



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL  
HIGHLAND COUNTY**

**CERTIFIED MAIL**

Street Address:

122 S. Front Street

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center  
P.O. Box 1049

**Application No: 05-12804**

**DATE: 9/30/2003**

Candle-Lite  
Ken Cassidy  
37 West Broad Street  
Columbus, OH 43215

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission  
309 South Fourth Street, Room 222  
Columbus, Ohio 43215

Sincerely,

Michael W. Ahern, Supervisor  
Field Operations and Permit Section  
Division of Air Pollution Control

cc: USEPA

SWDO



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**Permit To Install  
Terms and Conditions**

**Issue Date: 9/30/2003  
Effective Date: 9/30/2003**

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**FINAL PERMIT TO INSTALL 05-12804**

Application Number: 05-12804  
APS Premise Number: 0536000020  
Permit Fee: **\$6500**  
Name of Facility: Candle-Lite  
Person to Contact: Ken Cassidy  
Address: 37 West Broad Street  
Columbus, OH 43215

Location of proposed air contaminant source(s) [emissions unit(s)]:  
**250 Eastern Avenue  
Leesburg, Ohio**

Description of proposed emissions unit(s):  
**Seven candle filling lines.**

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Candle-Lite

PTI Application: 05-12804

Issued: 9/30/2003

Facility ID: 0536000020

## Part I - GENERAL TERMS AND CONDITIONS

### A. Permit to Install General Terms and Conditions

#### 1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

#### 2. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

#### 3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

#### 4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized

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representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

**5. Scheduled Maintenance/Malfunction Reporting**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

**6. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

**7. Air Pollution Nuisance**

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

**8. Termination of Permit to Install**

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

**9. Construction of New Sources(s)**

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions

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and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

**10. Public Disclosure**

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

**11. Applicability**

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

**12. Best Available Technology**

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

**13. Source Operation and Operating Permit Requirements After Completion of Construction**

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the emissions unit(s) covered by this permit.

**Candle-Lite****PTI Application: 05-12804****Issued: 9/30/2003****Facility ID: 0536000020****14. Construction Compliance Certification**

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

**15. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

**B. Permit to Install Summary of Allowable Emissions**

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

**SUMMARY (for informational purposes only)**  
**TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS**

<u>Pollutant</u>	<u>Tons Per Year</u>
VOC	31.32

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

- 1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P030 - Candle filling line 1	OAC rule 3745-31-05	0.838 lb. of VOC/hr 20.11 lbs of VOC/day 3.67 tons of VOC/yr  0.438 ton of VOC/yr-from the marking inks
	OAC rule 3745-21-07	The emissions limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

**2. Additional Terms and Conditions**

- 2.a Compliance with OAC rule 3745-31-05 (A) (3) shall be demonstrated by the use of good operating practices designed to minimize emissions.

**B. Operational Restrictions**

- 1. Fill station wax hoppers shall be equipped with lids and kept in a closed position unless internal access is required.

**C. Monitoring and/or Recordkeeping Requirements**

- 1. The permittee shall maintain records of the following information:
  - a. the maximum product fill rate of the process equipment.
  - b. calculations or the results of any tests conducted to demonstrate compliance with the

hourly emission limitation and annual mass emission limitations specified in A.1.

2. The permittee shall collect and record the following information each year for the marking ink operation:
  - a. The company identification for each coating and cleanup material employed.
  - b. The number of gallons of the marking ink and cleanup material employed
  - c. The VOC content of the marking ink and cleanup materials as applied.
  - d. calculations or the results of any tests conducted to demonstrate compliance with the annual marking ink emission limitation specified in A.1.

#### **D. Reporting Requirements**

1. The permittee shall submit annual reports which specify the total actual and permit allowable organic compound emissions from this emissions unit and from the marking ink emissions for the previous calendar year. This report shall be submitted by January 31 of each year.

