



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

DEVAL L. PATRICK  
Governor

RICHARD K. SULLIVAN JR.  
Secretary

DAVID W. CASH  
Commissioner

April 11, 2014

Mr. Kenneth Joblon, President  
Brittany Dyeing and Printing Corporation  
1357 E. Rodney French Blvd.  
New Bedford, Massachusetts 02741

RE: **AIR QUALITY PLAN APPROVAL**  
Application for: BWP AQ 01 LIMITED PLAN APPLICATION FOR PROCESS UNIT(S),  
Transmittal No.: X259526  
Application No.: SE-14-005  
Source No.: 1200290

AT: Brittany Dyeing and Printing Corporation  
1357 East Rodney French Boulevard  
New Bedford, Massachusetts 02741

Dear Mr. Joblon,

The Department of Environmental Protection, Bureau of Waste Prevention, has reviewed Limited Plan Application (“LPA” or “Application”) No. SE-14-005 received February 18, 2014, and supplemental information received on February 21, 2014, March 4, 2014, April 9, 2014 and April 10, 2014. LPA No. SE-14-005 requests approval to make modifications to Print Machine Operations, the operational restrictions of Conditional Approval No. 4P09022 (Transmittal No. X228780), issued on October 6, 2009, and, as required by NON-SE-14-7003, operate a new coating head on existing Tenter Frame No. 2 at the Brittany Dyeing and Printing Corporation facility (herein referred to as “Brittany” or “permittee”), located at 1357 E. Rodney French Boulevard, New Bedford, Massachusetts.

On February 13, 2009, the MassDEP issued a Conditional Approval of Non-Major Comprehensive Plan Application No. 4P08029, Transmittal No. W900413. NMCPA No. 4P08029 was submitted as required by ACOP-SE-07-7001, including Amendment No. 1.

On October 6, 2009, the MassDEP issued a Conditional Approval of Non-Major Comprehensive Plan Application No. 4P09022 based on changes in business conditions at Brittany and to control

odor emissions from Brittany fabric printing operations by limiting printing operations to only non-pigment and non-formaldehyde print paste formulations (i.e. Vat Print pastes), and by venting the drying oven exhaust from Print Machine No. 2 through a venturi scrubber to an existing Wet Electrostatic Precipitator.

On January 27, 2010, the MassDEP approved LPA No. 4P09033 which allowed the application of a limited amount of formaldehyde containing pigment printing products to use up remaining inventory.

Application No. SE-14-005, Transmittal No. X259526, was submitted in accordance with section 7.02 Plan Approval and Emissions Limitations as contained in 310 CMR 7.00 "Air Pollution Control Regulations," adopted by the Department pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-E and Chapter 21C, Sections 4 and 6.

The Department's review has been limited to air pollution regulation compliance and does not relieve you of the obligation to comply with all other permitting requirements.

## **FACILITY DESCRIPTION**

---

Brittany Dyeing and Printing Corporation operates a textile printing and finishing facility in New Bedford, MA. Various textiles (e.g. cotton, polyester) are washed, dyed, printed, and finished to the customer's specifications. On March 16, 1994 the MassDEP approved Application No. 4P92012, submitted in accordance with 310 CMR 7.18(17) Reasonable Available Control Technology which established volatile organic compound (VOC) "as applied" formulation limits for fabric print colors, fabric finishing mixtures and fabric dyeing formulations, daily VOC emission limits and twelve month rolling period VOC emission limits. Brittany is currently operating in accordance with a 50% Facility Emissions Cap Approval as approved by the MassDEP on September 2, 2009. The 50% Facility Emissions Cap Approval restricts Brittany to 5 tons HAP (single), 12.5 tons HAP (total), 25 tons of VOC, 25 tons of NO<sub>x</sub>, 50 tons of any other regulated air pollutant per consecutive twelve month period.

Brittany's processes consist of the following operations and use the following equipment:

- Fabric Preparation (washing and neutralization of fabric) – Washer 1/Tenter Frame 1, Washer 3/Tenter Frame 3
- Fabric Dyeing/Finishing – Morrison Dye Pad and Mezzera Dyeing Jigs (4), Thermosol Dyeing Range w/dryers, Tenter Frame 2, Tenter Frame 4, Tenter Frame 5, Tenter Frame 6
- Fabric Printing – Stork rotary screen Print Machine No. 1 through 3
- Other Processes – Plant-wide cleaning, Loop Dryer, Singer, No. 7 Range (flash ager/wash range), Atmospheric Steamer and Parts Cleaner(s)
- Air Pollution Control Equipment – 3 Wet Electrostatic Precipitators (ESP) and 9 venturi scrubbers for control of visible emissions and particulate matter. The ESP's and associated equipment are as follows:
  - ESP 1 – Tenter Frame 2, Tenter Frame 4, Tenter Frame 5;
  - ESP 2 - Tenter Frame 1, Tenter Frame 3, Loop Dryer, Singer;

- o ESP 3 - Thermosol Dye Range, Tenter Frame 6, Print Machine No. 2.

