

US EPA ARCHIVE DOCUMENT

STATEMENT OF BASIS/FINAL DECISION AND RESPONSE TO COMMENTS SUMMARY

REGION III
ID# 6903

General Electric Company

Lancaster, PA

(Signed September 30, 1993)

Facility/Unit Type:	Electronics manufacturer
Contaminants:	Trichloroethene (TCE); 1,2-Dichloroethylene (DCE); 1,1,1-Trichloroethane (1,1,1-TCA); 1,1-Dichloroethylene (1,1-DCE); Ethylbenzene; Chloroform; Methylene Chloride; Toluene; Vinyl Chloride; Cadmium; Tetrachloroethene (PCE)
Media:	Ground water
Remedy:	Pump and treat with air stripping and granular activated carbon (GAC) filters

FACILITY DESCRIPTION

On December 16, 1988, EPA and the General Electric Company (GE) entered into a Consent Order pursuant to Section 3008(h) of RCRA. The agreement required GE to complete an investigation of the nature and extent of contamination from the Lancaster, PA facility in an RFI and to conduct a CMS to evaluate cleanup alternatives.

The facility is located on the northeastern edge of the city of Lancaster. Two limestone quarries (the upper quarry and lower lagoon) were operated in the early 1900s on the property. In 1942, buildings were constructed on the site by the U.S. Navy for the manufacture of electron tubes. RCA purchased the site in 1946 for the manufacturing of television tubes, electro-optics devices and solid state system products. GE purchased the site in 1986. The upper quarry and lower lagoon received electroplating wastewater sludge (RCRA hazardous waste F006) containing cadmium.

One hydrogeologic unit, epicarstic carbonate bedrock, exists at the GE facility. The ground water occurs in the bedrock rather than the overlying soil. The upper portion of the ground water generally follows the topography. Ground water recharge occurs principally along the uplands with discharge to the local stream channels or to recovery wells located at the facility. Ground water flow is to the east.

GE has completed the RFI and submitted a CMS to EPA for approval. Twenty-eight on-site

monitoring wells and five off-site and downgradient wells have been installed. GE has conducted extensive stabilization activities pursuant to a closure plan approved by the state agency Pennsylvania Department Environmental Resources (PADER), which included closing the upper quarry and the lower lagoon by capping both units after moving the sludge from the quarry to the lagoon. Ground water collected from on-site recovery wells and springs is routed through an air stripping tower for removal of the VOCs. The treated water is discharged to the sanitary sewer system under an Industrial Wastewater Discharge Permit. The horizontal and vertical extent of ground-water contamination from the facility is well defined and primarily within the plant property boundaries. The ground-water contamination area is strongly influenced by the ongoing recovery system and no longer migrating off-site due to the recovery program.

EXPOSURE PATHWAYS

Actual or threatened releases of hazardous constituents from the facility, if not addressed, may present a current or potential threat to human health and the environment. Ground water is the only affected medium at this facility with ingestion being the main exposure pathway evaluated. There is no risk to facility personnel or potential off-site receptors under current conditions. Under the potential "worst-case" scenario of an individual living a lifetime at the facility and using water from the most contaminated areas, the lifetime cancer risk was 1.00.

CONTAMINATION DETECTED AND CLEANUP GOALS

Media	Estimated Volume	Contaminant	Maximum Concentration (ppb)	Action Level (ppb)	Cleanup Goal (ppb)	Points of Compliance
ground water	~150 gallon per minute groundwater recovery rate	TCE	13,000	5	5	Recovery Wells 7d and 12d at upper quarry, Recovery Well AW-4 and spring 1 at lower lagoon, off-site monitoring well GW-9008
		1,2-DCE	17,000	100	100	
		1,1,1-TCA	45	200	200	
		1,1-DCE	50	7	7	
		Ethylbenzene	50	*	N/A	
		Chloroform	300	*	N/A	
		Methylene Chloride	20	*	N/A	
		Toluene	310	*	N/A	
		Vinyl Chloride	500	2	2	
		Cadmium	110	5	5	
		PCE	not given	5	5	
		Benzene	not given	5	5	

* These constituents are below their respective MCLs. Therefore no action levels were specified.

x 10⁻², primarily due to vinyl chloride and 1,2-DCE

SELECTED REMEDY

The selected remedy is continuation of the ongoing ground-water recovery program. The ground water will continue to be treated by air stripping and the VOC vapors emitted by the air stripper will be collected by two GAC units. An active gas collection system will be installed to prevent the transfer of contaminants from the air stripper to the atmosphere. The treated ground water will continue to go to a POTW.

The selected remedy represents proven technologies, protects human health and the environment, and can effectively be employed to remediate the on-site contaminant plume and will prevent the emission of VOCs to the atmosphere. The capital and O&M costs for the corrective action are \$700,000 and \$200,000, respectively.

INNOVATIVE TECHNOLOGIES CONSIDERED

None.

KEY WORDS

ground water; ingestion; VOCs, heavy metals, cadmium; air stripping, carbon absorption, filtration, POTW

PUBLIC PARTICIPATION

The public comment period extended from August 28, 1992 through September 27, 1992. A public meeting was held on September 9, 1992. No comments were received during the thirty-day comment period. The comments presented at the public meeting dealt with clarification of the proposed remedy. The proposed remedy was not altered due to public comments or the public meeting.

NEXT STEPS

If EPA determines that the selected Corrective Measure is either not effective or the rate of ground-water remediation is too slow (only slight decreases in the levels of ground-water contaminants is evidenced over a five year period) then EPA may reevaluate the continued implementation of the selected Corrective Measure, and modify the Corrective Measure selected. Information will be provided to the public throughout the CMI process to determine if specific community concerns arise.

CONTACT

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