



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 042012-005 Project Number: 2011-11-030
Installation Number: 031-0132

Parent Company: Nordenia International AG.

Parent Company Address: Airport Center am FMO, Greven Germany, 48268

Installation Name: Nordenia U.S.A., Inc.

Installation Address: 3151 N. High St., Jackson, MO 63755

Location Information: Cape Girardeau County, S36, T32N, R12E

Application for Authority to Construct was made for:

Nordenia U.S.A., Inc. is constructing a new polyethylene bag manufacturing facility, Nordenia #2 in Jackson, Missouri, located in Cape Girardeau County. This operation will debottleneck some of the existing facility, Nordenia #1's emission points. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

APR 13 2012

EFFECTIVE DATE

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Department's Air Pollution Control Program of the anticipated date of startup of these air contaminant sources. The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual startup of these air contaminant sources.

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2011-11-030
Installation ID Number: 031-0132
Permit Number:

Nordenia U.S.A., Inc.
3151 N. High St.
Jackson, MO 63755

Complete: November 14, 2011

Parent Company:
Nordenia International AG.
Airport Center am FMO
Greven Germany, 48268

Cape Girardeau County, S36, T32N, R12E

REVIEW SUMMARY

- Nordenia U.S.A., Inc. has applied for authority to construct a new polyethylene bag manufacturing facility, Nordenia #2 in Jackson Missouri, located in Cape Girardeau County. This operation will debottleneck some of the existing facility, Nordenia #1's emission points.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) in 40 CFR Part 61 apply to this installation.
- No controls are being considered for the equipment at Nordenia #2.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. Potential emissions of all pollutants are below de minimis levels.
- This installation is located in Cape Girardeau County, an attainment area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
- Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels and screen modeling action levels (SMALs).
- A modification to the Part 70 Operating Permit is required for this installation within one year of equipment startup.
- Approval of this permit is recommended without special conditions.

INSTALLATION DESCRIPTION

Nordenia operates a rotogravure printing operation and a polyethylene bag manufacturing facility at 14591 State Highway 177 in Jackson, Missouri (Nordenia #1). At this facility, Nordenia currently manufactures items including polyethylene film, bags and flexible packaging. Nordenia received a Part 70 Operating Permit (Permit No. OP2010-089) which expires in August of 2015.

Nordenia #1 (031-0072) and Nordenia #2 (031-0132) are considered one installation for permitting purposes.

Nordenia #1 has taken a 245 tpy VOC limit for their facility. Nordenia #2's VOC potential to emit is less than 5 tpy of VOC, therefore the PTE of the installation is less than 250 tpy and remains a minor facility with regards to New Source Review permitting.

The following permits have been issued to Nordenia U.S.A., Inc. from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0690-015*	Polyethylene sheeting extrusion process
1289-003*	Polyethylene laminate and print process
1293-014*	Solvent washing machine
0794-013*	Rotogravure printing press and wicket bag machine
0795-010*	Waste solvent reclamation unit
102000-026	Rotogravure printing press
042006-005	Laminator
042006-005A	Laminator colors amendment
052008-002	Rotogravure printing press

*These permits were issued to M & W Packaging U.S. Inc.

PROJECT DESCRIPTION

Nordenia has requested that a separate permit be issued for each facility: Nordenia #1 (031-0072) and Nordenia #2 (031-0132). The permit for Nordenia #1 is being issued under Project No. 2012-03-085.

The existing Nordenia plant (Nordenia #1) is operating at capacity and intends to expand to meet additional demand for its products. Therefore, Nordenia intends to move the existing bag making portion of their operations to a second plant, at 3151 N. High Street, Jackson, MO (Nordenia #2), to accommodate the additional demand. The existing facility (Nordenia #1) will retain plastic extrusion and printing portions of the process with other equipment unrelated to this project. The plastic extrusion and printing process will be debottlenecked by the new equipment being added under this project.

