

TERMS AND CONDITIONS OF APPROVAL

Nova Scotia Environment

Approval Holder: Elmworth Energy Corporation

Project: Brine Storage Pond,
Natural Gas Exploration

Site: Kennetcook(KC-1)
Hants County

Approval No: 2008-064245

File No: 92100-30-064245

Map Series: 11E/04

Grid Reference: E 443,756 N 5,004, 915

PID # : 45361060

Reference Documents:

- Application for Industrial Approval dated September 3, 2008 and appended supporting documentation.

1. Definitions

- a) "Act" means the *Environment Act* S.N.S. 1994-1995, c.1 and includes all regulations made pursuant to the Act.
- b) "Department" means the Central Region, Bedford Office, of Nova Scotia Environment located at the following address:

Nova Scotia Environment
 Environmental Monitoring and Compliance Division
 Central Region, Bedford Office,
 Suite 224, 1595 Bedford Highway,
 Bedford, Nova Scotia, B4A 3Y4.

Phone: (902) 424-7773
 Fax: (902) 424-0597

- c) "Facility" means the Brine Storage Pond and associated works.
- d) "Minister" means the Minister of Nova Scotia Environment.

2. **Scope of Approval**

- a) This Approval (the "Approval") relates to the Approval Holder and their application and supporting documentation, as listed in the reference documents above, to operate and reclaim the Facility, situated at or near Kennetcook (KC-1), Hants County (the "Site").
- b) The Facility shall only be used to hold brine originating from Site (KC-1) unless otherwise granted authorization by the Department.

3. **General Terms and Conditions**

- a) The Approval Holder shall construct, operate and reclaim its Facility in accordance with provisions of the:
 - i) *Environment Act* S.N.S. 1994-1995, c.1, as amended from time to time;
 - ii) Regulations, as amended from time to time, pursuant to the above Act;
 - iii) Any future amendments to the Act and regulations; and
 - iv) Approval # 2008-061382 for Temporary Watercourse Crossings / Bridges in Fort Ellis, Alton and Area, Colchester County.
- b) Nothing in this Approval relieves the Approval Holder of the responsibility for obtaining and pay for all licences, 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 or provincial or federal legislation. the Minister does not warrant that such licences, permits approvals or other authorization will be issued.
- c) No authority is granted by this Approval to enable the Approval Holder to conduct work on lands which are not in the control or ownership of the Approval Holder without obtaining written consent from the land ownership(s). It is the responsibility of the Approval Holder to ensure that such a contravention does not occur.
- 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) The Minister or Administrator may modify, amend or add conditions to this Approval at anytime pursuant to Section 58 of the Act.
- f) This Approval is not transferable without the consent of the Minister or Administrator.
- g)
 - (i) If the Minister or Administrator determines that there has been non-compliance with any or all of the terms and conditions contained in this Approval, the Minister or Administrator may cancel or suspend the Approval pursuant to subsections 58(2)(b) and 58(4) of the Act, until such time as the Minister or Administrator is satisfied that all terms and conditions have been met.
 - (ii) Despite a cancellation or suspension of this Approval, the Approval Holder remains subject to the penalty provisions of the Act and regulations.
- h) The Approval Holder shall notify the Department prior to any proposed extensions or modifications of the Facility, including the active area, process changes or waste disposal practices which are not granted under this Approval. An amendment to this Approval will be required before implementing any change. Extensions or modifications to the Facility may be subject to the Environmental Assessment Regulations.
- i) Pursuant to Section 60 of the Act, the Approval Holder shall submit to the Administrator any new and relevant information respecting any adverse effect that actually results, or may potentially result, from any activity to which the Approval relates and that comes to the attention of the Approval Holder after the issuance of the Approval.
- j) The Approval Holder shall immediately notify the Department of any incidents of non-compliance with this Approval.
- k) The Approval Holder shall bear all expenses incurred in carrying out the environmental monitoring required under the terms and conditions of this Approval.
- 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.

- m) Unless written approval is received otherwise from the Administrator, all samples required by this Approval shall be analysed 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 shall submit any monitoring results or reports required by this Approval to the Department. Unless specified otherwise in this Approval, All monitoring results shall be submitted within 30 days following the month of monitoring.
- o) The Approval Holder shall ensure that this Approval, or a copy, is kept on Site at all times and that personnel directly involved in the Facility operation are made fully aware of the terms and conditions which pertain to this Approval.

4. Construction of Facility

- a) Erosion and sedimentation controls are to be in place prior to construction at this facility. Additional controls shall be implemented if Site runoff exceeds the discharge limits contained herein.
- b) Erosion and sedimentation controls are to be maintained and remain in place until the disturbed areas are stabilized.
- c) The Approval Holder shall ensure that the following discharge limits are met for any water which is discharged from the Site to a watercourse or wetland:

Clear Flows (Normal Background Conditions):

- i) Maximum increase of 25 mg/l from background levels for any short term exposure (24 hours or less)
- ii) Maximum average increase of 5 mg/l from background levels for longer term exposure (inputs lasting between 24 and 30 days)

High Flow (Spring Freshets and Storm Events)

- i) Maximum increase of 25 mg/l from background levels at any time when background levels are between 25 mg/l and 250 mg/l
 - ii) Shall not increase more than 10% over background levels when background is > 250 mg/l
- d) Signage including emergency telephone numbers and contacts are to be posted at the entrance to the Facility.

