval Holder(s) shall not transfer, sell, lease, assign or otherwise dispose of this Approval without the written consent of the Minister. The sale of a controlling interest of a business or a transfer of the approval from a parent company to a subsidiary or an affiliate is deemed to be a transfer requiring consent.
- g. If the Minister cancels or suspends this Approval, the Approval Holder(s) remains subject to the penalty provisions of the Act.
- h. The Approval Holder(s) shall advise the Department in writing prior to any proposed extensions or modifications to the Activity and/or the Site. An amendment to this Approval may be required before implementing any extension or modification.
- i. The Approval Holder(s) shall immediately notify the Department of any incidents of non-compliance with this Approval.
- j. The Approval Holder(s) shall bear all expenses incurred in carrying out the environmental monitoring required under the terms and conditions of this Approval.
- k. All sampling and analysis shall be performed in accordance with the following as amended from time to time: Standard Methods for the Examination of Water and Wastewater, or the analytical methods section of Health Canada's guideline technical document for the parameter of concern. All samples shall be collected by persons trained in appropriate sample collection procedures.
- l. Unless specified otherwise in this Approval, all samples required to be collected by this Approval shall be collected, preserved and analysed, by qualified personnel, in accordance with recognized industry standards and procedures that are all deemed acceptable to the Department.
- m. Unless written authorization is received otherwise from the Minister, all samples required by this Approval shall be analyzed by a laboratory that meets the requirements of the Department's "Policy on Acceptable Certification of Laboratories" as amended from time to time.
- n. The Approval Holder(s) shall ensure that this Approval, or a copy, is present on Site while personnel are on Site.
- o. The Approval Holder(s) shall ensure that personnel directly involved in the designated activity are made fully aware of the terms and conditions of this Approval.
- p. Upon any changes to the Registry of Joint Stock Companies information, the Approval Holder(s) shall provide a copy to the Department within five business days.

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4. Air Quality

- a. The Approval Holder(s) shall ensure that air emissions from the designated activity do not contribute to an exceedance of the maximum permissible ground level concentrations of contaminants specified in Schedule A of the Air Quality Regulations.
- b. Monitoring of ambient air contaminants shall be conducted at the request of the Department. The number and location of the monitoring station(s) shall be established by a qualified person retained by the Approval Holder(s) and the proposed plan submitted to the Department for acceptance; this may include point(s) beyond the property boundary of the Site.
- c. The use of oil as a dust suppressant is prohibited.

5. Noise

- a. The Approval Holder(s) shall ensure that noise generated from the designated activity complies with the equivalent sound level criteria identified in the Nova Scotia Environment and Labour "Guidelines for Environmental Noise Measurement and Assessment" dated May 18, 2005, as amended from time to time.
- b. The Approval Holder(s) shall monitor noise at the request of the Department. The number and location of the monitoring station(s) for noise measurement shall be established by a qualified person retained by the Approval Holder(s). The proposed plan must be deemed acceptable by the Department.

6. Surface Water

- a. The Approval Holder(s) shall ensure the Site is reclaimed and stabilized to prevent contaminants from being discharged into a water resource or beyond the property boundary.
- b. Monitoring during reclamation: The Approval Holder(s) shall ensure that the following water quality limits are met in the water resource downstream of construction activities:
 - i. Total Suspended Solids, Clear Flows (Normal Background Conditions):
 - (a) Maximum increase of 25 mg/l from background levels for any short term exposure (24 hour or less);
 - (b) Maximum average increase of 5 mg/l from background levels for longer term exposure (inputs lasting between 24 hours and 30 days);

- ii. Total Suspended Solids, High Flow (Spring Freshets and Storm Events)
 - (a) Maximum increase of 25 mg/l from background levels at any time when background levels are between 25 mg/l and 250 mg/l ;
 - (b) Maximum increase of 10% over background levels when background is >250 mg/l;
- c. Additional surface water monitoring may be required at the request of the Department.
- d. No authority is granted by this Approval to enable the Approval Holder(s) to discharge surface water onto adjoining lands without the authorization of the affected landowner(s).
- e. The Approval Holder(s) shall install and maintain erosion and sedimentation controls in line with industry best practices (e.g., Nova Scotia Environment Erosion and Sediment Control Handbook for Construction Sites) as work progresses. The controls shall remain in place until areas disturbed by construction activities are stabilized so that the risk of release of sediment to a water resource has been mitigated.
- f. The Approval Holder(s) shall immediately contact the Department should sulphide bearing material be encountered on the Site.
- g. The Approval Holder(s) shall ensure that surface water runoff that may be impacted by petroleum hydrocarbons from the Site is collected and directed for necessary treatment prior to discharge from Site.
- h. The Approval Holder(s) shall ensure that erosion control materials are clean, non-erodible, non-ore-bearing, non-watercourse derived and non-toxic.
- i. Any silted water pumped from work areas shall be directed to vegetated areas, settling ponds, or other treatment devices that mitigate the risk of release of sediment to a water resource.
- j. The Approval Holder(s) shall limit the size of the disturbed area and the removal of riparian vegetation to the area of construction activities as outlined in the supporting documentation.
- k. The Approval Holder(s) shall ensure that the following activities take place at a distance of a minimum of 30 metres from a surface watercourse or wetland in an area such that a release will not enter a surface watercourse or wetland:
 - i. Fuel storage, refueling, and/or lubrication of equipment;
 - ii. Washing of machinery or equipment; and
 - iii. Storage of equipment, excavated/stockpiled materials, and potential contaminants.

