



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI  
GOVERNOR

BETH NAGUSKY  
ACTING COMMISSIONER

**Cold Brook Energy, Inc.  
Penobscot County  
Hampden, Maine  
A-542-71-F-R (SM)**

**Departmental  
Findings of Fact and Order  
Air Emission License**

After review of the air emissions license renewal application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., §344 and §590, the Department finds the following facts:

**I. REGISTRATION**

**A. Introduction**

1. Cold Brook Energy, Inc. (Cold Brook) has applied to renew their Air Emission License permitting the operation of emission sources associated with their bulk gasoline and fuel oil terminal.
2. The equipment addressed in this license is located at 809 Main Road North, Hampden, ME.

**B. Emission Equipment**

The following equipment is addressed in this air emission license:

**Petroleum Storage**

<u>Tank</u>	<u>Capacity (Gallons)</u>	<u>Current Product Stored</u>	<u>Roof Type</u>	<u>Date Installed</u>
#9	1,646,000	Gasoline	Internal Floating	1995
#35	420,000	Kerosene	Cone	1918
#44	1,320,000	Diesel	Internal Floating	1959
#66	800,000	Gasoline	Internal Floating	1971
#89	250,000	#2 Fuel Oil	Cone	1939
#90	220,000	Gasoline	Internal Floating	1939
#91	250,000	#2 Fuel Oil	Cone	1939
#92	500,000	#2 Fuel Oil	Cone	1939
#93	500,000	#2 Fuel Oil	Cone	1939

AUGUSTA  
17 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0017  
(207) 287-7688 FAX: (207) 287-7826  
RAY BLDG., HOSPITAL ST.

BANGOR  
106 HOGAN ROAD, SUITE 6  
BANGOR, MAINE 04401  
(207) 941-4570 FAX: (207) 941-4584

PORTLAND  
312 CANCO ROAD  
PORTLAND, MAINE 04103  
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE  
1235 CENTRAL DRIVE, SKYWAY PARK  
PRESQUE ISLE, MAINE 04679-2094  
(207) 764-0477 FAX: (207) 760-3143

### Process Equipment

<u>Equipment</u>	<u>Pollution Control Equipment</u>
Loading Rack	John Zink Vapor Destruction Unit

#### C. Application Classification

The application for Cold Brook does not include the licensing of increased emissions or the installation of new or modified equipment. Therefore, the license is considered to be a renewal of current licensed emission units only and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (as amended). With the annual VOC limit of 49.9 tons per year, Cold Brook is licensed below the major source thresholds and is considered a synthetic minor.

## II. BEST PRACTICAL TREATMENT (BPT)

#### A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Vapor Combustion Unit

Cold Brook operates a truck loading rack equipped with bottom loading and controlled by a John Zinc Vapor Combustion Unit (VCU). The VCU uses a propane fired pilot. The VCU annual potential-to-emit (PTE) calculations are based on the facility's estimated maximum quantity of bottom loaded product plus a safety factor (the total is estimated to be 150,000,000 gallons). The PTE was calculated using VOC and CO emission factors obtained during stack testing and a NOx emission factor provided by the VCU manufacturer.

The vapor combustion unit is limited to an emission of 35 milligrams of VOC per liter of product transferred. Cold Brook shall conduct annual compliance tests to demonstrate the vapor combustion unit is meeting the required destruction efficiency to limit emissions to 35 milligrams of VOC per liter of product transferred.

C. Distillate Storage Tanks

Cold Brook currently operates five tanks with fixed roofs capable of storing petroleum products and one tank with a floating roof used to store diesel fuel only. Each of these tanks varies in size and throughput depending on the demand for distillates throughout the year.

D. Gasoline Storage Tanks

In addition to the above distillate storage, Cold Brook operates three tanks with internal floating roofs capable of storing gasoline: tanks #9, #66 and #90. Each of the three tanks shall be equipped, maintained and operated such that:

1. There is an internal floating roof with closure seal(s) between the roof edge and the tank wall and these are maintained so as to prevent vapor leakage.
2. The internal floating roof and the closure seal(s) will be maintained such that there are no holes, tears or other openings in the seal or between the seal and the floating roof.
3. All storage tank openings, except stub drains, are equipped with covers, lids or seals which remain closed at all times.
4. All automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports.
5. All rim vents, if provided, are to be set to open only when the roof is being floated off the leg supports or at the manufacturer's recommended setting.
6. If any holes, tears or other openings are present the source shall make repairs as soon as practical, but no later than 15 calendar days with the first attempt at repairs to be made no later than 5 days from the initial detection of the leak.

E. Storage and Blending of Ethanol

Cold Brook may store either gasoline or ethanol in Tank #66.

Cold Brook may distribute gasoline/ethanol blend from the facility's loading rack.

The use of internal floating roofs and the VCU are considered BPT for the storage and blending of ethanol at the facility.

