

Secretary's Order No.: 2010-A-0038

**RE: Approving Final Amendment to 7 DE Admin. Code 1138,
Emission Standards for Hazardous Air Pollutants for Source Categories,
New Section 16.0: "Area Source Asphalt Processing and Asphalt Roofing Products
Manufacturing Operations".**

Date of Issuance: November 10, 2010

Effective Date of the Amendment: December 11, 2010

Under the authority vested in the Secretary of the Department of Natural Resources and Environmental Control ("Department" or "DNREC") the following findings, reasons and conclusions are entered as an Order of the Secretary in the above-referenced rulemaking proceeding.

Background and Procedural History

This Order considers the proposed regulatory amendment to 7 DE Admin. Code 1138, Emission Standards for Hazardous Air Pollutants for Source Categories, Section 16.0, "Area Source Asphalt Processing and Asphalt Roofing Products Manufacturing Operations". This proposed new Section 16.0 is based upon a federal rule that the U.S. Environmental Protection Agency (EPA) promulgated at 40 CFR Part 63, Subpart AAAAAAA, and is applicable to new and existing asphalt processing operations and asphalt roofing manufacturing operations located at area sources.

This area source standard addresses the emissions of polycyclic aromatic hydrocarbons ("PAHs"), which represent a broad class of aromatic compounds. EPA has classified seven PAHs (benzo[a]pyrene, benz[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenz[a,h]anthracene, and indeno[1,2,3-cd]pyrene) as probable human carcinogens. The major non-cancerous effects from

chronic inhalation exposure are diseases associated with the respiratory tract. The purpose of this proposed regulatory action is to provide increased protection for Delaware citizens against the aforementioned potential adverse health effects linked to the aforementioned PAHs.

Facilities that will be subject to Section 16 include facilities that conduct asphalt processing operations, as well as facilities that manufacture roofing products, such as roofing shingles, rolled roofing and tar paper. Roofing companies that install built-up roofing systems on buildings are exempt from this proposed regulation, even if one of the layers is asphalt. Hot mix asphalt cement plants are also exempt from this regulation (asphalt cement is used in road construction, parking lots, and storage pads).

The proposed Section 16 specifies emissions limitations from the asphalt process operations and asphalt roofing products manufacturing operations. Asphalt roofing products manufacturing operations must also limit their emissions to either a particulate matter or polycyclic aromatic hydrocarbon level. Facilities have some freedom in choosing the control technology they wish to use to maintain their emissions below said limitations. Based on the already demonstrated use in the industry, the EPA has already approved the use of thermal oxidizers, high efficiency air filter, fiber bed filters, and electrostatic precipitators to control the emissions from asphalt processing operations and asphalt roofing products manufacturing operations. Should a facility wish to use a different control technology, the proposed regulation provides the procedure to follow to request the EPA's approval of alternative controls.

In addition to the above compliance requirements for facilities subject to Section 16.0, each such facility must be found compliant with the following four requirements as well:

- The development and implementation of a startup, shutdown, and malfunction plan, which shall provide appropriate operation instructions, proper corrective actions during malfunctions, required maintenance and inspection schedules, and proper maintenance procedures;
- The development and implementation of a site specific monitoring plan, which shall identify the appropriate monitoring locations, define the proper performance and equipment specification for the monitoring system, and document the various procedure needed to insure the quality of the data collected by the monitoring system;
- The demonstration of its initial compliance with the emission limitation for each operation, which is done by conducting a performance test and comparing the emission results of the performance test with the applicable emission limitation and
- The demonstration of its ongoing compliance with the emission limitation for each operation.

The Department's Division of Air Quality (DAQ) commenced the regulatory development process with Start Action Notice 2009-17. The Department published the proposed regulatory amendment in the September 1, 2010 *Delaware Register of Regulation* and held a public hearing on September 22, 2010. The Department's presiding hearing officer, Lisa A. Vest, prepared a Hearing Officer's Report dated

November 1, 2010 (Report). The Report recommends certain findings and the adoption of the proposed Amendment as attached to the Report as Appendix A.

Findings and Discussion

I find that the proposed Amendment is well-supported by the record developed by the Department, and adopt the Report to the extent it is consistent with this Order. The Department's experts developed the record and drafted the proposed Amendment.