- e) The use of used oil as a dust suppressant is strictly prohibited. The generation of dust from the Site shall be suppressed as required.

5. Particulate Emissions (Dust)

- a) Particulate emissions shall not exceed the following limits at or beyond the Site property boundaries:

Annual Geometric Mean 70 $\mu\text{g}/\text{m}^3$

Daily Average (24 hr.) 120 $\mu\text{g}/\text{m}^3$

- b) The use of used oil as a dust suppressant is strictly prohibited. The generation of dust from the Site shall be suppressed as required.
- c) Monitoring of particulate emissions shall be conducted at the request of the Department. The location of the monitoring station(s) for particulate will be established by a qualified person retained by the Approval Holder and submitted to the Department for approval, this may include point(s) beyond the property boundary of the Site.
- d) When requested, suspended particulate matter shall be measured by the EPA standard; EPA/625/R-96/010a; Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and PM_{10} . Using High Volume (HV) Sampler.

6. Sound Levels

- a) Sound levels measured at the Site property boundaries shall not exceed the following equivalent sound levels (Leq):

Leq 65 dBA 0700-1900 hours (Days)

60 dBA 1900-2300 hours (Evenings)

55 dBA 2300-0700 hours (Nights)

- b) Monitoring of sound levels shall be conducted at the request of the Department. The location of the monitoring station(s) for sound will be established by a qualified person retained by the Approval Holder and submitted to the Department for approval, this may include point(s) beyond the property boundary of the Site.

7. **Surface Water**

- a) The Site shall be developed and maintained to prevent siltation of the surface water which is discharged from the property boundaries into the nearest watercourse or beyond the property boundary. Additional controls shall be implemented if site runoff exceeds the discharge limits contained herein.
- b) No authority is granted by this Approval to enable the Approval Holder to discharge surface water beyond the property boundary and onto adjoining lands without the authorization of the affected landowner(s). It is the responsibility of the Approval Holder to ensure that the authorization of said landowner(s) is current and valid. Failure to maintain said authorization will result in this Approval being null and void. The Approval Holder shall provide, to the Department, proof of the continued authorization of the adjoining landowner(s) when the current agreement has expired.
- c) Erosion and sedimentation control devices shall be installed prior to any excavation of material.
- d) The Approval Holder shall ensure the following liquid effluent levels are met and that the effluent is monitored at the frequency and locations indicated.

i) **Total Suspended Solids**

Clear Flows (Normal Background Conditions):

- 1) Maximum increase of 25 mg/l from background levels for any short term exposure (24 hour or less)
- 2) Maximum average increase of 5 mg/l from background levels for longer term exposure (inputs lasting between 24 hours and 30 days)

High Flow (Spring Freshets and Storm Events):

- 1) Maximum increase of 25 mg/l from background levels at any time when background levels are between 25 mg/l and 250 mg/l
- 2) Shall not increase more than 10% over background levels when background is > 250 mg/l

ii) **pH**

- 1) Maximum 5 to 9 in grab sample
- 2) Maximum 6 to 9 as a Monthly Arithmetic Mean

iv) **Monitoring Locations**

- 1) The Approval Holder shall sample at monitoring locations for liquid effluent as requested by the Department.

v) **Sampling Frequency**

- 1) The Approval Holder shall sample at a frequency as requested by the Department.

vi) **The Approval Holder shall be required to conduct additional surface water monitoring at the direction of the Department.**

8. Brine Pond Operation

- a) The Approval Holder shall not discharge brine, wastewater or wastewater sludges from the Site and into the environment.
- b) The Approval Holder shall monitor water levels within the pond to ensure that the wastewater is not released to the environment.
- c) Wastewater (ie. brine) and wastewater sludges shall be removed from the pond and directed to a facility approved to handle the waste.

- d) The Approval Holder is authorized to remove ice from the pond and permit it to melt within the approved footprint of the Facility. This practise shall only be authorized for the existing wastewater within the brine pond.
- e) If ice is removed from the pond for melting on Site, then the Approval Holder shall submit to the Department the analytical results for three samples of melted surface ice. The melt water associated with the ice shall be analysed for general chemistry, metal scan and petroleum hydrocarbons, including polycyclic aromatic hydrocarbons (PAH's),
- f) The Approval Holder shall notify and obtain approval from the Department prior to additional brine waste being added to the Facility.

9. Groundwater

- a) The Approval Holder shall replace at their expense any water supply which has been lost or damaged as a result of extracting aggregate.