#### **E. Testing Requirements**

Compliance with the emissions limitations specified in Section A.I.1. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation:

0.838 lbs. of VOC/hr.

Applicable Compliance Method:

(MPWR) (EF<sub>c</sub>)= 0.838 lbs. of VOC/hr.

where

MPWR= the maximum process weight rate (1,731 lbs. of product/hr)

EF<sub>c</sub>= the emission factor, developed by company-sponsored research is the following:

$$((-0.0003055*(C*100)^2)+(0.0439*(C*100))+0.0011)/1000 = 4.839 \text{ E-04 lb. of VOC/lb. of}$$

product

Where:

C is the fragrance concentration, lb fragrance per lb scented candle wax

EF<sub>c</sub> = Emission factor at C = lb VOC/lb scented wax used

Emissions lb/hr = Candle wax fill rate lb/hr x EF<sub>c</sub>

2. Emission Limitation:

3.67 tons of VOC/yr

Applicable Compliance Method:

(MAER) (MAH) (CONV) = 3.67 tons of VOC/yr

where

MAER= the maximum allowable emission rate (0.838 lbs. of VOC/hr.)

MAH= the maximum annual hours of operation (8,760 hrs./yr.)

CONV= conversion factor (1 ton/2000 lbs.)

3. Emission Limitation:

20.11 lbs of VOC/day

Applicable Compliance Method:

(MAER) (MAH)= 20.11 lbs of VOC/day

where

MAER= the maximum allowable emission rate (0.838 lbs. of VOC/hr.)

MAH= the maximum daily hours of operation (24 hrs./day)

4. Emission Limitation:

0.438 tons of VOC/yr from the marking ink

Applicable Compliance Method:

(EF) (MAH) (CONV) = 0.438 tons of VOC/yr from the marking ink

where

EF= the emission factor, based on company-sponsored research (0.1 lbs of VOC/hr)

MAH= the maximum annual hours of operation (8,760 hrs./yr)

CONV= conversion factor (1 ton/2000 lbs)

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**Candle-Lite**

**PTI Application: 05 12804**

**Issued**

**Facility ID: 0536000020**

Emissions Unit ID: P030

**F. Miscellaneous Requirements**

None

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P031 - Candle filling line 7	OAC rule 3745-31-05	0.842 lb. of VOC/hr 20.2 lbs of VOC/day 3.69 tons of VOC/yr
	OAC rule 3745-21-07	0.438 ton of VOC/yr-from the marking inks  The emissions limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

2. **Additional Terms and Conditions**

- 2.a Compliance with OAC rule 3745-31-05 (A) (3) shall be demonstrated by the use of good operating practices designed to minimize emissions.

**B. Operational Restrictions**

1. Fill station wax hoppers shall be equipped with lids and kept in a closed position unless internal access is required.

**C. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain records of the following information:

- a. the maximum product fill rate of the process equipment.
  - b. calculations or the results of any tests conducted to demonstrate compliance with the hourly emission limitation and annual mass emission limitations specified in A.1.
2. The permittee shall collect and record the following information each year for the marking ink operation:
- a. The company identification for each coating and cleanup material employed.
  - b. The number of gallons of the marking ink and cleanup material employed
  - c. The VOC content of the marking ink and cleanup materials as applied.
  - d. calculations or the results of any tests conducted to demonstrate compliance with the annual marking ink emission limitation specified in A.1.

**D. Reporting Requirements**

1. The permittee shall submit annual reports which specify the total actual and permit allowable organic compound emissions from this emissions unit and from the marking ink emissions for the previous calendar year. This report shall be submitted by January 31 of each year.

**E. Testing Requirements**

1. Emission Limitation:

0.842 lbs. of VOC/hr.