In addition to the process operations, Brittany operates a power plant with 4 fuel utilization units - Boiler 1, 2, 3 and 4 (fire-tube boilers: greater than 3 MMBtu/hr heat input, but less than 40 MMBtu/hr heat input), which burn No. 6 Fuel Oil (1.0% Sulfur), and/or Natural Gas (Boiler 2 fires Fuel Oil only) to provide heat and process steam.

### **DESCRIPTION OF MODIFICATIONS**

Brittany has indicated, in their application, that the primary sources of odor from the facility are connected to the use of formaldehyde containing print paste formulations (i.e. pigment formulations) on the print machines. Brittany has committed to eliminate the use of pigment print pastes at the facility, effective September 30, 2009, to connect the oven exhaust of Print Machine No. 2 through a new Beltran Model No. RD-4.5 (or equivalent) venturi scrubber (Venturi No. 9) to the existing North American Pollution Control Systems, Model 19-518, single pass, two-stage, Wet Electrostatic Precipitator (ESP No. 3) rated at 30,000 acfm @ 110°F, and to operate only one of the remaining three (3) un-controlled Print Machines at any one time. Brittany has stated that the venting of Print Machine No. 2 to the venturi scrubber/ESP and the application of formaldehyde free, non-pigment (except as noted in Section B. Operational Limitations) print paste formulations will eliminate nuisance odor from the facility printing operations and fully comply with relevant emission standards.

On February 18, 2014 Brittany submitted application No. SE-14-005, with supplemental material submitted on February 21, 2014, March 4, 2014, April 9, 2014 and April 10, 2014, in order to modify Conditional Approval No.4P09022 to allow, on Print Machine No. 1 and Print Machine No. 2, the application of non-formaldehyde print paste formulations that contain no greater than 1%, by weight, pigment black additive. In addition, changes are being made to reflect the installation of control equipment required by CPA No. 4P09022, the removal of Print Machine No. 4 from the facility, the installation of a new coating head on Tenter Frame No. 2, and the Permittee's request that the MassDEP revoke Approval No. 4P09033.

The Department is of the opinion that the application is in conformance with current air pollution control engineering practices, and hereby grants Approval of LPA No. SE-14-005, subject to the following descriptions, requirements, and provisions:

#### **A. PRODUCTION LIMITATIONS**

---

None

#### **B. OPERATIONAL LIMITATIONS**

---

1. The Permittee shall limit ammonia usage in print machine operations as follows:
  - a)  $\leq$  0.8 tons of ammonia usage per month
  - b)  $\leq$  5.4 tons of ammonia usage per consecutive twelve month period
2. The Permittee shall operate the Air Pollution Control equipment at all times while conducting printing operations on Print Machine No. 2.

