



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Northeast Regional Office • 205B Lowell Street, Wilmington MA 01887 • 978-694-3200

DEVAL L. PATRICK
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Ezra McCarthy
National Grid
40 Sylvan Road
Waltham, MA 02451

RE: **LYNN**
Transmittal No. X240467
Application No. MBR-11-COM-005
Class: Synthetic Minor 25
Facility Master File No. 372313
PLAN APPROVAL

Dear Ezra McCarthy:

The Metropolitan Boston/Northeast Regional Office of the Department of Environmental Protection, Bureau of Waste Prevention, (“MassDEP”), has reviewed your non-major Comprehensive Plan Application (“Application”) listed above. This Application concerns the proposed construction, substantial reconstruction and/or operation of two new liquefied natural gas (LNG) vaporizers, designated EU1 and EU2, located at your 545 Blossom Street, Lynn facility (“Facility”). The plan application bears the seal and signature of Mr. George S. Lipka, Registered Professional Engineer No. 29704.

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 “Air Pollution Control,” adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-J, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP’s review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application for the proposed equipment is in conformance with current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the Plan Approval, as it stipulates the conditions with which the Facility owner / operator (“Permittee”) must comply in order for the Facility to be operated in compliance with this Plan Approval.

1. BACKGROUND AND DESCRIPTION OF FACILITY

As listed in your Application, the subject Facility currently houses two Trane Thermal and two Selas LNG submerged combustion vaporizers (SCVs), a Waukesha emergency generator, and various minor heating sources. The two Selas vaporizers are designated EU3 and EU4, whose installation and operation are governed by MassDEP Approval No. MBR-08-COM-008, dated May 4, 2009. Facility-wide air emissions are restricted under a 25% Facility Emission Cap, dated September 4, 1997 and Restricted Emissions Status Approval No. MBR-94-RES-104, dated March 21, 1996. As required by these Approvals, the Permittee must comply with monthly fuel restrictions and a facility-wide oxides of nitrogen (NOx) emission cap of less than 15.0 tons per 12 month rolling period. As part of this proposal, the Permittee proposes to replace the two existing Trane Thermal SCVs with two new Selas SCVs. All EUs at the Facility are natural gas fired.

2. EMISSION UNIT IDENTIFICATION

The following emission units listed in Table 1 below are subject to and regulated by this Approval:

Table 1			
EMISSION UNIT (EU#)	DESCRIPTION OF EMISSION UNIT	EU DESIGN CAPACITY	POLLUTION CONTROL DEVICE (PCD#)
EU1 EU2	New Selas Fluid Processing SCVs *	21.8 mmBtu/hr each	• None
EU3 EU4	Existing Selas Fluid Processing SCVs	21.8 mmBtu/hr each	• None
EU5	Waukesha Emergency Gas Generator Model L-1616-6514	5.0 mmBtu/hr	• None
Minor existing units	Burnham water heater, Modine space heater, building heat air vent, Carrier office heat	2.5 mmBtu/hr total	• None

Table 1 Key:

= Number

mmBtu/hr = million British thermal units per hour

*SCVs = Submerged Combustion Vaporizers

3. APPLICABLE REQUIREMENTS

A. OPERATIONAL, PRODUCTION AND EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Table 2 below:

Table 2				
Operational, Production, and Emission Limits				
EU#	RESTRICTIONS Maximum monthly and rolling 12 month calendar period fuel usage	AIR CONTAMINANT	EMISSION LIMIT/STANDARD	APPLICABLE REGULATION AND/OR APPROVAL NUMBER
EU1 EU2	NA	NOx	90 ppmvd, 0.109 lb/mmBtu	Approval No. MBR-11- COM-005
		CO	100 ppmvd, 0.074 lb/mmBtu	
		PM/PM10/PM2.5	0.007 lb/mmBtu	
		VOC	0.005 lb/mmBtu	
		SO2	0.001 lb/mmBtu	
EU3 EU4	NA	NOx	90 ppmvd, 0.109 lb/mmBtu	Approval No. MBR-08- COM-008
		CO	100 ppmvd, 0.074 lb/mmBtu	
		PM/PM10/PM2.5	0.007 lb/mmBtu	
		VOC	0.005 lb/mmBtu	
		SO2	0.001 lb/mmBtu	
EU5	1,500,000 CF and less than 300 hours of operation per 12 rolling month period including normal maintenance and testing procedures & emergencies	NA	NA	Approval. No. MBR-94- RES-104 310 CMR 7.02(8)(i)
Facility-wide	NA	NOx	15.0 tons per rolling 12 month calendar period	310 CMR 7.02(11) 25% Facility Emission Cap