Applicable Compliance Method:

(MPWR) (EFc)= 0.842 lbs. of VOC/hr.

where

MPWR= the maximum process weight rate (2,564 lbs. of product/hr)

EFc= the emission factor, developed by company-sponsored research is the following:

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$((-0.000207*(C*100)^2)+(0.0298*(C*100))+0.0007)/1000= 3.285 \text{ E-04 lb. of VOC/lb. of product}$

Where:

C is the fragrance concentration, lb fragrance per lb scented candle wax

EFc = Emission factor at C = lb VOC/lb scented wax used

Emissions lb/hr = Candle wax fill rate lb/hr x EFc

2. Emission Limitation:

3.69 tons of VOC/yr

Applicable Compliance Method:

(MAER) (MAH) (CONV) = 3.69 tons of VOC/yr

where

MAER= the maximum allowable emission rate (0.842 lbs. of VOC/hr.)

MAH= the maximum annual hours of operation (8,760 hrs./yr.)

CONV= conversion factor (1 ton/2000 lbs.)

3. Emission Limitation:

20.21 lbs of VOC/day

Applicable Compliance Method:

(MAER) (MAH)= 20.21 lbs of VOC/day

where

MAER= the maximum allowable emission rate (0.842 lbs. of VOC/hr.)

MAH= the maximum daily hours of operation (24 hrs./day)

4. Emission Limitation:

0.438 tons of VOC/yr from the marking ink

Applicable Compliance Method:

(EF) (MAH) (CONV) = 0.438 tons of VOC/yr from the marking ink

where

EF= the emission factor, based on company-sponsored research (0.1 lbs of VOC/hr)

MAH= the maximum annual hours of operation (8,760 hrs./yr)

CONV= conversion factor (1 ton/2000 lbs)

**Candle-Lite**

**PTI Application: 05 12804**

**Issued**

**Facility ID: 0536000020**

**Emissions Unit ID: P031**

**F. Miscellaneous Requirements**

None

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P032 - Candle filling line 6	OAC rule 3745-31-05	0.808 lb. of VOC/hr 19.39 lbs of VOC/day 3.54 tons of VOC/yr
	OAC rule 3745-21-07	0.438 ton of VOC/yr-from the marking inks  The emissions limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3)

### 2. Additional Terms and Conditions

- Compliance with OAC rule 3745-31-05 (A) (3) shall be demonstrated by the use of good operating practices designed to minimize emissions.

### B. Operational Restrictions

- Fill station wax hoppers shall be equipped with lids and kept in a closed position unless internal access is required.

### C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain records of the following information:
  - a. the maximum product fill rate of the process equipment.
  - b. calculations or the results of any tests conducted to demonstrate compliance with the hourly emission limitation and annual mass emission limitations specified in A.1.
2. The permittee shall collect and record the following information each year for the marking ink operation:
  - a. The company identification for each coating and cleanup material employed.
  - b. The number of gallons of the marking ink and cleanup material employed
  - c. The VOC content of the marking ink and cleanup materials as applied.
  - d. calculations or the results of any tests conducted to demonstrate compliance with the annual marking ink emission limitation specified in A.1.

#### **D. Reporting Requirements**

1. The permittee shall submit annual reports which specify the total actual and permit allowable organic compound emissions from this emissions unit and from the marking ink emissions for the previous calendar year. This report shall be submitted by January 31 of each year.

#### **E. Testing Requirements**

1. Emission Limitation:

0.808 lbs. of VOC/hr.

Applicable Compliance Method:

(MPWR) (EFc)= 0.808 lbs. of VOC/hr.

where

MPWR= the maximum process weight rate (2,485 lbs. of product/hr)

EFc= the emission factor, developed by company-sponsored research is the following:

$((-0.000204*(C*100)^2)+(0.0295*(C*100))+0.0007)/1000= 3.253 \text{ E-04 lb. of VOC/lb. of product}$

Where:

C is the fragrance concentration, lb fragrance per lb scented candle wax

EFc = Emission factor at C = lb VOC/lb scented wax used

Emissions lb/hr = Candle wax fill rate lb/hr x EFc

2. Emission Limitation:

19.39 lbs of VOC/day

Applicable Compliance Method:

(MAER) (MAH)= 19.39 lbs of VOC/day

where

MAER= the maximum allowable emission rate (0.808 lbs. of VOC/hr.)