I find that the Department's DAQ expert fully developed the record to support adoption of this Amendment. With the adoption of the regulation amendment to 7 DE Admin. Code 1138, Emission Standards for Hazardous Air Pollutants for Source Categories, Section 16.0, "Area Source Asphalt Processing and Asphalt Roofing Products Manufacturing Operations", Delaware will be able to mirror the recently issued federal rule promulgated by the U.S. Environmental Protection Agency (EPA) at 40 CFR Part 63, Subpart AAAAAAA and provide increased protection for Delaware citizens against potential adverse health effects linked to long-term exposure to the aforementioned PAHs, which are (1) known probable human carcinogens; and (2) have additional non-cancerous effects from chronic inhalation exposure, including diseases associated with the respiratory tract.

In conclusion, the following findings and conclusions are entered:

- 1.) The Department has jurisdiction under its statutory authority to issue an Order adopting this proposed Amendment as final;
- 2.) The Department provided adequate public notice of the proposed Amendment, and provided the public with an adequate opportunity to comment on the proposed Amendment, including at a public hearing;

3.) The Department held a public hearing on September 22, 2010 on the proposed Amendment in order to any consider public comments before making any final decision;

4.) The Department's Hearing Officer's Report, including its recommended record and the recommended Amendment as set forth in Appendix A, are adopted to provide additional reasons and findings for this Order;

5.) The recommended Amendment does not reflect any substantive change from the proposed regulation Amendment as published in the September 1, 2010, *Delaware Register of Regulations*;

6.) The recommended Amendment should be adopted as final regulation Amendment because Delaware will then be enabled to (1) mirror the recently issued federal rule promulgated by the U.S. Environmental Protection Agency (EPA) at 40 CFR Part 63, Subpart AAAAAAA; and (2) provide increased protection for Delaware citizens against potential adverse health effects linked to long-term exposure to the aforementioned PAHs, which are known probable human carcinogens, and have additional non-cancerous effects from chronic inhalation exposure, including diseases associated with the respiratory. Moreover, the regulation amendment is well supported by documents in the record; and

7.) The Department shall submit this Order approving the final regulation to the *Delaware Register of Regulations* for publication in its next available issue, and

provide such other notice as the law and regulation require and the Department determines is appropriate.

/s/ David S. Small, Acting Sec. (for)
Collin P. O'Mara
Secretary

MEMORANDUM

TO: The Honorable Collin P. O'Mara
Cabinet Secretary, Dept. of Natural Resources and Environmental Control

FROM: Lisa A. Vest
Public Hearing Officer, Office of the Secretary
Department of Natural Resources and Environmental Control

RE: Proposed Amendment to 7 DE Admin. Code 1138, Emission Standards for Hazardous Air Pollutants for Source Categories, new Section 16.0: "Area Source Asphalt Processing and Asphalt Roofing Products Manufacturing Operations".

DATE: November 1, 2010

I. Background:

A public hearing was held on Wednesday, September 22, 2010, at 6:00 p.m. at the DNREC's Richardson and Robbins Auditorium, 89 Kings Highway, Dover, Delaware, to receive comment on the Department's proposal to amend 7 DE Admin. Code 1138, Emission Standards for Hazardous Air Pollutants for Source Categories, by adding a new section, Section 16.0, "Area Source Asphalt Processing and Asphalt Roofing Products Manufacturing Operations". This proposed new Section 16.0 is based upon a federal rule that the U.S. Environmental Protection Agency (EPA) promulgated at 40 CFR Part 63, Subpart AAAAAAA, and is applicable to new and existing asphalt processing operations and asphalt roofing manufacturing operations located at area sources.

This area source standard addresses the emissions of polycyclic aromatic hydrocarbons ("PAHs"), which represent a broad class of aromatic compounds. EPA has classified seven PAHs (benzo[a]pyrene, benz[a]anthracene, chrysene,

benzo[b]fluoranthene, benzo[k]fluoranthene, dibenz[a,h]anthracene, and indeno[1,2,3-cd]pyrene) as probable human carcinogens. The major non-cancerous effects from chronic inhalation exposure are diseases associated with the respiratory tract. The purpose of this proposed regulatory action is to provide increased protection for Delaware citizens against the potential adverse health effects linked to the aforementioned PAHs.

In 1990, Congress directed the EPA to identify emission sources dealing with a list of 189 specific Hazardous Air Pollutants (HAPs), and then to proceed to issue regulations to reduce the HAP emissions from those source categories. Congress further directed the EPA to initially promulgate regulations with regard to the major sources of HAPs, which are typically major chemical plants and/or petroleum plants. Only after the large emission sources were addressed through regulation was the EPA to proceed to address the smaller area source categories. As directed, in 1992 EPA published its initial listing of the major source categories, and from 1993 to 2004 proceeded to issue over 100 regulations which addressed HAP emissions from these major sources, including one (40 CFR Part 63 Subpart LLLLL) that addressed the emissions of HAPs from asphalt processing and asphalt roofing products manufacturing operations located at a major source.

