



STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION



STATE OF CONNECTICUT)
AND) Trading Agreement and
CYTEC INDUSTRIES INC.) Order NO. 8114

Whereas, the Commissioner of Environmental Protection ("Commissioner") and CYTEC Industries Inc. ("CYTEC") ("Company") agree that it is in the public interest that they work cooperatively to improve the air quality within the State of Connecticut and that the use of emissions averaging ("averaging") and emission reduction credit ("ERC") trading will achieve this result in a timely and cost-effective manner:

- A. At the request and with the agreement of CYTEC, the Commissioner finds the following:
1. CYTEC is a corporation that owns and operates a plastics and resin research and manufacturing facility at 425 South Cherry Street in Wallingford, Connecticut ("facility").
2. At the facility, CYTEC operates the following equipment: three boilers #1, 3, and 4, one hot oil furnace, one spray dryer, and one multi-hearth sludge incinerator ("unit(s)") which are subject to the requirements of § 22a-174-22 of the Regulations of Connecticut State Agencies ("Regulations") pertaining to the control of Nitrogen Oxides ("NOx").
3. Official U.S. Environmental Protection Agency ("EPA") Method 7 stack tests performed March 28 - April 13, 1995, resulted in NOx emissions rates as follows:

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Table 1 CYTEC - STACK TEST RESULTS & RACT RATE LIMITS					
UNIT	Reg. #	Fuel	Heat Input MMBtu/hr	Stack Test Rate lbs/MMBtu	RACT Rate lbs/MMBtu
Boiler #1	108	No. 6 oil	80	0.390*	0.25
		Natural Gas	80	0.093	0.20
Boiler #3	110	No. 6 oil	89	0.300*	0.25
		Natural Gas	89	0.161	0.20
Boiler #4	109	No. 2 oil	21	0.101	0.20
		Natural Gas	21	0.080	0.20
		Waste Alcohol	14.5	0.151	0.30
		Waste Toluene	12.6	0.655*	0.30
Sludge Incinerator	P10	Sludge and No. 2 oil	11	0.632*	0.33
Hot Oil Furnace	P9	No. 2 oil	11	0.155	0.20
		Natural Gas	11	0.098	0.20
Spray Dryer	173	No. 2 oil	10	0.173 (122.6 ppm)	0.254 (180 ppm)
		Natural Gas	10	0.107 (103.7 ppm)	0.186 (180 ppm)

* Indicates emission rate is in excess of Section 22a-174-22, Table 22-2 of the Regulations emission rate limits.

4. In 1990, these units emitted a total of 56.24 tons of NO_x emissions.
5. At the facility, CYTEC proposes to comply with § 22a-174-22 of the Regulations, through emissions averaging and emission reduction trading in accordance with § 22a-174-22(d) (4) and (j) of the Regulations.
6. On May 21, 1996, pursuant to §22a-174-22 (j) of the Regulations, CYTEC purchased 22 tons of approved ERCs. Additional approved ERCs will be purchased as required.
7. The use of emission reduction trading and emission averaging are forms of emission trading as defined in the United States Environmental Protection Agency Economic Incentive Plan rules, 40 C.F.R. § 51.493 et seq.

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8. CYTEC will comply with the requirements of § 22a-174-22 of the Regulations by using discounts, a facility emission limitation or "cap" and design margin specified in this order.
- B. The Commissioner, in accordance with the provisions of this trading agreement and order, and pursuant to §§ 22a-174-22(d)(4), (e) and (j) of the Regulations hereby allows CYTEC to comply with § 22a-174-22 of the Regulations through use of emissions averaging and emissions reduction credit trading and applicable emission limitations at the facility as provided herein.
- C. With the agreement of CYTEC, the Commissioner, acting under the Connecticut General Statutes §§ 22a-6, 22a-171, 22-174, 22a-176, and 22a-177, orders CYTEC as follows:

1. Averaging and ERC trading:

After May 31, 1995, except as specified in Paragraph C.2.b., and until May 1, 1999, or termination of this Trading agreement and order, whichever is earlier, CYTEC shall acquire approved emission reduction credits (ERCs) and use averaging and ERC trading based on a monthly average, as follows:

Averaging set and requirements.

Averaging Set. The CYTEC averaging set is defined to be the units shown in Table 2 of this order.