7. Releases

- a. Releases shall be reported in accordance with the Act.
- b. Spills or releases shall be cleaned up in accordance with the Act.

8. Rehabilitation and Closure

- a. The Approval Holder shall ensure the reclamation of the Facility is completed in accordance with the following:
 - i. The Approval Holder shall retain the services of an expert in the area of soils and vegetation to prepare a re-vegetation plan for the River Site that is appropriate for an agricultural marshland habitat, this plan shall include but not be limited to:
 - (a) An assessment of natural vegetation present;
 - (b) An assessment of the soils in the disturbed and undisturbed areas, including their suitability to support long term vegetative growth;
 - (c) A revegetation map and description of each area to be revegetated;
 - (d) Identification of any limiting factors as well as site resources;
 - (e) Identification of any necessary site improvement treatments that may be required to support long term vegetative growth and survival of plantings;
 - (f) Species to be utilized and an explanation for their selection, this portion of the plan should be prepared in consultation with the Nova Scotia Museum, curator of Botany;
 - (g) Seed sources/mixes;
 - (h) Invasive species management plan;
 - (i) Discussion of wildlife considerations;
 - (j) Revegetation sequence/schedule;
 - (k) Erosion & sedimentation control plan, including, but not limited to, discussion of specific control measures to be employed in specific areas of the site, an assessment of how water will move across the site once reclamation is completed and a long term monitoring and maintenance program for erosion and sedimentation controls at the site;
 - (l) Short and long term monitoring and maintenance plans;
 - ii. The Approval Holder shall install the necessary erosion and sedimentation controls at the River Site and the Cavern Site prior to the commencement

of reclamation activities, to prevent the release of silt from the Sites in excess of the concentrations outlined in Condition 6(b) of this Approval.

- iii. The Approval Holder shall ensure the erosion and sedimentation controls are maintained until the sites are stabilized.
- iv. The Approval Holder shall submit the plan required under Condition 8(a)(i) together with an implementation schedule, to the Department for review and approval, by no later than October 1, 2022, unless otherwise authorized in writing. Following approval, in writing, of the plan, the Approval Holder shall implement it in accordance with the approved schedule.

Diversion Channel and Replacement Dyke

- b. The exposed gabion wall and armour rock above the ordinary high water mark shall be left in place;
- c. The Approval Holder shall ensure the access road at the River Site remains in place to allow Nova Scotia Department of Agriculture to access the agricultural dyke for maintenance.

Freshwater Storage Pond

- d. Water contained within the pond shall be analyzed for the parameters outlined in Table 1 of Appendix A prior to discharge;
- e. The Approval Holder shall submit the results of the analysis required under Condition 8(d) to the Department for review prior to discharge;
- f. The Approval Holder shall, at the request of the Department, develop a treatment or disposal plan for the water contained within the pond, following a review of the results submitted under Condition 8(e).
- g. The Approval Holder shall submit the plan required under Condition 8(f) within 60 days of the date of notification from the Department of the requirement for a plan;
- h. The Approval Holder shall not discharge any water to the environment until written approval to discharge is received from the Department;

Brine Storage Pond

- i. Water contained within the pond shall be analyzed for the parameters outlined in Table 2 of Appendix A prior to discharge;
- j. The Approval Holder shall submit the results of the analysis required under Condition 8(i) to the Department for review prior to discharge;
- k. Following a review of the results submitted under Condition 8(j), at the request of the Department, the Approval Holder shall develop a treatment or disposal plan for the water contained within the pond.

- l. The plan required under Condition 8(k) shall be submitted to the Department within 60 days of the date of notification from the Department of the requirement of a plan;
- m. The Approval Holder shall not discharge any water to the environment until written approval to discharge is received from the Department;

Buried Piping and Infrastructure River Site

- n. The Approval Holder shall develop a plan to fill the buried piping with an inert substance that will ensure against future failure and subsidence as well as prevent movement of any substance or thing through the lines in the future. This plan shall be submitted to the Department by no later than September 30, 2022, unless otherwise authorized in writing.
- o. The Approval Holder shall fill the buried piping at the direction of the Department, following a review of the plan submitted under Condition 8(n), in accordance with the approved plan and implementation schedule.
- p. Following receipt of approval of the plan submitted under Condition 8(n), the Approval Holder shall implement the plan as approved;