In 1999, the EPA presented Congress with a list of 33 HAPs found to have the greatest health impact on public health. Polycyclic organic matter (POM), which is a group of chemical compounds made of multiple benzene rings, are one of those 33 HAPs. Between 1999 and 2002, the EPA identified over 60 additional small facilities, or, categories of area sources, that represented over 90% of the emissions of those 33 HAPs. Asphalt processing and asphalt roofing manufacturing operations were one of those

sources identified by the EPA. In 2007, the EPA issued their first regulation focused specifically on one of those over 60 new area source categories.

On December 2, 2009, the EPA issued yet another area source regulation which affected Delaware. This regulation (40 CFR Part 63, Subpart AAAAAAA) applied to area source asphalt processing and asphalt roofing manufacturing operations. Upon the EPA's promulgation of 40 CFR Part 63, Subpart AAAAAAA, the Department conducted an internal review to determine what action, if any, DNREC should be taking as a result of that Federal rule making. As a result of that review, DNREC determined the following: (1) there is one facility, IKO Productions near Wilmington, which would be subject to the new Federal rule; (2) there are no comparable Delaware regulations or permit requirements similar to the new Federal rule; and (3) there was found to be no existing compliance assistance tool or outreach information to assist such area sources to be in compliance with the new Federal rule. Thus, the Department concluded that Delaware should adopt the new Federal rule by adopting the proposed new Section 16 into existing Regulation 1138, under the Division of Air Quality's Area Source Air Toxics program.

Facilities that will be subject to Section 16 include facilities that conduct asphalt processing operations. During these operations, the facility blows air through heated liquid asphalt to change its physical properties. This operation is conducted in a blowing still, and it is the emission from the blowing still that is being regulated. Additionally, facilities that manufacture roofing products are also subject to Section 16. Roofing products include roofing shingles, rolled roofing and tar paper.

Roofing companies that install built-up roofing systems on buildings are exempt from this proposed regulation, even if one of the layers is asphalt. Hot mix asphalt cement plants are also exempt from this regulation (asphalt cement is used in road construction, parking lots, and storage pads).

The proposed Section 16 specifies emissions limitations from the asphalt process operations and asphalt roofing products manufacturing operations. Asphalt processing operations must limit their emission to either of these two levels: (1) 1.2 pounds of particulate matter per ton of asphalt changed to the blowing still; or (2) 0.003 pounds of polycyclic aromatic hydrocarbons (PAHs) per ton of asphalt changed to the blowing still. PAHs are a subset of chemical compounds found within the larger group of POMs. Of the over 100 identified chemicals referred to as POMs, 15 are in the subset identified as PAHs. From a practical standpoint, the cost to measure PAHs is significantly higher than the cost to measure particulate matter, so the Department expects sources to comply with the 1.2 pounds of particulate matter.

Asphalt roofing products manufacturing operations must also limit their emissions to either a particulate matter or polycyclic aromatic hydrocarbon level. There are three basic types of roofing product manufacturing processes, and the specific emission limitation is based on which process, or processes, are being used at the facility. Facilities have some freedom in choosing the control technology they wish to use to maintain their emissions below said limitations. Based on the already demonstrated use in the industry, the EPA has already approved the use of thermal oxidizers, high efficiency air filter, fiber bed filters, and electrostatic precipitators to control the emissions from asphalt processing operations and asphalt roofing products manufacturing

operations. Should a facility wish to use a different control technology, the proposed regulation provides the procedure to follow to request the EPA's approval of alternative controls.

In addition to the above compliance requirements for facilities subject to Section 16.0, each such facility must be found compliant with the following four requirements as well:

- The development and implementation of a startup, shutdown, and malfunction plan, which shall provide appropriate operation instructions, proper corrective actions during malfunctions, required maintenance and inspection schedules, and proper maintenance procedures;
- The development and implementation of a site specific monitoring plan, which shall identify the appropriate monitoring locations, define the proper performance and equipment specification for the monitoring system, and document the various procedure needed to insure the quality of the data collected by the monitoring system;
- The demonstration of its initial compliance with the emission limitation for each operation, which is done by conducting a performance test and comparing the emission results of the performance test with the applicable emission limitation and
- The demonstration of its ongoing compliance with the emission limitation for each operation.

In order to promote awareness of this proposed promulgation to the regulated community in Delaware, a public workshop was held by the Department on August 9,

2010 to explain the newly adopted Federal regulation, as well as the proposed amendment (i.e., the inclusion of new Section 16.0) to the existing State Regulation 1138 (it should be noted that a representative of IKO Productions participated in the August 9th public workshop). The proposed promulgation was published in the September 1, 2010 edition of the *Delaware Register of Regulations*.

It should be noted that no members of the public attended the hearing on September 22, 2010, nor was any public comment received by the Department with regard to this proposed promulgation. Proper notice of the hearing was provided as required by law.

II. Summary of Hearing Record:

At the time of the hearing on September 22, 2010, Jim Snead of the Department's Division of Air Quality offered the Department's thirty-two (32) exhibits pertaining to this proposed amendment, and this Hearing Officer entered them into the formal hearing record developed in this matter. Included within those Departmental exhibits was a copy of the Start Action Notice for this promulgation (SAN No. 2009-17), copies of the legal notices regarding the holding of the public workshop in August of 2010 and the holding of this public hearing on September 22, 2010, copies of related EPA reference rules upon which the Department relied in the drafting of this proposed amendment, and copies of the actual proposed amendment to 7 DE Admin. Code 1138, to wit: the incorporation of new Section 16.0 to the same.

For the Secretary's review, and in order for the Secretary to gain a thorough understanding of this proposed promulgation, copies of the above-referenced proposed

amendments are attached hereto as Appendix “A”, and the same are expressly incorporated into this Hearing Officer’s Report.

It should be noted that the Department adhered to all appropriate Delaware statutes and the regulatory development process in this matter, and that the Department has met the required public notice obligations regarding this proposed amendment. It should also be noted that the Department has reviewed this proposed amendment in the light of the Regulatory Flexibility Act, and believes the same to be lawful, feasible and desirable, and that the recommendations as proposed should be applicable to all Delaware citizens equally.

III. Conclusions and Recommendations:

Based on the record developed in this matter, I conclude that the Department has provided appropriate reasoning regarding the need for this proposed amendment to 7 DE Admin. Code 1138, Emission Standards for Hazardous Air Pollutants for Source Categories, Section 16.0, “Area Source Asphalt Processing and Asphalt Roofing Products Manufacturing Operations”. Accordingly, I recommend promulgation of this proposed amendment in the customary manner provided by law.

Further, I recommend the following findings:

1. The Department has jurisdiction under its statutory authority, 7 Del.C., Chapter 60, to make a determination in this proceeding;
2. The Department provided adequate public notice of both the public workshops and the public hearing in a manner required by the law and regulations;
3. The Department held a public hearing in a manner required by the law and regulations;

4. The Department has reviewed this proposed amendment in the light of the Regulatory Flexibility Act, and believes the same to be lawful, feasible and desirable, and that the recommendation as proposed should be applicable to all Delaware citizens equally;
5. Promulgation of the aforementioned proposed amendment to 7 DE Admin. Code 1138 will create a new Section, 16.0, to specifically regulate emissions of polycyclic aromatic hydrocarbons (“PAHs”) from new and existing asphalt processing operations and asphalt roofing manufacturing operations located at area sources, thus enabling Delaware to mirror the recent Federal rule promulgated by the EPA, to wit: 40 CFR Part 63, Subpart AAAAAAA;
6. The aforementioned proposed amendment to 7 DE Admin. Code 1138 will provide increased protection for Delaware citizens against potential adverse health effects linked to long-term exposure to the aforementioned PAHs, which are (1) known probable human carcinogens; and (2) have additional non-cancerous effects from chronic inhalation exposure, including diseases associated with the respiratory tract;
7. The Department has an adequate record for its decision, and no further public hearing is appropriate or necessary;
8. The Department’s proposed amendment to this regulation, as published in the September 1, 2010 *Delaware Register of Regulations* and as set forth within Appendix “A” hereto, are adequately supported, not arbitrary or capricious, and are consistent with the applicable laws and regulations. Consequently, they should be approved as a final regulation amendment, which shall go into

effect ten days after their publication in the next available issue of the *Delaware Register of Regulations*; and

9. The Department shall submit the proposed regulation amendment as final to the *Delaware Register of Regulations* for publication in its next available issue, and shall provide written notice to the persons affected by the Order.

/s/ Lisa A. Vest
LISA A. VEST
Public Hearing Officer