NO_x emission rate limitations:

- RACT rate = Emission rate limits shown in Table 2 of this order (based on § 22a-174-22, Table 22-2 of the Regulations).
- FLER = Full load emission rate (as shown in Table 2 of this order).
- Discount = includes 20% discount on RACT rate for credits, and a 10% discount and a 5% design margin on RACT rate for debits.

2. CYTEC shall:

- a. Acquire sufficient approved ERCs to assure that an adequate number of ERCs are available at least 24 hours prior to the beginning of each monthly averaging period.

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- b. For the months of June, 1995, through May, 1996, the purchase and retirement of approved ERCs was completed by May 31, 1996. CYTEC purchased and retired an additional ten (10)% of ERCs actually required from June 1, 1995 through May 21, 1996.
- c. No later than the last day of the following month, calculate ERCs used in the preceding calendar month, as follows:

(1) Total Monthly Averaging Credits available from those units that are below the RACT rate limits in the Averaging Set (as defined in Table 2). The Total Monthly Averaging Credits shall be the sum of the Averaging Credits during that month calculated for each unit in the Averaging Set as follows:

$$\text{Monthly Averaging Credits (tons)} = [\text{heat input in MMBtu} \times ((0.80 \times \text{RACT lb/MMBtu}) - \text{FLER}^{**} \text{ in lb/MMBtu})] \div 2000 \text{ pounds/ton.}$$

* includes 20% averaging credit discount

** Full Load Emission rate ("FLER") (see Table 2)

(2) Total Monthly Averaging Debits generated from those units with emission rates in excess of RACT rate limits in the Averaging Set (identified with an asterisk). The Total Monthly Averaging Debits shall be the sum of the Averaging Debits during that month calculated for each unit in the Averaging Set as follows:

$$\text{Monthly Averaging Debits (tons)} = [\text{heat input in MMBtu} \times ((0.85 \times \text{RACT lb/MMBtu}) - \text{FLER in lb/MMBtu})] \div 2000 \text{ pounds/ton.}$$

* includes 10% averaging debit discount and 5% design margin

(3) Net Monthly Averaging Debit for each calendar month as follows:

Net Monthly Averaging Debit = the sum of the Total Monthly Averaging Debits (*negative number*) plus the Total Monthly Averaging Credits. No approved ERCs will be required for emissions in any month during which there are more Monthly Averaging Credits than Monthly Averaging Debits. Net

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Monthly Averaging Credits may not be carried forward to the next month.

(4) For each month with a Net Monthly Averaging Debit, the amount of ERCs required for such month shall equal the Net Monthly Averaging Debit. The total amount of approved ERCs used and permanently retired each month shall be equal to the sum of the ERCs required for each month.

- d. The above calculations will be performed on forms prescribed by the Commissioner for each unit.
- e. CYTEC shall document and record hours of operation for the sludge incinerator, hot oil furnace, and spray dryer; heat input for boilers # 1,3, and 4, and NO_x emissions for each unit in each averaging set on a monthly basis in accordance with Par. D.3, and will maintain records of the credits and debits generated for emission averaging purposes on a monthly basis. CYTEC shall maintain documentation regarding the number of ERCs in its possession and used each month, as well as information to attest to the fact that ERCs used during the ozone season were generated during the ozone season. All records shall be maintained in accordance with §§ 22a-174-4 and 22a-174-22 of the Regulations and will be provided to the Commissioner within thirty (30) days of receipt of a written request from the Commissioner.
- f. FLERs, fuels and Units set forth in Table 2 may be modified only after the consent of the Commissioner by written modification of this order.

D. Unit Restrictions and Annual Emissions Cap.

- 1. In addition to the averaging and ERC trading requirements for the averaging set contained in Section C.1. of this Trading agreement and order, each unit included in CYTEC's averaging set shall not exceed the FLERs shown in Table 2:

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Table 2 CYTEC - FLERs, stack test rate and NOx RACT Emission Rates				
UNIT	FUEL	FLER (lb/MMBtu)	Stack Test Rate lbs/MMBtu (PPM)	NOx RACT Rate Limits (lb/MMBtu) (PPM)
Boiler #1	No. 6 oil Natural Gas	0.390* 0.093	0.390* 0.093	0.25 0.20
Boiler #3	No. 6 oil Natural Gas	0.300* N/A**	0.300* 0.161	0.25 0.20
Boiler #4	No. 2 oil Natural gas Waste Alcohol Waste Toluene	0.101 0.080 0.151 0.655*	0.101 0.080 0.151 0.655*	0.20 0.20 0.30 0.30
Sludge Incinerator	Sludge and No. 2 oil	0.632*	0.632*	0.33
Hot Oil Furnace	No. 2 oil Natural Gas	0.155 0.098	0.155 0.098	0.20 0.20
Spray Dryer	No. 2 oil Natural Gas	0.173 0.107	0.173 (122.6 ppm) 0.107 (103.7 ppm)	0.254 (180 ppm) 0.186 (180 ppm)

* Indicates emission rate is in excess of Section 22a-174-22, Table 22-2 of the Regulations emission rate limits.