F. NSPS

Tanks #35 through #93 were all installed prior to 1973 and therefore are not subject to EPA New Source Performance Standards (NSPS) Subpart K, Ka, and Kb for Storage Vessels for Petroleum Liquids manufactured after June 11, 1973, with capacities greater than 40,000 gallons.

Tank #9 was installed in 1995 and has a capacity greater than 10,567 gallons, and is therefore subject to EPA New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Kb.

The loading rack was installed in 1991 and is therefore subject to NSPS 40 CFR Part 60 Subpart XX for Bulk Gasoline Terminals.

The last inspection was carried out in May 2010, and Cold Brook was found to be in compliance.

G. Annual Emissions

Cold Brook shall be restricted to the following annual emissions, based on a 12-month rolling total:

**Total Licensed Annual Emissions for the Facility**  
**Tons per year**  
(Used to calculate the annual license fee)

	PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
John Zink VDU	--	--	--	2.5	10.0	n/a
Facility Wide Limit	--	--	--	--	--	49.9
<b>Total TPY</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>2.5</b>	<b>10.0</b>	<b>49.9</b>

### III. AMBIENT AIR QUALITY ANALYSIS

According to 06-096 CMR 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Modeling and monitoring are not required for a renewal if the total emissions of any pollutant released do not exceed the following:

<b>Pollutant</b>	<b>Tons/Year</b>
PM	25
PM <sub>10</sub>	25
SO <sub>2</sub>	50
NO <sub>x</sub>	100
CO	250

Based on the total facility licensed emissions, Cold Brook is below the emissions level required for modeling and monitoring.

### ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-542-71-F-R subject to the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

### STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.A. §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]

- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
- A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
    - 1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
    - 2. pursuant to any other requirement of this license to perform stack testing.
  - B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
  - C. submit a written report to the Department within thirty (30) days from date of test completion.
- [06-096 CMR 115]
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and

- B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
- C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.  
[06-096 CMR 115]
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation.  
[06-096 CMR 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

## SPECIFIC CONDITIONS

### (16) Loading Racks and Vapor Combustion Unit

- A. The bulk terminal shall be equipped with and maintained with a vapor combustion unit that captures displaced VOC vapors whenever gasoline and/or ethanol is being transferred into a tank truck at each loading rack. [06-096 CMR 115, BPT]
- B. All loading and vapor lines shall be equipped and maintained in good working order such that vapor-tight fittings close automatically when disconnected and the pressure in the vapor collection system shall not be allowed to exceed +18 (plus 18) inches of water, nor a vacuum exceeding -6 (minus 6) inches of water. [06-096 CMR 115, BPT]
- C. Gasoline and/or ethanol loading shall be allowed only into tank trucks and trailers that have been properly certified pursuant to 40 CFR Appendix A, Method 27 and maintained and labeled as vapor-tight in accordance with 06-096 CMR 120. [60-696 CMR 112]
- D. Any tank truck carrying gasoline and/or ethanol or which has carried gasoline and/or ethanol as the most recent previous load shall utilize the vapor collection system during the entire loading process. [06-096 CMR 115, BPT]
- E. Leaks greater than 100% of the lower explosive limit (LEL) obtained within one inch around any potential leak source of the tank truck, including all loading couplings, vapor lines and fittings employed in the transfer of gasoline and/or ethanol are prohibited. [06-096 CMR 115, BPT]
- F. VOC emissions from the vapor combustion unit shall not exceed 35 milligrams per liter of product transferred. Compliance with this limit shall be determined by methods promulgated in 40 CFR Part 60.503 or other methods approved by the Department. [06-096 CMR 115, BPT]
- G. Cold Brook shall conduct an annual compliance test of the vapor combustion unit prior to May 15<sup>th</sup> of each year. A report containing the test results shall be submitted to the Department within 30 days of the completion of the test in accordance with the Department's stack test protocol. [40 CFR Part 60, Subpart Kb, 06-096 CMR 115, BPT]
- H. Cold Brook shall conduct a leak inspection of all equipment at the loading racks and around the vapor combustion unit utilizing sight, sound, and smell at a minimum of once per month. All leaks must be repaired as quickly as possible, but within 15 calendar days, with the first attempt at repair made no later than 5 days from the initial detection of the leak. [06-096 CMR 115, BPT]

- I. Cold Brook shall maintain an inspection log documenting routine leak inspections to include date of detection, nature of the leak and detection method, date of repair attempts and methods used, details of any delays in repairs, and the final date of repair. Cold Brook shall make these records available for inspection by the Department.

(17) **Annual Emission Limit**

Cold Brook shall be limited to annual facility VOC emissions of 49.9 tons based on a 12-month rolling total as obtained per Condition (20). [06-096 CMR 115, BPT]

(18) **Distillate Storage Tanks**

- A. Cold Brook shall conduct routine inspections of all distillate storage tanks at a minimum of once every month, around the perimeter of the tank and roof. [06-096 CMR 115, BPT]
- B. The following records shall be maintained at the source and available for inspection by the Department: [06-096 CMR 115, BPT]
  1. Inspection log documenting any detected leaks, holes, tears or other opening and the correction action taken, and
  2. Monthly throughput specifying quantity and types of volatile petroleum liquids in each tank and the period of storage.