This project addresses the new facility which will house the existing bag making operations from Nordenia #1 along with five new machines. All equipment to be located at Nordenia #2 is listed below in Table 2. Note that the existing bag making machines

in Table 2 are not affected (i.e not debottlenecked) by the addition of the new machines and therefore are not included in the net emission totals for this project.

Table 2: Equipment to be located at the new facility Nordenia #2 (tons per year)

Emission Point	Equipment/Number	New/Existing Unit	Potential Emissions of PM _{2.5} ^{1,2}	Potential Emissions of PM ₁₀ ^{1,2}
ATM-26-1	Wicket Machines 2600	Existing	0.08	0.08
ATM-26-2	Wicket Machines 2603	Existing	0.08	0.08
ATM-26-3	Wicket Machines 2705	Existing	0.08	0.08
ATM-26-4	Wicket Machines 2707	Existing	0.08	0.08
ATM-26-5	Pouch Machines 2701	Existing	0.08	0.08
ATM-26-6	Pouch Machines 2702	Existing	0.0	0.0
ATM-26-7	Pouch Machines 2703	Existing	0.0	0.0
ATM-26-8	Pouch Machines 2704	Existing	0.0	0.0
ATM-26-9	Pouch Machines 2709	Existing	0.08	0.08
ATM-26-10	Flex Z Box Machines 2800	Existing	0.08	0.08
ATM-26-11	Flex Z Box Machines 2801	Existing	0.08	0.08
ATM-26-12	Flex Z Box Machines 2802	Existing	0.0	0.0
ATM-26-13	Flex Z Box Machines 2803	Existing	0.08	0.08
ATM-26-14	Flex Z Box Machines 2804	New	0.08	0.08
ATM-26-15	Flex Z Box Machines 2805	New	0.08	0.08
ATM-26-16	Flex Z Box Machines 2900	New	0.08	0.08
ATM-26-17	Flex Z Box Machines 2901	New	0.08	0.08
ATM-26-18	Flex Z Box Machines 2902	New	0.08	0.08
Total Emissions			1.12	1.12

¹Emission control devices (Smog Hog) are located on the bag machines, The smog hogs are used for industrial hygiene purposes, however, they are not required by this permit and credit for control efficiency was not included in potential emission calculations.

²The new bag machines being added to the new facility will result in a 45 percent increase in the number of bags manufactured.

The new facility (Nordenia #2) and the existing facility (Nordenia #1) are both under common control being owned by Nordenia, U.S.A., Inc. The new facility will be 100% (percent) supported by the existing facility and will share a transportation/process line and thus the two facilities fall under single source status.

Nordenia #1 has taken a 245 tpy VOC limit for their facility in Project Number 2012-03-085. Nordenia #2's PTE is less than five tpy of VOC, therefore the PTE of the installation (Nordenia #1 and Nordenia #2) is less than 250 tpy. If Nordenia #2's VOC potential emissions ever exceeds 5 tpy, a new limit will need to be established in order to maintain minor source status for the entire installation.

The process for this new facility begins with sheets of polyethylene film transported from the existing facility to the bag operation at the new facility. The bag lines at the new facility will cut and seal the film, producing the bags. Once the bags have been manufactured, the finished product will then be shipped from the new facility directly to the customer. Additional support equipment that will be located at the new facility and have no emissions includes air compressors, water chillers, and electric water heaters. One natural gas water heater and 16 small natural gas heating units are accounted for in the calculations for the new facility.

Haul roads have not been previously calculated in prior permits. Since material is transported between Nordenia #1 and Nordenia #2, haul roads emission on the installations' property were considered for this permit.

EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 1.4 *Natural Gas Combustion*.