3. After November 13, 2009, the Permittee shall operate a maximum of one (1) uncontrolled print machine (i.e. Print Machine No. 1 or No. 3) at any one time.
4. After the installation of the air pollution control equipment on Print Machine No. 2, the Permittee shall operate any un-controlled print machine lines only when Print Machine No. 2 is already operating, or is not available due to maintenance.
5. The Permittee shall minimize odor from all printing operations by limiting the substrate fabrics used to only those that are sufficiently clean (i.e. minimum wax and oil impurities), and by the application of only non-pigment and formaldehyde free print paste formulations.
6. Notwithstanding the above condition, the application of Vat and/or Nylon Dyes containing no greater than 1%, by weight, pigment black is permitted on Print Machine No. 1 and Print Machine No. 2 when necessary to meet United States military infra-red specifications. The usage of permitted pigment black additive shall not exceed:
  - a)  $\leq 8,567$  lbs of pigment black additive usage per month.
  - b)  $\leq 57,825$  lbs of pigment black additive usage per consecutive twelve month period.
7. The substrate fabric used when printing with Vat and/or Nylon Dyes containing the black pigment additive shall be limited to 100% nylon fabrics and 50% nylon/50% cotton blend fabrics.
8. The Permittee shall, at all times while operating, maintain a vacuum (negative pressure) in the print machine ovens to ensure exhaust capture efficiency for Print Machine No. 2 of 100%.
9. The Permittee shall ensure proper odor control, zero (0) percent opacity and a minimum particulate matter removal efficiency of 99% (by weight), or achieve a maximum particulate matter emission rate of  $\leq 0.005$  grains per dry standard cubic foot, from ESP No. 3 by maintaining a manufacturer's recommended secondary voltage of  $\geq 10\text{kV}$  in ESP No. 3 at all times while operating. At low load conditions, the ESP No. 3 minimum particulate matter removal efficiency of 99% may not be achieved, but at no time shall the particulate matter emission rate exceed 0.005 grains per dry standard cubic foot.
10. The Permittee shall ensure proper odor control, zero (0) percent opacity and a minimum particulate matter removal efficiency of 99% (by weight), or achieve a maximum particulate matter emission rate of  $\leq 0.005$  grains per dry standard cubic foot, from ESP No. 3 by maintaining the following scrubber pressure differential and liquid flow rate in Venturi Scrubber No. 9 at all times while conducting printing operations on Print Machine No. 2. At low load conditions, the ESP No. 3 minimum particulate matter removal efficiency of 99% may not be achieved, but at no time shall the particulate matter emission rate exceed 0.005 grains per dry standard cubic foot.
  - a) Scrubber inlet duct/outlet duct pressure differential  $\geq 2$  inches water column (" w.c.)
  - b) Scrubber liquid flow rate  $\geq 50$  gallons per minute (gpm)

11. The Permittee shall take any and all measures necessary to ensure the operation of the facility does not result in conditions that cause or contribute to a condition of air pollution as defined in 310 CMR 7.01 and 310 CMR 7.09 due to odor or other air contaminants.
12. The Permittee shall limit VOC usage on Tenter Frame No. 2 as follows:
  - a)  $\leq 0.8$  tons of VOC usage per month
  - b)  $\leq 4.8$  tons of VOC usage per consecutive twelve month period
13. The Permittee shall limit HAP usage on Tenter Frame No. 2 as follows:
  - a)  $\leq 0.3$  tons of HAP usage per month
  - b)  $\leq 1.6$  tons of HAP usage per consecutive twelve month period

**C. EMISSION LIMITATIONS**

---

1. The Permittee shall limit ammonia emissions from Print Machine No. 2 as follows:
  - a)  $\leq 0.4$  tons per month
  - b)  $\leq 2.7$  tons per consecutive twelve month period
2. The Permittee shall limit ammonia emissions from the combined operation of Print Machine No. 1 and Print Machine No. 3 as follows:
  - a)  $\leq 0.4$  tons per month
  - b)  $\leq 2.7$  tons per consecutive twelve month period
3. The Permittee shall limit particulate matter emissions from ESP No. 3 as follows:
  - a)  $\leq 0.005$  grains per dry standard\* cubic foot
  - b)  $\leq 818$  pounds per month
  - c)  $\leq 4.8$  tons per consecutive twelve month period

\* Standard Conditions: Pressure = 760 mmHg (14.7 psia), Temperature = 20° C (68° F, 528° R).
4. The Permittee shall continue to utilize print paste formulations that do not exceed the 0.5 pound of VOC per pound of solids, as applied, formulation emission limit established in VOC RACT Plan Approval No. 4P92012.
5. The Permittee shall take any and all measures necessary such that the operation of ESP No. 3 and Print Machines Nos. 1, 2, and 3 will not result in visible emissions (i.e. zero percent opacity) exclusive of uncombined water vapor.
6. The Permittee shall use fabric finishing mixtures on Tenter Frame No. 2 that do not exceed 0.3 pound of VOC per pound of solids, as applied.
7. The Permittee shall limit VOC emissions on Tenter Frame No. 2 as follows:
  - a)  $\leq 0.8$  tons per month
  - b)  $\leq 4.8$  tons per consecutive twelve month period

8. The Permittee shall limit HAP emissions on Tenter Frame No. 2 as follows:
  - a)  $\leq 0.3$  tons per month
  - b)  $\leq 1.6$  tons per consecutive twelve month period