MAH= the maximum daily hours of operation (24 hrs./day)

3. Emission Limitation:

3.54 tons of VOC/yr

Applicable Compliance Method:

(MAER) (MAH) (CONV) = 3.54 tons of VOC/yr

where

MAER= the maximum allowable emission rate (0.808 lbs. of VOC/hr.)

MAH= the maximum annual hours of operation (8,760 hrs./yr.)

CONV= conversion factor (1 ton/2000 lbs.)

4. Emission Limitation:

0.438 tons of VOC/yr from the marking ink

Applicable Compliance Method:

$(EF) (MAH) (CONV) = 0.438$  tons of VOC/yr from the marking ink

where

EF= the emission factor, based on company-sponsored research (0.1 lbs of VOC/hr)

MAH= the maximum annual hours of operation (8,760 hrs./yr)

CONV= conversion factor (1 ton/2000 lbs)

**F. Miscellaneous Requirements**

None

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P033 - Candle filling line 8	OAC rule 3745-31-05	0.962 lb. of VOC/hr 23.09 lbs of VOC/day 4.21 tons of VOC/yr
	OAC rule 3745-21-07	0.438 ton of VOC/yr-from the marking inks  The emissions limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3)

2. **Additional Terms and Conditions**

- 2.a Compliance with OAC rule 3745-31-05 (A) (3) shall be demonstrated by the use of good operating practices designed to minimize emissions.

**B. Operational Restrictions**

1. Fill station wax hoppers shall be equipped with lids and kept in a closed position unless internal access is required.

**C. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain records of the following information:
  - a. the maximum product fill rate of the process equipment.

- b. calculations or the results of any tests conducted to demonstrate compliance with the hourly emission limitation and annual mass emission limitations specified in A.1.
2. The permittee shall collect and record the following information each year for the marking ink operation:
  - a. The company identification for each coating and cleanup material employed.
  - b. The number of gallons of the marking ink and cleanup material employed
  - c. The VOC content of the marking ink and cleanup materials as applied.
  - d. calculations or the results of any tests conducted to demonstrate compliance with the annual marking ink emission limitation specified in A.1.

#### **D. Reporting Requirements**

1. The permittee shall submit annual reports which specify the total actual and permit allowable organic compound emissions from this emissions unit and from the marking ink emissions for the previous calendar year. This report shall be submitted by January 31 of each year.

#### **E. Testing Requirements**

1. Emission Limitation:

0.962 lb of VOC/hr.

Applicable Compliance Method:

Station 1 MPWR) (Station 1 EFC)  
 + (Station 2 MPWR) (Station 2 EFC)  
 + (Station 3 MPWR) (Station 3 EFC)  
 = 0.962 lb of VOC/hr.

where

Station MPWR = the maximum process weight rate per fill station =

Station 1: 873 lb scented wax/hr  
 Station 2: 873 lb scented wax/hr

Station 3: 1508 lb scented wax/hr

EFc= the emission factor, developed by company-sponsored research for each station is the following:

Station 1 EFc =

$$0.6253 * [((-0.000207 * (C * 100)^2) + (0.0298 * (C * 100)) + 0.0007) / 1000] = 2.057 \text{ E-4}$$

$$\text{Station 2 EFc} = ((-0.000207 * (C * 100)^2) + (0.0298 * (C * 100)) + 0.0007) / 1000 = 3.285 \text{ E-4}$$

$$\text{Station 3 EFc} = ((-0.000207 * (C * 100)^2) + (0.0298 * (C * 100)) + 0.0007) / 1000 = 3.285 \text{ E-4}$$

Where:

C is the fragrance concentration, lb fragrance per lb scented candle wax

EFc = Emission factor at C = lb VOC/lb scented wax used at the fill station

Emissions lb/hr = Candle wax fill rate lb/hr at fill station x EFc for fill station

2. Emission Limitation:

23.09 lbs of VOC/day

Applicable Compliance Method:

(MAER) (MAH) = 23.09 lbs of VOC/day

where

MAER= the maximum allowable emission rate (0.962 lbs. of VOC/hr.)