The bag making process that will be located at Nordenia Plant #2 emits very small amounts of particulate matter, however, because this operation will debottleneck some of the existing facility emission points, affected emissions are included in the calculations for this permit application. The potential to emit (PTE) calculations for the new site for this permit application are calculated using the maximum design rates for all machines that will be functioning in 2015 assuming that the five new Flex Z Box machines are added as planned. The potential emissions for this project are based on the following calculations:

1. The new bag cutting machines that will be operated at the facility in the next few years, (Nordenia #2)
2. New natural gas water heater and facility heating units, (Nordenia #2)
3. Haul roads, (Nordenia #1 and #2) and
4. The associated emissions increase from debottlenecking the current film manufacturing and printing operations at the existing facility (Nordenia #1).

Potential emissions for the new bag cutting machines were derived from calculations using the density factor of polyethylene, conversion factors and the amount of particulate matter collected from the existing Smog Hog device located on the existing bag cutting machines (ATM-26-1, ATM-26-2, ATM-26-3, ATM-26-4, ATM-26-5, ATM-26-9, ATM-26-10, ATM-26-11, and ATM-26-13).

The potential emissions of the natural gas water heater and facility heating units were derived from AP-42, Section 1.4 *Natural Gas Combustion* (July 1998).

Haul roads were based on 20 trips per day between the two plants, and 16 trucks per day shipping out finished product from Nordenia #2. Haul road calculations were based on AP-42, Section 13.2.1 *Paved Roads* (January 2011).

The pollutants associated with this project are listed in Table 3. The net emission increase for Nordenia #2 reflects the new equipment at Nordenia #2 and its haul road emissions.

Table 3: Emissions Summary (tpy)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions ^{1,3}	Existing Actual Emissions (2010 EIQ)	Net Emissions Increase for Nordenia #1	Net Emissions Increase for Nordenia #2	Total Project Emissions for Nordenia #1 and #2	Conditioned Potential ³ for Nordenia #1 and #2 ⁴
PM _{2.5}	10.0	N/D	0.62	0.57	0.58	1.15	N/A
PM ₁₀	15.0	N/D	0.6280	0.59	0.69	1.28	N/A
SO _x	40.0	N/D	N/A	0.00	0.01	0.01	N/A
NO _x	40.0	N/D	N/A	0.0	1.91	1.91	N/A
VOC	40.0	<250	33.0488	14.122	0.110	14.232	<245.11
CO	100.0	N/D	N/A	0.0	0.82	0.82	N/A
HAPs	10.0/25.0	~6.1 ³	0.0125	2.37	0.04	2.41	N/A
Chromium VI	0.002 ²	0.000862	0.0 ³	0.00039 ³	N/A	0.00039	N/A
Nickel compounds	1.0 ²	0.59	0.02	0.27 ³	N/A	0.27	N/A
Methanol	10	2.14	N/D	0.96 ³	N/A	0.96	N/A
Toluene	10	3.11	N/D	1.40 ³	N/A	1.40	N/A

N/A = Not Applicable; N/D = Not Determined

¹In Permit 052008-002, Nordenia took an installation-wide 250 tpy VOC limit. Existing potential emissions were not determined for PM_{2.5}, PM₁₀, SO_x, NO_x, and CO.

²Screening Model Action Level (SMAL)

³Applicant submitted existing HAP emission total for installation. These have not been completely verified. However, they are believed to be representative.

⁴VOC conditioned PTE is equal to Nordenia #1 facility limitation of 245 tpy plus the PTE of Nordenia #2 of 0.11 tpy.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels.

APPLICABLE REQUIREMENTS

Nordenia U.S.A., Inc. shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Kathy Kolb
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated November 11, 2011, received November 14, 2011, designating Nordena International AG. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southeast Regional Office Site Survey, dated December 8, 2011.

Mr. Jeff Kisner
Manager Health, Safety, and Environment
Nordenia U.S.A., Inc.
3151 N. High St.
Jackson, MO 63755

RE: New Source Review Permit - Project Number: 2011-11-030

Dear Mr. Kisner:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Kathy Kolb, at the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:kk1

Enclosures

c: Southeast Regional Office
PAMS File: 2011-11-030

Permit Number: