Parker-Hannifin Corporation Chomerics Division 16 Flagstone Drive Hudson, NH 03051	]]]]]	**FINAL RACT ORDER ISSUED** **July 18, 2002** **ARD-03-001** **Amended 10/22/2014**

A. Introduction

This RACT Order is issued by the New Hampshire Department of Environmental Services, Air Resources Division, to Parker-Hannifin Corporation, Chomerics Division (Chomerics), pursuant to RSA 125-C.

B. Parties

1. The New Hampshire Department of Environmental Services, Air Resources Division (DES), is a duly constituted administrative agency of the State of New Hampshire having its principal offices at 29 Hazen Drive, Concord, NH 03302, telephone number (603) 271-1370.
2. Parker-Hannifin Corporation is an Ohio-based corporation with a license to perform business in New Hampshire at the mailing address of 16 Flagstone Drive, Hudson, NH 03051-4992, telephone number (603) 579-5732.

C. Statements of Fact and Law

1. Chomerics owns and operates a facility located on Flagstone Drive in Hudson, NH primarily engaged in the production of coated fabrics, films and other substrates for use in electrical shielding and thermal management materials in the electronics industry. The following four continuous web coaters are utilized at this facility: Faustel horizontal coater, Wolverine I horizontal coater, Wolverine II horizontal coater, and Magnat Tower (vertical) coater. Each coating station is enclosed in a permanent total enclosure (PTE) that meets the criteria of the Code of Federal Regulations 40 CFR Part 51 Appendix M, EPA Method 204. Therefore, VOC capture efficiency from the coating operations is assumed to be 100%. The dryer exhausts from each of the coaters are connected to a TEC Systems catalytic oxidizer model Magnum 1700 ("CATOX"). In addition to the four coaters, the facility has a solvent storage room for storage of raw adhesives and solvents used in the coating operation, and a "mixing" room, where the various constituents are combined and mixed prior to delivery to the coaters.
2. Effective August 19, 1995, DES re-adopted the New Hampshire Code of Administrative Rules Env-A 1204, *Stationary Sources of Volatile Organic Compounds (VOCs)* with amendments. This chapter defines which facilities are subject to Reasonably Available Control Technology (RACT) requirements and specifies these RACT requirements for affected facilities.
3. Chomerics was issued RACT Order ARD-03-001 on July 18, 2002. The RACT Order specifies monitoring and testing for the CATOX to determine Destruction Removal Efficiency (DRE) and allows the generation and use of Discrete Emission Reductions (DERs) or Emission Reduction Credits (ERCs) in order to comply with VOC reduction requirements.

Accordingly, as of January 1, 2014, Chomerics has approximately 45 DER credits in its bank to use or sell.

4. Effective December 31, 2002, DES re-adopted the New Hampshire Code of Administrative Rules Env-A 1204, with amendments.
5. The coating operations, including the CATOX, are currently covered under a State Permit to Operate.
6. Effective June 1, 2011, DES readopted Env-A 1200 (formerly Env-A 1204), with amendments.
7. Chomerics is subject to Env-A 1207 , *Paper, Fabric, Film and Foil Substrates Coating*, because their actual emissions, before controls, equal or exceed 3 tons of non-exempt VOCs during any consecutive 12-month period.
8. On September 27, 2013, Chomerics submitted an application, requesting that testing and monitoring requirements specified in ARD-03-001 D.1. be amended for the CATOX destruction and removal efficiency (DRE). Specifically, Chomerics requested that DRE be determined during the 1st and 3rd quarter of every year. In addition, Chomerics requested that the requirement for bed replacement within eight (8) 8-hour shifts of the most recent DRE test be revised to within 20 shifts. Chomerics proposed that if bed replacement does not occur within 20 shifts, DRE will be assumed to be 0% for the coating operations between the last DRE test and bed changeout.
9. On January 30, 2014, Chomerics submitted a request to limit VOC emission less than 25 tons per year to opt out of the VOC Limitations in Table 1207-1.
10. On March 20, 2014, Chomerics submitted a revised Air Pollution Control Equipment Monitoring Plan which clarifies that the inlet temperature to the catalyst bed is continuously monitored, not the catalyst bed.