MAH= the maximum daily hours of operation (24 hrs./day)

3. Emission Limitation:

4.21 tons of VOC/yr

Applicable Compliance Method:

(MAER) (MAH) (CONV) = 4.21 tons of VOC/yr

where

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MAER= the maximum allowable emission rate (0.962 lb of VOC/hr.)

MAH= the maximum annual hours of operation (8,760 hrs./yr.)

CONV= conversion factor (1 ton/2000 lbs.)

4. Emission Limitation:

0.438 tons of VOC/yr from the marking ink

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**Candl**

**PTI A**

**Issued: 9/30/2003**

Emissions Unit ID: **P033**

Applicable Compliance Method:

$(EF) (MAH) (CONV) = 0.438$  tons of VOC/yr from the marking ink

where

EF= the emission factor, based on company-sponsored research (0.1 lbs of VOC/hr)

MAH= the maximum annual hours of operation (8,760 hrs./yr)

CONV= conversion factor (1 ton/2000 lbs)

**F. Miscellaneous Requirements**

None

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P034 - Candle filling line 4	OAC rule 3745-31-05	1.233 lbs. of VOC/hr 29.59 lbs of VOC/day 5.40 tons of VOC/yr
	OAC rule 3745-21-07	0.438 ton of VOC/yr-from the marking inks
		The emissions limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3)

**2. Additional Terms and Conditions**

- 2.a** Compliance with OAC rule 3745-31-05 (A) (3) shall be demonstrated by the use of good operating practices designed to minimize emissions.

**B. Operational Restrictions**

1. Fill station wax hoppers shall be equipped with lids and kept in a closed position unless internal access is required.

**C. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain records of the following information:
  - a. the maximum product fill rate of the process equipment.
  - b. calculations or the results of any tests conducted to demonstrate compliance with the hourly emission limitation and annual mass emission limitations specified in A.1.
2. The permittee shall collect and record the following information each year for the marking ink operation:
  - a. The company identification for each coating and cleanup material employed.
  - b. The number of gallons of the marking ink and cleanup material employed
  - c. The VOC content of the marking ink and cleanup materials as applied.
  - d. calculations or the results of any tests conducted to demonstrate compliance with the annual marking ink emission limitation specified in A.1.

#### **D. Reporting Requirements**

1. The permittee shall submit annual reports which specify the total actual and permit allowable organic compound emissions from this emissions unit and from the marking ink emissions for the previous calendar year. This report shall be submitted by January 31 of each year.

#### **E. Testing Requirements**

1. Emission Limitation:

1.233 lbs. of VOC/hr.

Applicable Compliance Method:

(MPWR) (EFc)= 1.233 lbs. of VOC/hr.

where

MPWR= the maximum process weight rate (2,308 lbs. of product/hr)

EFc= the emission factor, developed by company-sponsored research is the following:

$((-0.000339*(C*100)^2)+(0.0485*(C*100))+0.0012)/1000= 5.344 \text{ E-04 lb. of VOC/lb. of product}$

Where:

C is the fragrance concentration, lb fragrance per lb scented candle wax

EFc = Emission factor at C = lb VOC/lb scented wax used

Emissions lb/hr = Candle wax fill rate lb/hr x EFc

2. Emission Limitation:

29.59 lbs of VOC/day

Applicable Compliance Method:

(MAER) (MAH)= 29.59 lbs of VOC/day

where

MAER= the maximum allowable emission rate (1.233 lbs. of VOC/hr.)

MAH= the maximum daily hours of operation (24 hrs./day)

3. Emission Limitation:

5.40 tons of VOC/yr

Applicable Compliance Method:

(MAER) (MAH) (CONV) = 5.40 tons of VOC/yr

where

MAER= the maximum allowable emission rate (1.233 lbs of VOC/hr.)