Table 2 Key:

EU# = Emission Unit Number

Air contaminants: NOx = oxides of nitrogen, CO = carbon monoxide, VOC = volatile organic compounds,
 PM/PM10/PM2.5 = particulate matter including PM less than 2.5 microns in size, SO2 = sulfur dioxide

lb/mmBtu = pounds per million British thermal units

ppmvd = parts per million by volume, dry basis, corrected to 3% O2

NA = not applicable

CF = cubic feet of natural gas

B. COMPLIANCE DEMONSTRATION

The subject emission units shall comply with the monitoring/testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5 below:

Table 3+	
EU#	MONITORING/TESTING REQUIREMENTS
EU1 EU2	1. The Permittee shall conduct compliance testing for NOx, CO, and VOC for these EUs within 180 days of initial startup of EU1 and EU2. Subsequent testing shall be conducted by the Permittee at future dates if the MassDEP deems it necessary. The Permittee shall submit a test protocol for the required compliance testing for review and MassDEP approval at least 30 days prior to the anticipated date of testing. The Permittee shall submit the compliance testing results report for review and written MassDEP approval within 45 days of completion of the compliance testing.

Table 3+	
EU#	MONITORING/TESTING REQUIREMENTS
EU1 EU2	2. The Permittee shall submit to this Office, attention Bureau of Waste Prevention Permit Chief, the Final Standard Operating and Maintenance Procedures (SOMP) for these EUs within 45 days of completion of their compliance testing. Any subsequent changes to the SOMP shall be submitted to MassDEP for approval.
Facility-wide	3. The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12– Source Registration. 4. The Permittee shall conduct any required compliance testing in accordance with USEPA Reference Test Methods and Regulation 310 CMR 7.13 – Stack Testing.

+Table 3 Key

EU# = Emission Unit Number

Air contaminants: NO_x = oxides of nitrogen, CO = carbon monoxide, VOC = volatile organic compounds

Table 4+	
EU#	RECORD KEEPING REQUIREMENTS
EU5	1. The Permittee shall maintain on-site and make available to MassDEP upon request, the following records for this engine: <ol style="list-style-type: none"> a. Information on equipment type, make and model and maximum power input/output; and b. A monthly log of hours of operation, cubic feet of gas used, fuel heating value, and a monthly calculation of the total hours operated and gas consumed in the previous 12 months; and c. Purchase orders, invoices, and other documents to support information in the monthly log, as required pursuant to Regulation 310 CMR 7.02(8)(i)3 and 4.
Facility-wide	2. The Permittee shall establish a record keeping system for all EUs to be maintained on-site. All such records shall be maintained up-to-date such that year-to-date information is readily available for MassDEP examination upon request and shall be kept on site for a minimum of five (5) years. Record keeping shall, at a minimum, include: <ol style="list-style-type: none"> a) Compliance records sufficient to demonstrate that emissions from all EUs, and hours of operation for EU5, have not exceeded what is allowed by this Approval. Such records shall include, but are not limited to, fuel usage rates, emissions test results, monitoring equipment data and reports, and hours of operation for EU5. b) Maintenance: A record of routine maintenance activities performed on all EUs and their monitoring equipment including, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed. c) Malfunctions: A record of all malfunctions of all EUs and their monitoring equipment including, at a minimum: the date and time the malfunction occurred; a description of the malfunction and the corrective action taken; the date and time corrective actions were initiated; and the date and time corrective actions were completed and the equipment was returned to compliance.
	3. The Permittee shall maintain adequate records on-site to demonstrate compliance with the emission limits as contained in Table 2 above. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve month period (current month plus prior eleven months). These records shall be compiled no later than the 15 th day following each month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at http://www.mass.gov/dep/air/approvals/aqforms.htm#report .
	4. The Permittee shall maintain records of monitoring and testing as required by Table 3.
	5. The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up-to-date SOMP for all EU(s) on-site.
	6. The Permittee shall maintain a record of routine maintenance activities performed on all EUs and ancillary equipment. The records shall include, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed.
	7. The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on all EU(s) and ancillary equipment. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; and the date and time corrective actions were initiated and completed.

Table 4+	
EU#	RECORD KEEPING REQUIREMENTS
	8. The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	9. The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years.
	10. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.