D. Order

Based on the statements of fact and law, DES hereby orders Chomerics, effective upon issuance of this order, to comply with the following requirements as RACT:

1. Periodic Monitoring Program

   Chomerics shall conduct monitoring, as detailed below, in order to determine VOC DRE of the CATOX system.

   a. The following monitoring shall be conducted during DRE testing. The monitoring program will consist of simultaneously determining the nonmethane volatile organic compound ("NMVOC") concentration in both the combined inlet duct to the CATOX downstream of the induced draft fan and in the stack. The total VOC concentration at both locations will be monitored for one hour with Total Hydrocarbon ("THC") Flame Ionization Detection ("FID") analyzers operating according to EPA Method 25A. The methane concentration in the outlet gas stream will be determined either by collecting a bag sample and quantifying the methane concentration via a Gas Chromatograph ("GC")/FID or with the hydrocarbon analyzer operating in the methane only mode.

(i) "S" means the VOC emission standard in terms of lb VOC/gal or kg VOC/l of coating solids, as calculated in Part D.2, above;

(ii) "W" means the weight of coating or dilution solvent used in the coating line on a given day in units of lbs/day or kg/day;

(iii) "D" means the density of the coating or dilution solvent in units of lbs/gal coating, or kg/l coating as determined from Method 24 or 24A analysis;

(iv) "VS" means the volume fraction solids content of the coating, in units of gal solids/gal coating or l solids/l coating as determined by calculation using the formulation; and

(v) " E_{al}" shall be equal to the product of S, VS and W divided by D for each coating or dilution solvent used, as in the following equation:

$$E_{al} = S*VS*(W/D)$$

b. Calculation of Daily DRE of the CATOX

Chomerics shall calculate a value for the DRE of the CATOX for each day in which the CATOX operates, using the results of DRE testing as specified in Part D.1.

i. DRE for days between the previous DRE test, and including the date of the most recent DRE test will be the lower of the most recent DRE test result, and the lowest previous DRE test result for the same catalyst bed. In cases where there is a DRE drop between the previous and most recent DRE test, DRE drop can be proportioned linearly among oxidizer operating days, providing there is not a lower previous DRE test for the same catalyst bed.

ii. DRE for the period immediately following the installation of a fresh catalyst bed will be determined as follows: the results of the first test conducted on the system shall be applied backwards to the date that the fresh bed was installed.

c. Calculation of Actual VOC Emissions per Coating per Day

The daily VOC emissions shall be calculated for each coating as follows:

(i) "E_{ac}" means the actual VOC emission rate of a given coating in units of lbs/day or kg/day;

(ii) "W" means the weight of coating or dilution solvent used in the coating line on a given day in units of lbs/day or kg/day;

(iii) "WV" means the weight fraction of VOC content of the coating, in units of lbs VOC/lb coating or kgs VOC/kg coating as determined by calculation using the formulation;

(iv) "DRE" means the destruction removal efficiency of the CATOX calculated using the method described in Part D.3.b, above; and

Alternatively, a second THC analyzer operating in the methane only mode will analyze a slipstream from the main sample line.

b. DRE testing shall occur during the 1st quarter (January – March) and the 3rd quarter (August – October) of every year.

c. In order to determine the lowest DRE achieved prior to replacement of the catalyst bed, testing will be conducted within twenty, 8-hour work shifts prior to the replacement of the spent catalyst with new catalyst. If testing is not conducted within twenty, 8 hour work shifts prior to catalyst replacement, Chomerics will assume 0% DRE for the coating operations between the last DRE test and bed changeout.

d. Chomerics shall operate and maintain equipment to continuously monitor and record the inlet temperature of the catalytic incinerator bed.