MAH= the maximum annual hours of operation (8,760 hrs./yr.)

CONV= conversion factor (1 ton/2000 lbs.)

4. Emission Limitation:

0.438 tons of VOC/yr from the marking ink

**Candle-Lite****PTI Application: 05 12804****Issued****Facility ID: 0536000020**Emissions Unit ID: **P034**

Applicable Compliance Method:

 $(EF) (MAH) (CONV) = 0.438$  tons of VOC/yr from the marking ink

where

EF= the emission factor, based on company-sponsored research (0.1 lbs of VOC/hr)

MAH= the maximum annual hours of operation (8,760 hrs./yr)

CONV= conversion factor (1 ton/2000 lbs)

**F. Miscellaneous Requirements**

None

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P035 - Candle filling line 5	OAC rule 3745-31-05	1.211 lbs. of VOC/hr 29.06 lbs. of VOC/day 5.30 tons of VOC/yr
	OAC rule 3745-21-07	0.438 ton of VOC/yr-from the marking inks  The emissions limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3)

### 2. Additional Terms and Conditions

- Compliance with OAC rule 3745-31-05 (A) (3) shall be demonstrated by the use of good operating practices designed to minimize emissions.

### B. Operational Restrictions

- Fill station wax hoppers shall be equipped with lids and kept in a closed position unless internal access is required.

### C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain records of the following information:
  - a. the maximum product fill rate of the process equipment.
  - b. calculations or the results of any tests conducted to demonstrate compliance with the hourly emission limitation and annual mass emission limitations specified in A.1.
2. The permittee shall collect and record the following information each year for the marking ink operation:
  - a. The company identification for each coating and cleanup material employed.
  - b. The number of gallons of the marking ink and cleanup material employed
  - c. The VOC content of the marking ink and cleanup materials as applied.
  - d. calculations or the results of any tests conducted to demonstrate compliance with the annual marking ink emission limitation specified in A.1.

#### **D. Reporting Requirements**

1. The permittee shall submit annual reports which specify the total actual and permit allowable organic compound emissions from this emissions unit and from the marking ink emissions for the previous calendar year. This report shall be submitted by January 31 of each year.

#### **E. Testing Requirements**

1. Emission Limitation:

1.211 lbs. of VOC/hr.

Applicable Compliance Method:

(MPWR) (EFc)= 1.211 lbs. of VOC/hr.

where

MPWR= the maximum process weight rate (2,308 lbs. of product/hr)

EFc= the emission factor, developed by company-sponsored research is the following:

$((-0.000331*(C*100)^2)+(0.0476*(C*100))+0.0012)/1000= 5.247 \text{ E-04 lb. of VOC/lb. of product}$

Where:

C is the fragrance concentration, lb fragrance per lb scented candle wax  
 EFc = Emission factor at C = lb VOC/lb scented wax used  
 Emissions lb/hr = Candle wax fill rate lb/hr x EFc

2. Emission Limitation:

29.06 lbs of VOC/day

Applicable Compliance Method:

(MAER) (MAH)= 29.06 lbs of VOC/day

where

MAER= the maximum allowable emission rate (1.211 lbs. of VOC/hr.)  
 MAH= the maximum daily hours of operation (24 hrs./day)

3. Emission Limitation:

5.30 tons of VOC/yr

Applicable Compliance Method:

(MAER) (MAH) (CONV) = 5.30 tons of VOC/yr

where

MAER= the maximum allowable emission rate (1.211 lbs of VOC/hr.)  
 MAH= the maximum annual hours of operation (8,760 hrs./yr.)  
 CONV= conversion factor (1 ton/2000 lbs.)