** Boiler #3 natural gas will not be used for averaging.

2. To prevent exceeding the lower of historic actual or allowable (as listed in Table 22-1, Section 22a-174-22 of the Regulations) emission levels ("historic levels"), the total actual emissions shall not exceed historic levels as shown below:

CYTEC's averaging set NO_x emissions shall not exceed 54 tons per year, based on the 1990 historic level.

Approved ERCs may be used to offset emissions above the historic level; however, said ERCs shall be separate from ERCs and/or averaging credits used for meeting emission rate limits specified in Table 22-2, Section 22a-174-22 of the Regulations. The quantity of ERCs required to offset excess emissions above the historic level shall equal the difference between the total emissions (in tons) and the historic level (in tons).

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For purposes of calculating total emissions, only emissions from sources in the averaging set shall be included; emissions used shall be for a calendar year, based on most recent official stack test results, beginning in calendar year 1996. Approved ERCs shall be in CYTEC's possession before the historic level is exceeded.

3. For the sludge incinerator, hot oil furnace and spray dryer heat inputs, CYTEC shall multiply the rated capacity in MMBtu/hour by the hours of operation. For boiler #1, 3, and 4, CYTEC shall calculate the total monthly heat input by allocating the overall fuel use by the individual steam production from each boiler.

E. Other Requirements.

1. No later than 30 days after the execution of this order for 1995 and no later than March 1 of 1997, 1998, 1999, and 2000, CYTEC shall submit to the Commissioner an annual report on NO_x emissions for each unit in the averaging set in accordance with Par. D.3 for each unit in the averaging set during the previous 12 month calendar year. This report shall include a demonstration that the averaging set has achieved compliance with conditions of this order for each month and with the annual emission limit in tons.
2. CYTEC shall retain records and supporting documentation as described in this Trading agreement and order for a minimum of five years. CYTEC shall provide records specified above to the Commissioner within thirty (30) days of receipt of a written request from the Commissioner.
3. On or before September 1, 1998, CYTEC shall submit a report indicating how the facility will comply with § 22a-174-22 of the Regulations after May 1, 1999.

4. Definitions. As used in this order,

"Commissioner" means the Commissioner of Environmental Protection or an agent of the Commissioner.

"Ozone season" means the period between May 1 and September 30 in any given calendar year.

"Approved emission reduction credits" are those for which the Commissioner has provided written

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authorization for use in compliance with § 22a-174-22 of the Regulations.

"Official Stack Test" is a NOx test procedure meeting all requirements of § 22a-174-5 and § 22a-174-22 of the Regulations and which has been reviewed and approved by the Commissioner.

5. Notification of noncompliance. In the event that CYTEC becomes aware that it did not or may not comply, or did not or may not comply on time, with any requirement of this trading agreement and order or of any document required hereunder, CYTEC shall immediately notify the Commissioner and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, is minimized to the greatest extent possible. In so notifying the Commissioner, CYTEC shall state in writing the reasons for the noncompliance or delay and propose, for the review and written approval of the Commissioner, dates by which compliance will be achieved, and CYTEC shall comply with any dates which may be approved in writing by the Commissioner. Notification by CYTEC shall not excuse noncompliance or delay, and the Commissioner's approval of any compliance dates proposed shall not excuse noncompliance or delay unless specifically so stated by the Commissioner in writing.
6. Certification of documents. Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under this Trading agreement and order shall be signed by a responsible corporate officer of CYTEC or a duly authorized representative of such officer, as those terms are defined in Section 22a-430-3(b)(2) of the Regulations, and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows:

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information may be punishable as a criminal offense, in accordance with Section 22a-6 of the Connecticut General Statutes, pursuant to Section 53a-

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157 of the Connecticut General Statutes, and in accordance with any other applicable statute."