2. Calculation of Emission Standard for Sources Complying with VOC RACT Using Add-On Pollution Control.

a. For those Chomerics processes that use add-on pollution control to achieve compliance with Env-A 1205.01, the overall emission standard shall be calculated as follows:

(i) "S" means the VOC emission standard in terms of pounds VOC per gallon (lb VOC/gal) of coating solids, or kilograms VOC per liter (kg VOC/l) of coating solids;

(ii) "E_c" means the VOC emission standard in terms of lb VOC/gal or kg VOC/l of coating, minus water and exempt compounds, obtained from the appropriate section of Env-A 1207; and

(iii) "d_A" means the actual mass density of the VOC in the applied surface coating formulation in terms of lb/gal or kg/l. For those stationary sources that have multiple coating lines feeding add-on control equipment, d_A means the weighted-average actual mass density of the VOC in the applied surface coatings in terms of lb/gal or kg/l.

(iv) S shall be equal to E_c divided by the difference between one and the quotient of E_c and d_A, as in the following equation:

$$S = \frac{E_c}{[1 - E_c / d_A]}$$

3. Emissions Calculation for the Generation and Use of Emission Credits

Chomerics shall use the simultaneous generation and use of emission credits, along with the calculations described in Part D.3.a through d, below, as a means of complying with the VOC RACT requirements of Env-A 1207.

a. Calculation of Allowable VOC Emissions per Coating per Day

The daily allowable VOC emissions shall be calculated for each coating as follows:

(i) "E_{al}" means the allowable VOC emission rate of a given coating in units of lbs/day or kg/day;

(v) "E_{ac}" shall be equal to the product of W and WV multiplied by the DRE subtracted from one, as in the following equation:

$$E_{ac} = W*WV*(1\text{-}DRE)$$

d. Emission Credit Use and Generation Calculations

Chomerics shall subtract the actual VOC emission rate (E_{ac}) from the allowable VOC emission rate ~~(E_{al}) to determine if emission~~ credits will be used or generated on a given day using the following criteria.

(i) If the result of the subtraction is a positive number, then the emissions are below the requirements of VOC RACT and the amount equal to the difference between E_{al} and E_{ac} will count towards emissions credits;

(ii) If the result of the subtraction is a negative number, then the emissions exceed the VOC RACT requirements and emission credits equal to the difference between E_{al} and E_{ac} shall be used to offset these excess emissions.

(iii) Chomerics shall determine the overall generation or usage of credits for each operating day by adding the results of the calculations specified in 3.d.(i) and (ii) for each coating used that would be defined as a non-compliant coating per Env-A 1203.52, *Definitions,* prior to control.

(iv) Actual emission credits shall be calculated by taking the amount of credited emissions determined by the method specified in 3.d.(iii) and multiplying them by a safety factor of 0.9.

(v) To calculate the amount of credits needed to offset excess emissions the excess emissions determined by the method specified in 3.d.(iii) will be divided by an environmental impact factor of 0.9.

4. Bypass Operating Program

a. Emissions from compliant coatings, as defined in Env-A 1202.38, *Definitions*, do not require add-on controls to meet VOC RACT requirements. Therefore, Chomerics shall be allowed to bypass these emissions from the CATOX.

b. Records shall be maintained as required in Part D.5 to show that all bypassed coatings meet the requirements of VOC RACT without add-on controls.

c. Bypassed coatings shall not be used to generate emission credits.

5. Recordkeeping Requirements

Chomerics shall maintain the following records in order to show compliance with this Order. Each record shall be kept for a period of at least five years.

a. All coatings used at the facility after the issuance of this RACT order shall be either tested using Methods below or the facility will retain sufficient records for prima facie evidence in support of demonstrating compliance with the VOC RACT limit.

(i) Method 24, 40 CFR Part 60, Appendix A at 1-hour bake time, or an alternative test method approved by the Director and EPA; or

(ii) Method 24A, 40 CFR Part 60, Appendix A, or an alternative test method approved by the Director and EPA.

(iii) The testing required above will be required for existing coatings used at the facility at the time that the coating is first ordered or used after the issuance of this RACT Order. Chomerics shall have 30 days from the time that the coating is first used after the issue date of this order to certify the VOC content of the coating.

c. All DRE test data and results conducted in conjunction with Part D.1; and

d. Daily records of coatings used in the coating process.

e. Records of all calculations, as detailed in Part D.3.