4. Emission Limitation:

0.438 tons of VOC/yr from the marking ink

**Candle-Lite****PTI Application: 05 12804****Issued****Facility ID: 0536000020**Emissions Unit ID: **P035**

Applicable Compliance Method:

 $(EF) (MAH) (CONV) = 0.438$  tons of VOC/yr from the marking ink

where

EF= the emission factor, based on company-sponsored research (0.1 lbs of VOC/hr)

MAH= the maximum annual hours of operation (8,760 hrs./yr)

CONV= conversion factor (1 ton/2000 lbs)

**F. Miscellaneous Requirements**

None

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P036 - Candle filling line 5a	OAC rule 3745-31-05	0.558 lb. of VOC/hr 13.39 lbs of VOC/day 2.44 tons of VOC/yr
	OAC rule 3745-21-07	0.438 ton of VOC/yr-from the marking inks  The emissions limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3)

### 2. Additional Terms and Conditions

- 2.a Compliance with OAC rule 3745-31-05 (A) (3) shall be demonstrated by the use of good operating practices designed to minimize emissions.

### B. Operational Restrictions

1. Fill station wax hoppers shall be equipped with lids and kept in a closed position unless internal access is required.

### C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain records of the following information:
  - a. the maximum product fill rate of the process equipment.
  - b. calculations or the results of any tests conducted to demonstrate compliance with the

hourly emission limitation and annual mass emission limitations specified in A.1.

2. The permittee shall collect and record the following information each year for the marking ink operation:
  - a. The company identification for each coating and cleanup material employed.
  - b. The number of gallons of the marking ink and cleanup material employed
  - c. The VOC content of the marking ink and cleanup materials as applied.
  - d. calculations or the results of any tests conducted to demonstrate compliance with the annual marking ink emission limitation specified in A.1.

#### **D. Reporting Requirements**

1. The permittee shall submit annual reports which specify the total actual and permit allowable organic compound emissions from this emissions unit and from the marking ink emissions for the previous calendar year. This report shall be submitted by January 31 of each year.

#### **E. Testing Requirements**

1. Emission Limitation:

0.588 lbs. of VOC/hr.

Applicable Compliance Method:

(MPWR) (EFc)= 0.588 lbs. of VOC/hr.

where

MPWR= the maximum process weight rate (1,154 lbs. of product/hr)

EFc= the emission factor, developed by company-sponsored research is the following:

$((-0.0003055*(C*100)^2)+(0.0439*(C*100))+0.0011)/1000= 4.839 \text{ E-04 lb. of VOC/lb. of product}$

Where:

C is the fragrance concentration, lb fragrance per lb scented candle wax  
 EFC = Emission factor at C = lb VOC/lb scented wax used  
 Emissions lb/hr = Candle wax fill rate lb/hr x EFC

2. Emission Limitation:

13.39 lbs of VOC/day

Applicable Compliance Method:

(MAER) (MAH) = 13.39 lbs of VOC/day

where

MAER= the maximum allowable emission rate (0.558 lbs. of VOC/hr.)

MAH= the maximum daily hours of operation (24 hrs./day)

3. Emission Limitation:

2.44 tons of VOC/yr

Applicable Compliance Method:

(MAER) (MAH) (CONV) = 2.44 tons of VOC/yr

where

MAER= the maximum allowable emission rate (0.558 lb of VOC/hr.)

MAH= the maximum annual hours of operation (8,760 hrs./yr.)

CONV= conversion factor (1 ton/2000 lbs.)

4. Emission Limitation:

0.438 tons of VOC/yr from the marking ink

Applicable Compliance Method:

(EF) (MAH) (CONV) = 0.438 tons of VOC/yr from the marking ink

where

**Candle-Lite**

**PTI Application: 05 12804**

**Issued**

**Facility ID: 0536000020**

Emissions Unit ID: **P036**

EF= the emission factor, based on company-sponsored research (0.1 lbs of VOC/hr)

MAH= the maximum annual hours of operation (8,760 hrs./yr)

CONV= conversion factor (1 ton/2000 lbs)

**F. Miscellaneous Requirements**

None