+Table 4 Key

EU# = Emission Unit Number
 PCD = Pollution Control Device
 SOMP = Standard Operating and Maintenance Procedure
 USEPA = United States Environmental Protection Agency

Table 5+	
EU#	REPORTING REQUIREMENTS
EU1 EU2	1. The Permittee shall submit a test protocol to MassDEP for the required compliance test for review and approval at least 30 days prior to the scheduled commencement of said testing. Test protocols for any subsequent required compliance testing shall be submitted to MassDEP for review and approval at least 30 days prior to the scheduled commencement of said testing.
	2. The Permittee shall submit the compliance testing results report to MassDEP for the review and written approval within 45 days of the completion of any required compliance testing.
EU1 EU2	3. The Permittee shall notify MassDEP in writing of the commencement of operation of these EUs, within 14 days thereof.
EU1 EU2 EU3 EU4 EU5	4. All notifications and reporting required by this Approval shall be made to: Department of Environmental Protection/Bureau of Waste Prevention 205B Lowell Street Wilmington, MA 01887 Attn: Mr. James E. Belsky, Permit Chief Phone: 978-694-3200 Fax: 978-694-3499
	5. The Permittee shall notify MassDEP by telephone, fax, or email as soon as possible, but in any case no later than three (3) business days after the occurrence of any upsets or malfunctions to these EUs and related equipment which results in an excess emission to the air and/or a condition of air pollution.
	6. The Permittee shall keep all required records on-site for five years and said records shall be made available to representatives of MassDEP or EPA upon request.
Facility-wide	7. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a "Responsible Official" as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).
	8. The Permittee shall notify the Northeast Regional Office of MassDEP, BWP Permit Chief by telephone at 978-694-3200, email at nero.air@state.ma.us, or fax at 978-694-3499 as soon as possible, but no later than one (1) business day after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to Permit Chief at MassDEP within three (3) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).
	9. The Permittee shall report to MassDEP, in accordance with 310 CMR 7.12, all information as required by the Source Registration/Emission Statement Form. The Permittee shall note therein any minor changes (under 310 CMR 7.02(2)(e), 7.03, 7.26, etc.), which did not require Plan Approval.
	10. The Permittee shall provide a copy to MassDEP of any record required to be maintained by this Plan Approval within 30-days from MassDEP's request.

+Table 5 Key - EU# = Emission Unit Number; BWP = Bureau of Waste Prevention

4. SPECIAL TERMS AND CONDITIONS

The facility is subject to, and shall comply with, the following special terms and conditions:

The Permittee shall install and use an exhaust stack on each of the Emission Units listed in Table 6 below that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack shall be configured to discharge the gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted gases, including but not limited to rain protection devices “shanty caps” and “egg beaters.” The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 6 below, for the Emission Units that are regulated by this Plan Approval:

Table 6 +				
EU#	Stack Height Above Ground (feet)	Stack Inside Exit Dimensions (feet)	Stack Gas Exit Velocity Range (feet per second)	Stack Gas Exit Temperature Range (°F)
EU1 EU2 EU3 EU4	26	2.0	9.6 to 23.9	120

+Table 6 Key:

EU# = Emission Unit Number, °F = Degree Fahrenheit

5. GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

- A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).
- B. If asbestos remediation/removal should be required as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00. If construction or demolition which is subject to 310 CMR 7.09(2) should also be required, then the Permittee shall comply with the notification requirement contained therein.
- C. If construction or demolition will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that construction or

demolition shall be done in accordance occur which 310 CMR 7.09(2) and 310 CMR 4.00.

- D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.
- E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.
- F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.
- G. Failure by the Permittee to comply with any of the above stated conditions will constitute a violation of the 310 CMR 7.00 et seq, and subject the Permittee to enforcement action as provided by law.
- H. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.
- I. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.
- J. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.
- K. All Plan Approvals issued under 310 CMR 7.02 prior to the date of this Plan Approval shall remain in effect unless specifically changed by this Plan Approval. The Facility shall not exceed the emission limits and comply with approved conditions specified in the applicable Plan Approval(s) unless specifically altered by this Plan Approval.
- L. The Permittee shall conduct emission testing, if requested by MassDEP, in accordance with USEPA Reference Test Methods and regulation 310 CMR 7.13. If required, a pretest protocol report shall be submitted to MassDEP at least 30 days prior to emission testing and the final test results report shall be submitted within 45 days after emission testing.
- M. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain “Fail-Safe Provisions,” which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

7. APPEAL PROCESS

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Should you have any questions concerning this Approval, please contact Joseph Su by telephone at (978) 694-3200, or in writing at the letterhead address.

Sincerely,

Joseph Su
Environmental Engineer

James E. Belsky
Permit Chief
Bureau of Waste Prevention

cc: Board of Health, Lynn, MA
Fire Headquarters, Lynn, MA
MassDEP/Boston - Yi. Tian (E-Copy)
MassDEP/NERO – Main File, Mary Persky