A02-0027

National Environmental Achievement Track

Application Form

IBM Hudson Valley Research Park (East Fishkill)

Name of facility

International Business Machines Corporation

Name of parent company (if any)

Hudson Valley Research Park

Street address

2070 Route 52

Street address (cont.)

Hopewell Junction, New York 12533

City/State/Zip code

Give us information about your contact person for the National Environmental Achievement Track Program.

Name Salvatore J. Tranchina

Title Manager, Environmental Engineering & Operations

Phone (845) 892-1629

Fax (845) 892-4627

E-mail tranchin@us.ibm.com

Why do we need this information?
EPA needs background information on your facility to evaluate your application.

What do you need to do?

- Provide background information on your facility.
- Identify your environmental requirements.

1 What do you do or make at your facility?

The site mission is the development and manufacture of semiconductor logic and memory device chips. The site is home to the Interconnect Products packaging manufacturing operations, the Advanced Semiconductor Technology Center, and several non-IBM manufacturing and office companies.

2 List the Standard Industrial Classification (SIC) code(s) or North American Industrial Classification System (NAICS) codes that you use to classify business at your facility.

SIC
3674

NAICS

3 Does your company meet the Small Business Administration definition of a small business for your sector?

Yes X No

4 How many employees (full-time equivalents) currently work at your facility?

Fewer than 50

50-99

100-499

500-1,000

X More than 1,000

5 Does your facility have an EPA ID number(s)?

If yes, list in the right-hand column.

X Yes No

NYD000707901

6 Identify the environmental requirements that apply to your facility. Use the Environmental Requirements Checklist, at the back of the instructions, as a reference. List your requirements to the right **or** enclose a completed Checklist with your application.

See attached checklist

7 Check the appropriate box in the right-hand column.

I've listed the requirements above.

X I've enclosed the Checklist with my application.

8 Optional: Is there anything else you would like to tell us about your facility?

Nominal title ownership of the facility is by Empire State Development Corporation; IBM is the primary operator. Some space / a building are sublet to non-IBM firms for manufacturing and/or office use. IBM coordinates environmental reporting and permitting activities for tenants. (Continued)

Why do we need this information?

Facilities must have an operating Environmental Management System (EMS) that meets certain requirements.

What do you need to do?

- **Confirm that your EMS meets the Achievement Track requirements.**
- **Tell us if you have completed a self-assessment or have had a third-party assessment of your EMS.**

1 Check **yes** if your EMS meets the requirements for each element below as defined in the instructions.

a. Environmental policy ---------- X Yes

b. Planning ---------- X Yes

c. Implementation and operation ---------- X Yes

d. Checking and corrective action ---------- X Yes

e. Management review ---------- X Yes

2 Have you completed at least one EMS cycle (plan-do-check-act)? X Yes

3 Did this cycle include both an EMS and a compliance audit? X Yes

4 Have you completed an objective self-assessment or third-party assessment of your EMS? X Yes

If yes, what method of EMS assessment did you use? X Self-assessment

GEMI X Other (See Continuation Page)

CEMP _____

X Third-party assessment

X ISO 14001 Certification (See Continuation Page)

X Other (See Continuation Page)

Why do we need this information?
Facilities must show that they are committed to Improving their environmental performance. This means that you can describe past achievements and will make future commitments.

What do you need to do?
Refer to the Environmental Performance Table in the instructions to answer questions 1 and 2.

1 Describe your past achievements for at least two environmental aspects. If you need more space than is provided, attach copies of this page.

Note to small facilities: If you qualify as a small facility as defined in the instructions, you are required to report past achievement for at least one environmental aspect.

First aspect you've selected

What aspect have you selected?	What was the previous level (2 years ago)?		What is the current level?	
	Quantity	Units	Quantity	Units
Emissions of Toxics (HAPs)	81.4	Klbs. / yr. (1997)	22.8	Klbs. / yr. (1999)

i. How is the current level an improvement over the previous level?

The IBM East Fishkill site has been reclassified as a minor source of Hazardous Air Pollutants (HAPs) . In addition to the significant reduction in the release of perchloroethylene and other HAPS to the air, this accomplishment negated the need for promulgation of MACT standards for the semiconductor industry by U.S EPA.

ii How did you achieve this improvement?