(19) **Gasoline Storage Tanks**

- A. Tanks #9, #66 and #90 shall be equipped, maintained and operated such that:
  1. there is an internal floating roof with closure seal(s) between the roof edge and the tank wall and these are maintained so as to prevent vapor leakage, [06-096 CMR 111]
  2. the internal floating roof and the closure seal(s) will be maintained such that there are no holes, tears or other openings in the seal or between the seal and the floating roof, [06-096 CMR 111]
  3. all storage tank openings, except stub drains, are equipped with covers, lids or seals which remain closed at all times, [06-096 CMR 111]
  4. all automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports, [06-096 CMR 111]

5. all rim vents, if provided, are to be set to open only when the roof is being floated off the leg supports or at the manufacturer's recommended setting, and [06-096 CMR 111]
  6. if any holes, tears, or other openings are present, the source shall make repairs as soon as practical, but no later than 15 calendar days with the first attempt at repair to be made no later than 5 days from the initial detection of the leak. [06-096 CMR 115]
- B. Cold Brook shall comply with the following source inspection requirements: [06-096 CMR 111]
1. routine inspection of floating roofs are to be conducted through roof hatches once every month, and
  2. a complete inspection of the cover and seal is to be performed at least one every ten years and each time the tank is emptied and degassed. These inspections shall be conducted by visually inspecting the floating roof deck, deck fittings and rim seals.
- C. The following records shall be maintained at the source and available for inspection by the Department;
1. inspection log documenting routine monthly inspections of floating roof covers and seals, [06-096 CMR 111]
  2. inspection log documenting LEL readings to be done a minimum of every six months with the inspection of the floating roof covers and seals, which shall include explanation of any excessive increases in LEL readings as compared to normal operating conditions, [06-096 CMR 115, BPT]
  3. inspection log documenting all complete inspections of cover and seal to be performed whenever tank is emptied and degassed, at a minimum of once every ten years, [06-096 CMR 111]
  4. inspection log documenting any detected leaks, holes, tears, or other openings and the corrective action taken, [06-096 CMR 115, BPT]
  5. monthly throughput specifying quantity and types of volatile petroleum liquids in each tank and the period of storage, and [06-096 CMR 111]
  6. average monthly product storage temperatures and maximum true vapor pressures or Reid vapor pressures of volatile petroleum liquids. [06-096 CMR 111]

(20) **Recordkeeping**

- A. Records shall be maintained showing the average annual information for each of the petroleum storage tanks in order to calculate annual VOC emissions [06-096 CMR 115, BPT]:
1. quantity and type of petroleum liquid stored in each tank,
  2. Reid vapor pressure,
  3. maximum true vapor pressure,
  4. average storage temperature,
  5. average throughput in each tank,
  6. tank emissions calculated using EPA TANKS program or an alternative approved by the Department,
  7. tank truck emissions assuming 1.3% of the vapors are displaced during loading (based in assumed capture efficiency of 98.7% as given in 40 CFR Part 63, Subpart R)
  8. dates and results of annual VCU testing, and
  9. HAP speciation data as given by the American Petroleum Institute (API) or other speciation data as obtained by a supplier.
- B. Cold Brook shall calculate and record the annual total facility VOC emissions (tons) from the loading racks, storage tanks, and fugitive sources (i.e. pumps, valves, flanges). [06-096 CMR 115, BPT]
- C. Cold Brook shall maintain records of all monthly inspections and leak inspections of all equipment utilizing sight, smell and sound. [06-096 CMR 115, BPT]

- (21) Cold Brook shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 MRSA § 605).

(22) **Annual Emission Statement**

In accordance with *Emission Statements*, 06-096 CMR 137 as amended, the licensee shall annually report to the Department the information necessary to accurately update the State's emission inventory by means of:

Cold Brook Energy, Inc.  
Penobscot County  
Hampden, Maine  
A-542-71-F-R

13

Departmental  
Findings of Fact and Order  
Air Emission License

- 1) A computer program and accompanying instructions supplied by the Department; or
- 2) A written emission statement containing the information required in 06-096 CMR 137.

The emission statement must be submitted as specified by the date in 06-096 CMR 137.

DONE AND DATED IN AUGUSTA, MAINE THIS *1st* DAY OF *December*, 2010.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: *Beth Nagusky*  
BETH NAGUSKY, ACTING COMMISSIONER

**The term of this license shall be five (5) years from the signature date above.**

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 11/16/2009

Date of application acceptance: 11/17/2009

Date filed with the Board of Environmental Protection:

This Order prepared by N. Lynn Cornfield, Bureau of Air Quality.



