

US EPA ARCHIVE DOCUMENT

# STATEMENT OF BASIS/FINAL DECISION AND RESPONSE TO COMMENTS SUMMARY

REGION II  
ID# 3039

## International Business Machines Corporation

Endicott, NY  
(signed in January 1992)

<b>Facility/Unit Type:</b>	<b>Manufacturing of electronic components</b>
<b>Contaminants:</b>	<b>Chlorinated hydrocarbons</b>
<b>Media:</b>	<b>Ground water</b>
<b>Remedy:</b>	<b>Ground water pump and treat with gravity separation, air stripping, biological treatment, filtration and carbon adsorption.</b>

### FACILITY DESCRIPTION

EPA and the New York State Department of Environmental Conservation (NYSDEC) have issued a HSWA permit and State Hazardous Waste Management Operating permit to the International Business Machines Corporation (IBM). The permits formalize the investigations conducted by IBM and ensure that the corrective measures program will be conducted according to regulations.

The Systems Technology Division of IBM is located on a 200-acre manufacturing complex that currently produces electrical components including circuit boards, metalized ceramic substrates, and semi-conductors. Facility operations use various chemicals as raw materials and aids in processing and manufacturing the electrical components.

In the late 1970s, IBM began a voluntary site-wide subsurface and ground water investigation and remediation program. The sources of groundwater contamination include an accidental spill of approximately 4,200 gallons of methyl chloroform and other unknown sources. The groundwater contamination at the facility represents releases from past IBM operations, and operations from unidentified companies.

Materials underlying the facility consist of fill and glacial deposits underlain by siltstone and shale bedrock. Upper and lower aquifers are separated by an aquitard consisting of silt, clay and very fine sand. Regional ground water flows to the southwest towards the Susquehanna River.

The main potable water well field for the City of Endicott is located approximately 2,500 feet downgradient from the edge of the contaminant plume. The well field supplies drinking water for approximately 20,000 people. The corrective measures program has been developed to control, clean up, and monitor the ground water. The two major components of the program are the on-site recovery system and the off-site interceptor system.

Several solid waste management units have been closed in accordance with State-approved closure plans.

### EXPOSURE PATHWAYS

Contaminated ground water presents minimal risk to humans as ground water is captured, treated, and monitored.

### SELECTED REMEDY

The selected remedy consists of pumping and treating of contaminated ground water via a series of ground water recovery and interceptor systems that redirect contaminated ground water to IBM's Organic Treatment Facility (OTF), which consists of gravity separation, air stripping, biological treatment, filtration and carbon adsorption. The pump and treat system consists of six on-site recovery wells and eight off-site wells that are used for ground water control, recovery, and treatment. IBM has implemented a corrective action ground-water monitoring program that consists of 77 monitoring

## CONTAMINATION DETECTED AND CLEANUP GOALS

Media	Estimated Volume	Contaminant	Concentration Detected (ug/l)*	Action Level	Cleanup Goal (ug/l)	Point of Compliance
ground water	Not given	Benzene	100	Not given	0.7	**
		Chlorobenzene	NA		5.0	EN-54
		Chloroethane	420		5.0	EN-79
		Chloroform	170		7.0	EN-84
		1,2-Dichlorobenzene	NA		5.0	EN-89
		1,3-Dichlorobenzene	NA		5.0	EN-93
		1,4-Dichlorobenzene	NA		5.0	EN-97
		Dichlorodifluoromethane	NA		5.0	EN-103
		1,1-Dichloroethane	1600		5.0	EN-105
		1,1-Dichloroethylene	1800		5.0	
		1,2-Dichloroethylene (total)	4300		5.0	
		Dichloromethane	180		5.0	
		1,1,1,2-Tetrachloroethane	NA		5.0	
		Tetrachloroethylene	100		5.0	
		1,1,1-Trichloroethane	820		5.0	
		Trichloroethylene	4400		5.0	
		1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	34000		5.0	
		Trichlorofluoromethane	NA		5.0	
		Vinyl Chloride	230		2.0	
		Xylenes	NA		5.0	
Arsenic	NA	25.0				
Chromium	NA	50.0				

NA Not Available.

\* 1988 ground water data.

\*\* A point of compliance for the plume area has not been established as defined under 40 CFR §264.95, since there is no downgradient limit of a waste management area. Monitoring program requirements that normally apply to the point of compliance shall be satisfied by sampling selected wells for Appendix IX of 40 CFR Part 264 constituents on an annual basis.

wells, 8 points of compliance wells, 164 hydraulic effectiveness monitoring wells, 11 contaminant reduction monitoring wells, and 6 upgradient monitoring wells. These wells are monitored quarterly to ensure that the contaminant plume does not pose a threat to the City of Endicott's drinking water supply.

The selected remedy uses proven technologies, protects human health and the environment, poses no undue financial burden on IBM, and allows continuous plant operation.

The estimated capital and O&M costs for this remedy is not available.

### INNOVATIVE TECHNOLOGIES CONSIDERED

None.

### PUBLIC PARTICIPATION

Public notice was jointly issued by EPA and NYSDEC in accordance with the respective facility permit requirements. The public comment period began on September 25, 1991 and ended on November 12, 1991. EPA received minor written comments on the HSWA permit that did not result in changes to the original permit.

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**NEXT STEPS**

IBM will continue to implement the ground water monitoring program and the corrective measures program until the cleanup goals are attained. The permit requires IBM to conduct an evaluation of all constructed structures to determine if any structures are acting as conduits for contaminant migration or are affecting ground water flow.

**KEY WORDS**

ground water; ingestion; chlorinated hydrocarbons; gravity separation, air stripping, biological treatment, filtration, carbon adsorption

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