7. Dates. The date of submission to the Commissioner of any document required by this Trading Agreement and Order shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under this trading agreement and order, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three (3) days after it is mailed by the Commissioner, whichever is earlier. Except as otherwise specified in this trading agreement and order, the word "day" as used in this trading agreement and order means calendar day. Any document or action which is required by this trading agreement and order to be submitted or performed by a date which falls on a Saturday, Sunday or a Connecticut or federal holiday shall be submitted or performed on or before the next day which is not a Saturday, Sunday or Connecticut or federal holiday.
8. Final Agreement and Order. This Trading agreement and order is the final agreement and order by and between the Commissioner and CYTEC with respect to the matters addressed herein, and shall not be modified without the written agreement of both parties.
9. False statements. Any false statement in any information submitted pursuant to this Trading agreement and order may be punishable as a criminal offense under Section 22a-175 of the Connecticut General Statutes or, in accordance with Section 22a-6, under Section 53a-157 of the Connecticut General Statutes.
10. Notice of transfer; liability of CYTEC and others. Until May 1, 1999, and in accordance with Public Act 95-218, CYTEC shall notify the Commissioner in writing at least thirty (30) days prior to transferring any license held by CYTEC to any other party and shall notify the Commissioner in writing no later than fifteen (15) days after transferring all or any portion of the operations, the facility or the business which are the subject of this Trading agreement and order, or obtaining a new mailing or location address. CYTEC's obligations under this Trading agreement and order shall not be affected by the passage of title to any property to any other person or municipality. Any

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future owner of the facility may be subject to the issuance of an order from the Commissioner.

11. Commissioner's powers. Nothing in this Trading agreement and order shall affect the Commissioner's authority to institute any proceeding or take any other action to prevent or abate violations of law, prevent or abate pollution, recover costs and natural resource damages, and to impose penalties for violations of law which are willful or criminally negligent or for which penalties have not been specifically provided in this Trading agreement and order, including but not limited to violations of any permit issued by the Commissioner. If at any time the Commissioner determines that the actions taken by CYTEC pursuant to this Trading agreement and order have not fully achieved compliance with Section 22a-174-22 of the Regulations, the Commissioner may institute any independent proceeding to require CYTEC to undertake further investigation or further action.
12. CYTEC's obligations under law. Nothing in this Trading agreement and order shall relieve CYTEC of other obligations under applicable federal, state and local law.
13. Access to records and premise. Any representative of the Department of Environmental Protection may enter the facility and inspect and copy records within normal business hours without prior notice for the purposes of monitoring and enforcing the actions required or allowed by this Trading agreement and order.
14. No effect on rights of other persons. This Trading agreement and order shall neither create nor affect any rights of persons who or municipalities which are not parties to this Trading agreement and order.
15. Notice to Commissioner of changes. Within fifteen (15) days of the date CYTEC becomes aware of a change in any information submitted to the Commissioner under this Trading agreement and order, or that any such information was inaccurate or misleading or that any relevant information was omitted, CYTEC shall submit the correct or omitted information to the Commissioner.

- 16. Submission of documents. Any document required to be submitted to the Commissioner under this Trading agreement and order shall, unless otherwise specified in writing by the Commissioner, be directed to:

Mr. Roland L. Severance, Jr., P.E.
 Department of Environmental Protection
 Bureau of Air Management, Engineering and
 Enforcement
 79 Elm Street
 Hartford, Connecticut 06106

CYTEC consents to the issuance of this trading agreement and order without further notice. The undersigned certifies that he/she is fully authorized to enter into this Trading agreement and order and to legally bind CYTEC to the terms and conditions of the Trading agreement and order.

By CYTEC Industries, Inc.

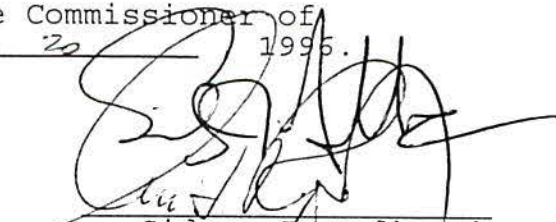
Signature: Richard J. Krakowski

Type Name: Richard J. Krakowski

Type Title: Plant Manager

Date: 12/12/96

Issued as a final consent order of the Commissioner of Environmental Protection on December 22 1996.


 Sidney J. Holbrook
 Commissioner

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MAILED CERTIFIED MAIL,
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