**D. MONITORING AND RECORDKEEPING REQUIREMENTS**

---

1. The Permittee shall maintain daily production records for all print lines at the facility that clearly identifies the date, operating time, substrate, name of formulation applied, amount of formulation applied and formulation description.
2. The Permittee shall establish and maintain on site, in a form suitable for inspection (e.g. notebook), a recordkeeping system identifying the details of each individual component and/or print formulation used on Print Machine No. 1 through No. 3 including, but not limited to: density, VOC by weight percent, individual HAP by weight percent, solids content by weight percent, ammonia content by weight percent.
3. The Permittee shall maintain monthly and consecutive twelve month period records of ammonia used and emitted from Print Machine operations to demonstrate compliance with the emission limits in this approval.
4. The Permittee shall maintain a record of fabric finish mixtures applied on Tenter Frame No. 2, with formulation data to include VOC, HAP and solids content (by weight), in order to track usage and emissions and to demonstrate compliance with the as applied limit of 0.3 pound of VOC per pound of solids.
5. The Permittee shall maintain monthly and consecutive twelve month period records of VOC and HAP used and emitted from Tenter Frame No. 2 operations to demonstrate compliance with the emission limits in this approval.
6. The Permittee shall maintain monthly and consecutive twelve month period records of Particulate Matter emitted from ESP No. 3 to demonstrate compliance with the emission limits in this approval.
7. The Permittee shall use and maintain on site the ESP record-keeping logs as proposed in NMCPA No. 4P09022 to demonstrate compliance with the operational limits in this approval.
8. The Permittee shall continuously measure and record, at a minimum every four hours while operating, the following operational parameters for ESP No. 3:
  - a) Secondary current (DC mA)
  - b) Secondary voltage (DC kV)
  - c) HV Power (on/off)
  - d) Fan (on/off)
9. The Permittee shall continuously measure and record, at a minimum every four hours while operating, the following performance indicators for new Venturi Scrubber No. 9 to ensure the guaranteed minimum destruction/removal efficiency.

- a) Scrubber inlet duct and outlet duct pressure differential (inches water column)
  - b) Scrubber liquid flow rate (gallons per minute)
10. The Permittee shall install, calibrate, maintain, and continuously operate all monitoring equipment (e.g. voltage/current meters, differential pressure gauges, flow meters) according to manufacturer's specifications, but no less than annually.
11. The Permittee shall, for the existing unmodified control equipment, continuously measure, and record every four (4) hours while operating, the operational status in accordance with the approved record keeping form to include the following parameters:
- a) ESP 1 and ESP 2:
    - i) Secondary current (DC mA)
    - ii) Secondary voltage (DC kV)
    - ii) HV Power (on/off)
    - iv) Fan (on/off)
  - b) Venturi Scrubber No. 1 through 8:
    - i) scrubber liquid flow (on/off)
12. Records documenting compliance with the provisions of this Conditional Approval shall include, but not be limited to:
- a) Maintaining a notebook(s) containing a record of all malfunctions and maintenance performed on all approved textile processing equipment and associated air pollution control equipment. This record shall include the date of the malfunction, if applicable, and/or performed maintenance, a summary the maintenance performed, and the result of the maintenance with respect to the original intent.
  - b) Monitored parameters for capture and control equipment as identified above and in accordance with the submitted "Control Equipment Monitoring Plan".
13. A copy of these records must be kept readily available on-site for a period of five (5) years and shall be available to Department and/or US EPA personnel upon request.

**E. NOTIFICATIONS AND REPORTING**

---

1. The Department's Compliance/Enforcement Chief for the Bureau of Waste Prevention Southeast Regional Office, must be notified by telephone, or by fax within twenty-four (24) hours, and with written notification within ten (10) days, after the occurrence of any upsets or malfunctions to the facility equipment, air pollution control equipment, or monitoring equipment that result in an excess emission to the air and/or a condition of air pollution.
2. All notifications and reporting required by this Conditional Approval shall be made to the attention of:

Department of Environmental Protection  
Bureau of Waste Prevention  
20 Riverside Drive  
Lakeville, Massachusetts 02347

Attn: Gregg Hunt, Section Chief  
Compliance and Enforcement Section

Telephone: (508) 946-2878

Fax: (508) 947-6557

**F. SPECIAL CONDITIONS**

---

1. Operation of the facility print machines shall at no time result in a condition of air pollution with respect to the Department policy regarding Allowable Ambient Levels (AALs) and Threshold Effect Exposure Levels (TELEs).
2. The Permittee shall install a visible alarm system to signal plant personnel and equipment operators of a failure or malfunction in ESP No. 3 and/or the Venturi Scrubber No. 9.
3. Approval SE-14-005 supersedes the Non-Major Comprehensive Plan Application Approval No. 4P09022, issued on October 6, 2009. The underlying application, as approved on October 6, 2009, remains valid.
4. In accordance with Special condition No. 18 of Plan Approval No 4P09033, the MassDEP revokes Approval No. 4P09033, making it null and void.
5. The Permittee shall continue to maintain the Odor Complaint and Assessment Log as established by Administrative Consent Order No. ACO-SE-07-7001, Amendment No. 2, dated June 1, 2009.