IBM East Fishkill utilized a two-phase approach: (1) replacement of perchloroethylene in mask cleaning operations with an aqueous cleaner (TMAH) and (2) installation of new / improved and additional air emission abatement technology for packaging manufacturing operations (i.e., replacement of fume incinerators with regenerative thermal oxidizers (RTOs); the RTOs also provided emission abatement for previously unabated emission sources). The implementation of the projects was with a team concept with representatives from site operations, equipment engineering and maintenance, development and manufacturing.

Second aspect you've selected

What aspect have you selected?	What was the previous level (2 years ago)?		What is the current level?	
	Quantity	Units	Quantity	Units
Hazardous Waste	**5,700**	**Klbs./Year (1997)**	**6,250**	**Klbs./Year (1999)**

i. How is the current level an improvement over the previous level?

IBM has achieved hazardous waste reductions relative to production of 23.0% in 1998 and 15.0% in 1999. This accomplishment has reduced the amount of hazardous waste generation as well as the consumption of natural resources that would have otherwise been required.

ii How did you achieve this improvement?

IBM East Fishkill's hazardous waste minimization program utilizes teams of manufacturing, process, equipment and site operations personnel to investigate and implement waste minimization activities. The results that have been achieved are a combination of many individual projects as documented in our annual hazardous waste minimization reports submitted to NYSDEC.

2 Select at least four environmental aspects (no more than two from any one category) from the Environmental Performance Table in the instructions and then tell us about your future commitments. If you need more space than is provided, attach copies of this section.

Note to small facilities: If you are a small facility, you are required to make commitments for at least two environmental aspects in two different categories.

First aspect you've selected

a. What is the aspect? Hazardous waste

b. Is this aspect identified as significant in your EMS? X Yes No

c. What is the current level? You may choose to state this as an absolute value or in terms of units of production or output.

X Option A: Absolute value — 6.2 Million Lbs. (YE 1999) (Quantity/Units)

Option B: In terms of units of production or output — Production (values are confidential) (Quantity/Units)

d.	What is the improvement you are committing to over the next three years? You may choose to state this as an absolute value or in terms of units of production or output.	Option A: Absolute value	(Quantity/Units)
		X Option B: In terms of units of production or output	5% reduction relative to production (annual) (Quantity/Units)
e.	How will you achieve this improvement?	Continuation of existing programs to investigate and implement appropriate waste minimization projects across the site (e.g., proposed Project XL for F006 sludge reuse).	

Second aspect you've selected		Water consumption	
a.	What is the aspect?		
b.	Is this aspect identified as significant in your EMS?	X Yes No	
c.	What is the current level? You may choose to state this as an absolute value or in terms of units of production or output.	X Option A: Absolute value	94.8 MGallon/Mo. (1998) (Quantity/Units)
		Option B: In terms of units of production or output	(Quantity/Units)
d.	What is the improvement you are committing to over the next three years? You may choose to state this as an absolute value or in terms of units of production or output.	Option A: Absolute value	(Quantity/Units)
		X Option B: In terms of units of production or output	2% annual average reduction over 5 years (1998 Base Year; excluding new process use) (Quantity/Units)
e.	How will you achieve this improvement?	Continuation of site programs to investigate and implement water conservation programs associated with manufacturing and site operations.	

Third aspect you've selected

a.	What is the aspect?	Total Energy Usage	
b.	Is this aspect identified as significant in your EMS?	X Yes No	416,400 MWH (elec); 1,310,200 MBtu (fuel) (1999)
c.	What is the current level? You may choose to state this as an absolute value or in terms of units of production or output.	X Option A: Absolute value	(Quantity/Units)
		Option B: In terms of units of production or output	(Quantity/Units)
d.	What is the improvement you are committing to over the next three years?You may choose to state this as an absolute value or in terms of units of production or output.	Option A: Absolute value	(Quantity/Units)
		X Option B: In terms of units of production or output	4% energy conservation of consumption for current year (Quantity/Units)
e.	How will you achieve this improvement?	Continuation of existing programs and emphasis to reduce energy consumption within manufacturing and site operations (e.g., lighting systems, HVAC equipment, high efficiency motors, VFDs,)	

Fourth aspect you've selected

a.	What is the aspect?	Lead Reduction in Chip Manufacturing (see Continuation)	
b.	Is this aspect identified as significant in your EMS?	X Yes No	
c.	What is the current level? You may choose to state this as an absolute value or in terms of units of production or output.	X Option A: Absolute value	See Continuation (Quantity/Units)
		Option B: In terms of units of production or output	(Quantity/Units)
d.	What is the improvement you are committing to over the next three years?You may choose to state this as an absolute value or in terms of units of production or output.	X Option A: Absolute value	See Continuation (Quantity/Units)
		Option B: In terms of units of production or output	(Quantity/Units)
e.	How will you achieve this improvement?	Development and implementation of chip manufacturing process modifications to utilize reduced-lead solders and associated materials	

Why do we need this information?

