STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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GOVERNOR

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MEMORANDUM

TO: Board of Environmental Protection

FROM: Marc A.R. Cone, P.E., Director, Bureau of Air Quality

DATE: July 17, 2014

RE: Dragon Products Company, LLC Board Order:
Air License Amendment for an Alternative Mercury Emission Limit, A-326-77-3-A

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Air Emission License Amendment: Dragon Products Company, LLC (Dragon) submitted an air emission license amendment application for an alternative mercury air emission limit to be issued by the Board of Environmental Protection (Board).

Statutory Reference: 38 M.R.S.A §585-B(5) addresses standards for mercury from an air emission source. 38 M.R.S.A §585-B(5), Section (B) allows for the Board to grant a "license modification for an alternative mercury emission limit if the Board finds that the proposed mercury emission limit meets the most stringent emission limitation that is achievable and compatible with that class of source, considering economic feasibility." The full statute is included as Attachment 1 to this memo.

Location: Dragon is located on US Route 1 in Thomaston.

Background: On August 29, 2008 Dragon submitted a mercury reduction plan to the Department, pursuant to 38 M.R.S.A §585-B(6). Subsequently, on December 31, 2008 Dragon submitted an alternative mercury air emission limit application under 38 M.R.S.A §585-B(5)(B) prior to the January 1, 2009 deadline. Section 5 of the statute lists specific mercury emission limits including: an air emission source may not emit mercury in excess of 25 lbs per year after January 1, 2010 or, alternatively, a source may reduce mercury emissions by 90% by weight after January 1, 2010. Section 5(B) also allows for a license modification to establish an alternative mercury emission limit, with an interim mercury limit of 35 lb/year prior to the issuance of the license modification. Dragon initially proposed a mercury emission limit of 50 lb/year and discussed the requirements of the portland cement federal rule, 40 CFR Part 63, Subpart LLL, *National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry* in effect at the time.

Per the statutory requirements, Dragon was also required to submit an additional mercury plan in December 2012, and submit compliance stack test results for mercury for a total of four times over 2011 and 2012.

On November 20, 2013 Dragon submitted an addendum to the alternative mercury emission limit application to reflect the changes in the federal rule, 40 CFR Part 63, Subpart LLL, promulgated by EPA in 2010 and to revise the facility's requested alternative mercury emission limit to 42 lb/year.

Processing of the application included a review of Dragon's mercury emissions calculated using various methods (stack testing, data from a trial Continuous Emission Monitoring (CEM) system, and mass balance), the sources of mercury within the process, available mercury control technologies and their feasibility, and review of the federal rule. The department also performed an ambient air quality impact analysis on mercury emissions from Dragon and compared the results to the Maine Ambient Air Guideline for mercury which is 0.3 ug/m^3. The modeled results for three different averaging times were below the health-based guideline (1-hr 0.0042 ug/m^3 for 1-hr; 0.0016 ug/m^3 for 24-hr; and 0.00003 ug/m^3 for annual).

Public Input

- The application included a copy of the public notice of intent to file as published in the newspaper as required. The department did not receive any comments during the public comment period on the application.
- The department submitted two mercury reduction reports to the Legislature in 2009 and 2013.
- Interested parties contacted the department earlier in 2014 and were sent the preliminary draft air emission license amendment.
- One comment letter was received on the draft, submitted by the Natural Resources Council of Maine opposing the 42 lb/yr alternative limit. The reasons for opposing the limit included: the environmental and health hazards of mercury, the cost of controlling mercury is appropriate, and the fact that alternative limit is higher by 70% than the statute limit.

Department Recommendation:

After evaluating the application and additional information submitted, the department recommends the Board issue the proposed draft air emission license to Dragon, which includes a 42 lb/year maximum alternative mercury emission limit based on 40 CFR Part 63, Subpart LLL requirements. The proposed mercury emission limit meets the most stringent emission limitation that is achievable and compatible for existing portland cement plants considering economic feasibility; thus complying with 38 M.R.S.A 585-B(5), section (B).

Estimated Time of Presentation: 1 hour

ATTACHMENT 1

Maine Revised Statutes
Title 38: Waters and Navigation
Chapter 4: Protection and Improvement of Air

§585-B. Hazardous Air Pollutant Standards

1. **Standards.** The board may establish and amend emission standards for hazardous air pollutants, and regulations to implement these standards. If emission standards are not feasible, the board may adopt design, equipment, work practice or operational standards for activities emitting hazardous pollutants.
   [1989, c. 144, §5 (AMD) .]

2. **Procedure.** All standards and regulations under this section shall be adopted in conformance with the Maine Administrative Procedure Act, Title 5, chapter 375, except as provided in this section. Prior to the establishment or amendment of these standards and regulations, the board shall conduct a public hearing to receive testimony on:
   A. Any health risk assessment on the pollutants proposed to be controlled that has been conducted by the Department of Health and Human Services; [1983, c. 535, §2 (NEW); 2003, c. 689, Pt. B, §6 (REV).]
   B. The extent to which the public is exposed to the pollutant; [1983, c. 535, §2 (NEW).]
   C. The availability, effectiveness and cost of any air pollution control apparatus designed to prevent or control the emissions of hazardous pollutants; and [1983, c. 535, §2 (NEW).]
   D. Any other information that would assist the board in establishing standards adequate to protect the public health and safety. [1983, c. 535, §2 (NEW).]
   [1983, c. 535, §2 (NEW); 2003, c. 689, Pt. B, §6 (REV) .]