Watercourse Crossings

- q. The Approval Holder shall, at the request of the Department, develop a plan for reclamation of any watercourse that the Department determines has been impacted by the failure, subsidence and/or adverse effect or potential for adverse effect which the Department believes was or may be caused by the abandoned water and/or brine lines below the watercourse(s).
- r. The Approval Holder shall submit the plan, required under Condition 8(q), to the Department within the time period specified by NSECC when the request for the plan is made;
- s. Following receipt of approval of the plan submitted under Condition 8(r), the Approval Holder shall implement the plan, as approved, in the time period specified by the Department;

Air Release/Vacuum Valve Chambers

- t. The Approval Holder shall ensure, following removal of chamber frames, covers, combination air release/vacuum valves, water or brine pipe to remain in-situ are capped or plugged with an inert, impermeable substance that will prevent entry of any substance or thing into the pipe at that location;
- u. The Approval Holder shall erect warning signage in all areas where buried infrastructure is to remain;

Groundwater Monitoring Wells

- v. The Approval Holder shall retain the services of a qualified professional to ensure all groundwater monitoring wells are abandoned in accordance with the Department's Fact Sheet on Environmental Monitoring Well Decommissioning, dated January 30, 2007 or latest edition;
- w. The Approval Holder shall retain the services of a qualified professional to prepare an environmental monitoring well decommissioning report, outlining the details of decommissioning for each groundwater monitoring well;
- x. The Approval Holder shall submit, to the Department, the report required under Condition 8(w) within sixty (60) days of completion of abandonment;

Water Storage Tanks

- y. The Approval Holder shall remove the water and brine storage tanks in a manner that will prevent impact to the environment;

Cavern Wells

- z. The Approval Holder shall abandon the wells denoted as Alton BH #1 (Well 14-01), Alton BH #2 (Well 14-02), Alton BH #3 (Well 14-03) in accordance with CSA Z341.2-18, 13.3.
- aa. The Approval Holder shall submit a technical report, prepared by a qualified professional, that documents the abandonment of the wells, (Alton BH #1 (Well 14-01), Alton BH #2 (Well 14-02), Alton BH #3 (Well 14-03)), together with confirmation from the UARB that the requirements of their process have been met, to the Department within 60 days of the completion of abandonment.
- ab. The Approval Holder shall, within 60 days of completion of abandonment:
 - i. geolocate the casings of the wells and provide the co-ordinates to NSECC and NSNRR;
 - ii. register a copy of a location certificate, prepared by the surveyor licensed to practice in the Province of Nova Scotia, as together as a Statutory Declaration with the Nova Scotia Registry of Deeds, which denotes the exact location of the abandoned wells;
 - iii. erect warning signage directly above the location of the abandoned wells which denotes the well number and depth to top of casing; and
 - iv. submit a copy of the Statutory Declaration to NSECC.

Monitoring Plan

- ac. The Approval Holder shall retain the services of a qualified professional, licensed to practice by APENS or AGNS to develop a long term monitoring plan for the Facility (Cavern and River Sites).
- ad. The Approval Holder shall submit the plan required under Condition 8(ac) of this Approval to NSECC for review and approval by no later than November 1, 2022, unless otherwise authorized in writing;
- ae. Following receipt of written authorization from the Department, the Approval Holder shall implement the approved monitoring plan.

Appendix A

Table 1

Aluminum	Chromium (Total)	Nitrate	Titanium	Sodium
Ammonia (as N)	Cobalt	Nitrate+nitrite	Uranium	Total Organic Carbon
Antimony	Copper	Nitrite	Vanadium	Alkalinity
Arsenic	Iron	Phosphorous	Zinc	Colour
Barium	Lead	Potassium	Bicarbonate	Conductivity
Beryllium	Magnesium	Selenium	Carbonate	Hardness
Bismuth	Manganese	Strontium	Chloride	pH
Boron	Molybdenum	Sulfate	COD	Total suspended solids
Cadmium	Mercury	Thallium	Ortho phosphate	Total dissolved solids
Calcium	Nickel	Tin	Reactive silica	Turbidity

Table 2

Aluminum	Cobalt	Nitrite	Zinc	Conductivity
Ammonia (as N)	Copper	Phosphorous	Bicarbonate	Hardness
Antimony	Iron	Potassium	Carbonate	pH
Arsenic	Lead	Selenium	Chloride	Total suspended solids
Barium	Magnesium	Strontium	COD	Total dissolved solids
Beryllium	Manganese	Sulfate	Ortho phosphate	Turbidity
Bismuth	Molybdenum	Thallium	Reactive silica	Total Petroleum Hydrocarbons
Boron	Mercury	Tin	Sodium	
Cadmium	Nickel	Titanium	Total Organic Carbon	
Calcium	Nitrate	Uranium	Alkalinity	
Chromium (Total)	Nitrate+nitrite	Vanadium	Colour	