Facilities must demonstrate their commitment to public outreach and performance reporting. You should have appropriate mechanisms in place to identify community concerns, to communicate with the public, and to provide information on your environmental performance.

What do you need to do?

- **Describe your approach to public outreach.**
- **List three references who are familiar with your facility.**

1 How do you identify and respond to community concerns?

Community concerns are identified through our communications and relationships with local government officials and state regulators. We respond to inquiries on a case-by-case basis, meeting with individuals as necessary. IBM is also a member of the Dutchess County LEPC.

2 How do you inform community members of important matters that affect them?

This is done on a case-by-case basis. For the Project XL on F006 sludge reuse, IBM sent letters to over 800 potential stakeholders and formed a stakeholder group of local, regional and national representatives.

3 How will you make the Achievement Track Annual Performance Report available to the public?

X Website www.ibm.com/ibm/Environment/

Newspaper

Open Houses

Other

4 Are there any ongoing citizen suits against your facility? Yes X No

If yes, describe briefly in the right-hand column.

5 List references below.

	Organization	Name	Phone number
Representative of a Community/ Citizen Group	Town of East Fishkill	Peter Idema, Supervisor	(845) 221-4303
State/Local regulator	NYSDEC	Marc Moran, Region 3 Director	(845) 256-3005
Other community/local reference	Dutchess County LEPC	Steve Kapowski, Chairman	(845) 486-2080; (845) 486-3535

Section E

Application and Participation Statement

On behalf of International Business Machines Corporation - Hudson Valley Research Park (East Fishkill)

[my facility],

I certify that

- I have read and agree to the terms and conditions, as specified in the *National Environmental Achievement Track Program Description* and in the *Application Instructions*;

- I have personally examined and am familiar with the information contained in this Application (including, if attached, the Environmental Requirements Checklist). The information contained in this Application is, to the best of my knowledge and based on reasonable inquiry, true, accurate, and complete, and I have no reason to believe the facility would not meet all program requirements;

- My facility has an environmental management system (EMS), as defined in the Achievement Track EMS requirements, including systems to maintain compliance with all applicable federal, state, tribal, and local environmental requirements, in place at the facility, and the EMS will be maintained for the duration of the facility's participation in the program;

- My facility has conducted an objective assessment of its compliance with all applicable federal, state, tribal, and local environmental requirements, and the facility has corrected all identified instances of potential or actual noncompliance;

- Based on the foregoing compliance assessment and subsequent corrective actions (if any were necessary), my facility is, to the best of my knowledge and based on reasonable inquiry, currently in compliance with applicable federal, state, tribal, and local environmental requirements.

I agree that EPA's decision whether to accept participants into or remove them from the National Environmental Achievement Track is wholly discretionary, and I waive any right that may exist under any law to challenge EPA's acceptance or removal decision.

I am the senior facility manager and fully authorized to execute this statement on behalf of the corporation or other legal entity whose facility is applying to this program.

Signature/Date	SEPT 26, 2000
Printed Name/Title	Eric C. Schneider
Facility Name	International Business Machines Corporation - Hudson Valley Research Park (East Fishkill)

Facility Street Address	2070 Route 52, Hopewell Junction, NY 12533
Facility ID Numbers	NYD000707901

National Environmental Achievement Track

Environmental Requirements Checklist

The following *Checklist* is provided to assist facilities in answering *Section A, Tell us about Your facility, Question 6.* The *Checklist* is given to help facilities identify the major federal, state, tribal, and local environmental requirements applicable at their facilities. The *Checklist* is not intended to be an exhaustive list of all environmental requirements that may be applicable at an individual facility.

If you use this *Checklist* and choose to submit it with your application, fill in your facility information below and enclose the completed *Checklist* with your application (see instructions).