6. Work Practice Standards

Chomerics shall comply with the work practice standards specified in Env-A 1207.02. VOC emissions from cleaning materials shall be controlled using the following work practices:

a. Storing VOC-containing cleaning materials in closed containers;

b. Keeping mixing and storage containers closed at all times except when depositing or removing VOC-containing materials;

c. Minimizing spills of VOC-containing cleaning materials;

d. Conveying VOC-containing cleaning materials from one location to another in closed containers or pipes; and

e. Minimizing VOC emissions from the cleaning of storage, mixing, and conveying equipment.

E. Emissions Reductions Credits

1. Chomerics shall be allowed to use discrete emissions reductions (DERs) or emissions reductions credits (ERCs) for the purpose of satisfying the requirements of this Order by acquiring DERs or ERCs on the open market or by self-generating DERs or ERCs in accordance with Env-A 3000, *Emissions Reduction Credits Trading Program* and Env-A 3100, *Discrete Emissions Reduction Trading Program.*

2. This Order grants approval to Chomerics to use those DERs or ERCs in accordance with the procedures described in Env-A 3000 and Env-A 3100.

3. Chomerics shall acquire additional DERs if at least one full credit for each season is not available in the bank. If at any time, DERs are needed to show compliance with this order, Chomerics shall submit the requisite notices to DES.

4. Annually by November 30, Chomerics shall submit a report to DES on the projected use of credits for the upcoming year. This report shall meet the requirements of Env-A 3104.08, *Notice of Intent to Use DERs*, including the following information:

a. The name and location of the user (Chomerics);

b. A copy of the Notice and Certification of Generation submitted by the generator source (Chomerics) to the State (for paperwork reduction purposes, a certified statement that the notice is on file with DES will suffice);

c. The protocol, including sample calculations, used to document the amount of DERs needed to demonstrate compliance; and

d. A certified statement attesting that Chomerics is in compliance with Env-A 1400, *Regulated Toxic Air Pollutants.*

5. Annually by April 15, Chomerics shall submit a report to DES on the balance of credits for the previous calendar year. This report shall meet the requirements of Env-A 3103.08, *Notice and Certification of Generation* and Env-A 3104.09, *Notice and Certification of Use*, including the following information:

   a. The name and location of the owner or operator of the source;

   b. A brief description of the generation activity;

   c. A list of the source's applicable allowable emission rates;

   d. The amount of DERs generated each month;

   e. A calculation of the amount of DERs generated;

   f. The amount of DERs used each month;

   g. A calculation of the amount of DERs required to demonstrate compliance with the emission limits stated in Part D, above;

   h. A statement that the reductions were calculated in accordance with Env-A 3103.07;

   i. A statement that the DERs were not generated in whole or in part from actions prohibited pursuant to Env-A 3103.07;

   j. A statement that due diligence was made to verify that the DERs were not previously used, and not generated as a result of actions prohibited under the regulations or other provisions of law;

   k. A statement that the DERs were not used in a manner prohibited under the regulation or other provisions of law; and

   l. The report shall contain a certification by a responsible official that states:

      i. Based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete; and

      ii. The user source is in compliance with all National Ambient Air Quality Standards, except ground level ozone, and all Ambient Air Limits for Regulated Toxic Air Pollutants.

Please address any correspondence and communication in reference to this Order to the following:

Air Permit Programs Manager
NHDES, Air Resources Division
Bureau of Permitting and Environmental Health Permitting
29 Hazen Drive
P.O. Box 95
Concord, NH 03302-0095
(603) 271-2630

Please address any correspondence and communication in reference to the ERCs or DERs to the following:

Mr. Joseph Fontaine
NHDES, Air Resources Division
29 Hazen Drive
P.O. Box 95
Concord, NH 03302-0095
(603) 271-6794

Craig A. Wright
Director
Air Resources Division

cc: Timothy Drew, PIP Office
Curt Spaulding, USEPA
Town of Hudson