**G. GENERAL CONDITIONS**

---

1. If any nuisance condition(s) should be generated by the operation of this facility, then the facility shall take immediate appropriate steps to abate the nuisance condition(s), including shutdown if necessary.
2. If asbestos remediation/removal should be required as a result of the approved construction, reconstruction, or alteration of this facility, removal/remediation of asbestos

shall be done in accordance with Regulation 310 CMR 7.15 in its entirety and 310 CMR 4.00.

3. The facility shall allow Department and/or USEPA personnel access to the plant site, buildings, and all pertinent records at all times for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.
4. Please be advised that this Conditional Approval does not negate the responsibility of the facility to comply with other applicable federal, state, or local regulations now or in the future.
5. This Conditional Approval may be suspended, modified, or revoked by the Department if, at any time, the Department determines that the facility is violating any condition or part of this Conditional Approval.
6. The Department's Compliance/Enforcement Chief for the Bureau of Waste Prevention at this Office must be notified by telephone, or fax as soon as possible after the occurrence of any upsets or malfunctions to the facility equipment, air pollution control equipment, or monitoring equipment that result in an excess emission to the air and/or a condition of air pollution.
7. Emissions from the facility approved herein shall be reported on subsequent source registrations as required by 310 CMR 7.12.
8. Any proposed increase in emissions above the limits contained in this Conditional Approval must first be approved in writing by the Department pursuant to the Department's Air Pollution Control Regulations. In addition, any increase may subject the facility to additional regulatory requirements.
9. The ability of the facility to maintain emission rates at or below the levels stated in this Conditional Approval shall be demonstrated to the Department in the future if deemed necessary.
10. Any future compliance tests that may be required at this facility shall be conducted in accordance with procedures set forth by the appropriate EPA Reference Test Methods and Air Pollution Control Regulations, 310 CMR 7.00, Section 7.13. A written pretest protocol must be submitted to this Office for written Department approval at least 30 days prior to the actual test. A test results report shall be submitted to this Office within 30 days after the completion of any required compliance testing.
11. The facility shall comply with all provisions contained in this Conditional Approval. Should there be any differences between provisions contained in "General Conditions" and provisions contained elsewhere in the Conditional Approval, the latter shall govern.
12. The facility shall be constructed and operated in strict accordance with the application approved herein. Should there be any differences between the aforementioned application and this approval letter, this approval letter shall govern.
13. The facility shall continue to investigate pollution prevention, which includes the feasibility of implementing alternative technologies or reformulated raw material inputs,

including but not limited to, coatings that will lead to the decrease of overall emissions from the facility to the environment (air emissions, solvent waste, etc.). The facility shall record any information supplied relative to reducing overall emissions and pollution prevention techniques. This information as well as any progress toward decreasing overall emissions to the environment shall be recorded in a logbook or similar recordkeeping system.

The Department has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Environmental Affairs, for air quality control purposes, was not required prior to this action by the Department. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and Regulations 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.

The enforceable conditions contained herein, establish the federally enforceable status of this **CONDITIONAL APPROVAL**. The Department reserves the right to require changes in the standard operating and/or maintenance procedures and record keeping systems, and to require additional process monitoring if it is determined necessary by the Department to ensure continuous compliance with the Air Quality Control Regulations contained in 310 CMR 7.00.

This Approval is an action of the Department; you have a limited right to appeal. Please refer to the enclosed "APPEAL" information.

Enclosed is one stamped approved copy of the application submittal.

Should you have any questions pertaining to this **CONDITIONAL APPROVAL**, please contact Peter Russell at the Regional Office at (508) 946-2821.

Very truly yours,

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

Thomas Cushing, Chief  
Permit Section  
Bureau of Waste Prevention

Enclosure

C/PR

ecc (without application enclosure):  
New Bedford Health Department  
Robert Cruise, Brittany Dyeing and Printing Corp.  
Maria Pinaud, Deputy Regional Director, BWP/SERO  
Laura Black, MassDEP/BWP/SERO  
Peter Russell, MassDEP/BWP/SERO  
Yi Tian, MassDEP/BWP/BC-Boston

## ATTACHMENT 1

### APPEAL OF APPROVAL

This Approval is an action of the Department. 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 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 Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to 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

The 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.

The Department 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.