Facility Name: **IBM East Fishkill**

Facility Location: **Hopewell Junction, New York**

Facility ID Number(s) **NYD000707901**
(attach additional sheets if necessary)

		Check All That Apply
Air Pollution Regulations		
1.	National Emission Standards for Hazardous Air Pollutants (40 CFR 61)	
2.	Permits and Registration of Air Pollution Sources	X
3.	General Emission Standards, Prohibitions and Restrictions	X
4.	Control of Incinerators	
5.	Process Industry Emission Standards	
6.	Control of Fuel Burning Equipment	
7.	Control of VOCs	X
8.	Sampling, Testing and Reporting	X
9.	Visible Emissions Standards	
10.	Control of Fugitive Dust	
11.	Toxic Air Pollutants Control	
12.	Vehicle Emissions Inspections and Testing	
Other Federal, State, Tribal or Local Air Pollution Regulations Not Listed Above *(identify)*		
13.	Title V Permit Application	X
14.	NYS Air emission regulations (e.g., 6 NYCRR Parts 200, 201, 212, 227)	X

Hazardous Waste Management Regulations

1.	Identification and Listing of Hazardous Waste (40 CFR 261)	
	- Characteristic Waste	X
	- Listed Waste	X
2.	Standards Applicable to Generators of Hazardous Waste (40 CFR 262)	
	- Manifesting	X
	- Pre-transport requirements	X
	- Record keeping/reporting	X
3.	Standards Applicable to Transporters of Hazardous Waste (40 CFR 263)	
	- Transfer facility requirements	
	- Manifest system and record-keeping	
	- Hazardous waste discharges	
4.	Standards for Owners and Operators of TSD Facilities (40 CFR 264)	
	- General facility standards	X
	- Preparedness and prevention	X
	- Contingency plan and emergency procedures	X
	- Manifest system, Record keeping and reporting	X
	- Groundwater protection	X
	- Financial requirements	X
	- Use and management of containers	X
	- Tanks	X
	- Waste piles	
	- Land treatment	
	- Incinerators	
5.	Interim Status Standards for TSD Owners and Operators (40 CFR 265)	
6.	Interim Standards for Owners and Operators of New Hazardous Waste Land Disposal Facilities (40 CFR 267)	
7.	Administered Permit Program (Part B) (40 CFR 270)	X

Other Federal, State, Tribal or Local Hazardous Waste Management Regulations Not Listed Above (*identify*)

8.	HSWA Permit and NYS Part 373 Permits	X
9.	NYS Part 373 Hazardous Waste Management regulations	X

Hazardous Materials Management

1.	Control of Pollution by Oil and Hazardous Substances (33 CFR 153)	X
2.	Designation of Reportable Quantities and Notification of Hazardous Materials Spill (40 CFR 302)	X
3.	Hazardous Materials Transportation Regulations (49 CFR 172-173)	X
4.	Worker Right-to-Know Regulations (29 CFR 1910.1200)	X
5.	Community Right-to-Know Regulations (40 CFR 350-372)	X

Other Federal, State, Tribal or Local Hazardous Waste Management Regulations Not Listed Above (*identify*)

6. NYS Major Oil Facility and Petroleum Bulk Storage Facility regs X

7. NYS Chemical Bulk Storage regulations X

Solid Waste Management

1. Criteria for Classification of Solid Waste Disposal Facilities and Practices (40 CFR 257)
2. Permit Requirements for Solid Waste Disposal Facilities
3. Installation of Systems of Refuse Disposal
4. Solid Waste Storage and Removal Requirements
5. Disposal Requirements for Special Wastes

Other Federal, State, Tribal or Local Hazardous Waste Management Regulations Not Listed Above (*identify*)

6. Dutchess County Local Law #4 (Re: Solid Waste Recycling) X

7. _____

Water Pollution Control Requirements

1.	Oil Spill Prevention Control and Countermeasures (SPCC) (40 CFR 112)	X
2.	Designation of Hazardous Substances (40 CFR 116)	X
3.	Determination of Reportable Quantities for Hazardous Substances (40 CFR 117)	X
4.	NPDES Permit Requirements (40 CFR 122)	X
5.	Toxic Pollutant Effluent Standards (40 CFR 129)	
6.	General Pretreatment Regulations for Existing and New Sources (40 CFR 403)	X
7.	Organic Chemicals Manufacturing Point Source Effluent Guidelines And Standards (40 CFR 414)	
8.	Inorganic Chemicals Manufacturing Point Source Effluent Guidelines and Standards (40 CFR 415)	
9.	Plastics and Synthetics Point Source Effluent Guidelines and Standards (40 CFR 416)	
10.	Water Quality Standards	X
11.	Effluent Limitations for Direct Dischargers	X
12.	Permit Monitoring/Reporting Requirements	X
13.	Classifications and Certifications of Operators and Superintendents of Industrial Wastewater Plants	X
14.	Collection, Handling, Processing of Sewage Sludge	
15.	Oil Discharge Containment, Control and Cleanup	X
16.	Standards Applicable to Indirect Discharges (Pretreatment)	