3. **Relation to ambient standards.** The board may control hazardous air pollutants if no ambient air quality standards have been established for those pollutants.
   [1989, c. 144, §5 (AMD) .]

4. **Legislative review.**
   [1989, c. 144, §6 (RP) .]

5. **Standards for mercury.** Notwithstanding subsection 1, an air emission source may not emit mercury in excess of 45.4 kilograms, or 100 pounds, per year after January 1, 2000; 22.7 kilograms, or 50 pounds, per year after January 1, 2004; 15.9 kilograms, or 35 pounds, after January 1, 2007; and 11.4 kilograms, or 25 pounds, after January 1, 2010. As an alternative to not emitting mercury in excess of 11.4 kilograms, or 25 pounds, after January 1, 2010, an air emission source may reduce mercury emissions by 90 percent by weight after January 1, 2010. Compliance with these limits must be specified in the license of the air emission source. The department shall establish by rule testing protocols and measurement methods for emissions sources for which the department has not established such protocols and

methods for determining compliance with the emission standard for mercury. These rules are routine technical rules under Title 5, chapter 375, subchapter 2-A.

An air emission source may apply to the board for an extension or modification of the 11.4-kilogram, or 25-pound, limit as follows.

A. An emission source may submit an application to the board no later than January 1, 2009 for a 6-month extension of the January 1, 2010 deadline to meet the 11.4-kilogram, or 25-pound, limit. The board shall grant the extension if the board determines, based on information presented by the source, that compliance with the limit is not achievable by the deadline due to engineering constraints, availability of equipment or other justifiable technical reasons. [2005, c. 590, §1 (AMD).]

B. An emission source may submit an application to the board no later than January 1, 2009 for a license modification establishing an alternative emission limit for mercury. The board shall grant the license modification if the board finds that the proposed mercury emission limit meets the most stringent emission limitation that is achievable and compatible with that class of source, considering economic feasibility. [2005, c. 590, §1 (AMD).]

Pending a decision on an application for an extension or a license modification under this subsection, the 15.9-kilogram, or 35-pound, limit applies to the emission source.

Notwithstanding the January 1, 2000 compliance date in this subsection, a resource recovery facility that is subject to an emissions limit for mercury adopted by rule by the board before January 1, 2000 shall comply with the 45.4-kilogram, or 100-pound, mercury emissions limit after December 19, 2000.

For determining compliance with this subsection, the results of multiple stack tests may be averaged in accordance with guidance provided by the department.

[2013, c. 300, §13 (AMD) .]

6. **Mercury reduction plans.** An air emission source emitting mercury in excess of 10 pounds per year after January 1, 2007 must develop a mercury reduction plan. Except as provided in subsection 7, the mercury reduction plan must be submitted to the department no later than September 1, 2008. The mercury reduction plan must contain:

   A. Identification, characterization and accounting of the mercury used or released at the emission source; and [2005, c. 590, §2 (NEW).]

   B. Identification, analysis and evaluation of any appropriate technologies, procedures, processes, equipment or production changes that may be utilized by the emission source to reduce the amount of mercury used or released by that emission source, including a financial analysis of the costs and benefits of reducing the amount of mercury used or released. [2005, c. 590, §2 (NEW).]

The department may keep information submitted to the department under this subsection confidential as provided under section 1310-B.

The department shall submit a report to the joint standing committee of the Legislature having jurisdiction over natural resources matters no later than March 1, 2009 summarizing the mercury emissions and mercury reduction potential from those emission sources subject to this subsection. In addition, the department shall include an evaluation of the appropriateness of the 25-pound mercury standard established in subsection 5. The evaluation must address, but is not limited to, the technological feasibility, cost and schedule of achieving the standards established in subsection 5. The department shall submit an updated report to the committee by March 1, 2013. The joint standing committee of the Legislature having jurisdiction over natural resources matters is authorized to report out to the 126th Legislature a bill relating to the evaluation and the updated report.
[2009, c. 535, §2 (AMD) .]

7. **Stack tests for mercury.** An air emission source emitting mercury in excess of 10 pounds in calendar year 2010 must:

A. Conduct a stack test for mercury twice in calendar year 2011 and twice in calendar year 2012. The stack tests must be conducted at least 4 months apart; and[2009, c. 535, §3 (NEW).]
B. By January 1, 2013, develop a mercury reduction plan and submit the plan to the department in accordance with subsection 6. The plan must contain the results of the 4 stack tests conducted pursuant to paragraph A. [2009, c. 535, §3 (NEW).]

For determining compliance with subsection 5, the results of multiple stack tests under this subsection may be averaged in accordance with guidance provided by the department.

The department may approve an alternative to the stack testing requirements in this subsection, such as, but not limited to, mercury input data or a continuous mercury emission monitoring system.
[2009, c. 535, §3 (NEW) .]

SECTION HISTORY
1983, c. 535, §2 (NEW). 1989, c. 144, §§5,6 (AMD). 1997, c. 722, §3 (AMD). 2003, c. 689, §B6 (REV). RR 2005, c. 2, §24 (COR).2005, c. 590, §§1,2 (AMD). 2009, c. 338, §§1, 2 (AMD). 2009, c. 535, §§1-3 (AMD). 2013, c. 300, §13 (AMD).