Other Federal, State, Tribal or Local Water Pollution Control Regulations Not Listed Above (*identify*)

17.	NYS SPDES Permit	X
18.	NYS SPDES regulations	X

Drinking Water Regulations

1.	Underground Injection and Control Regulations, Crieria and Standards (40 CFR 144, 146)	
2.	National Primary Drinking Water Standards (40 CFR 141)	X
3.	Community Water Systems, Monitoring and Reporting Requirements (40 CFR 141)	
4.	Permit Requirements for Appropriation /Use of Water from Surface or Subsurface Sources	
5.	Underground Injection Control Requirements	
6.	Monitoring, Reporting and Record keeping Requirements for Community Water Systems	

Other Federal, State, Tribal or Local Drinking Water Regulations Not Listed Above (*identify*)

7. NYSDOH Part 5 drinking water regulations applicable to non-transient, non-community waster supplies

8. _____

Toxic Substances

1.	Manufacture and Import of Chemicals, Record keeping and Reporting	X
	Requirements (40 CFR 704)	X
2.	Import and Export of Chemicals (40 CFR 707)	X
3.	Chemical Substances Inventory Reporting Requirements (40 CFR 710)	X
4.	Chemical Information Rules (40 CFR 712)	X
5.	Health and Safety Data Reporting (40 CFR 716)	X
6.	Pre-Manufacture Notifications (40 CFR 720)	X
7.	PCB Distribution Use, Storage and Disposal (40 CFR 761)	X
8.	Regulations on Use of Fully Halogenated Chlorofluoroalkanes (40 CFR 762)	
9.	Storage and Disposal of Waste Material Containing TCDD (40 CFR 775)	

Other Federal, State, Tribal or Local Toxic Substances Regulations Not Listed Above (*identify*)

10. _____

11. _____

Pesticide Regulations

1. FTFRA Pesticide Use Classification (40 CFR 162)
2. Procedures for Disposal and Storage of Pesticides and Containers (40 CFR 165)
3. Certification of Pesticide Applications (40 CFR 17 1)
4. Pesticide Licensing Requirements
5. Labeling of Pesticides
6. Pesticide Sales, Permits, Records, Application and Disposal Requirements
7. Disposal of Pesticide Containers
8. Restricted Use and Prohibited Pesticides

Other Federal, State, Tribal or Local Pesticides Regulations Not Listed Above (*identify*)

9. NYS Pesticide regulations (e.g., application of cooling tower pesticides) X

10. _____

Environmental Clean-Up. Restoration, Corrective Action

1. Comprehensive Environmental Response, Compensation and Liability Act (Superfund) (*identify*)

_____

_____

2. RCRA Corrective Action (*identify*)

_____

_____

Other Federal, State, Tribal or Local Environmental Clean-Up, Restoration, Corrective Action Regulations Not Listed Above (*identify*)

3. Modules III and IX of site's Part 373 Hazardous Waste Management Permit X

4. 6 NYCRR Part 375 (Inactive Hazardous Waste Disposal Site) X

Appendix B: Continuation Pages

Section A, Question 8

IBM activities are registered pursuant to ISO 14001. A proposed Project XL for the reuse of F006 sludge in cement manufacturing is close to finalization (Target date for signing the Final Project Agreement is October, 2000).

Section B, Question 4

Self-Assessment:
IBM Professional Self-Assessment - Internal Protocol
Location Internal EMS (ISO 14001) Audits

Third-Party:
ISO 14001 Certification - BVQI (received 11/98; last certification audit 10/99)

Other:
IBM Corporate Internal Audit: ** Independent organization within IBM

Section C, Fourth Aspect (Lead Reduction in Chip Manufacturing)

a. What is the aspect?

IBM is developing manufacturing processes to produce lead-free and reduced-lead semiconductor devices ("chips") in response to customers requesting such a product. Not all customers can accept lead-free and/or reduced-lead products into their manufacturing processes at this time.

c. & d. What is the current level? What is the improvement you are committing to over the next three years?

The current amount of lead on a C4 connection and the number of C4 connections/chip vary widely depending on the product. The exact values are confidential technical and production data.

Due to the variability and the confidential nature of the C4 connection data, the quantifiable measurement of this aspect will be the development and implementation of the lead-free and reduced-lead manufacturing process modifications in accordance with IBM's program goals. IBM will provide its progress annually in accordance with the National Environmental Achievement Track program.