SCANNED

GE Aerospace

Automated Systems Department
General Electric Company
P.O. Box 588, Burlington, MA 01803
617 229-5000

December 10, 1990

Ms. Amy Ferguson
Ms. Iris Davis
The Commonwealth of Massachusetts
Department of Environmental Protection
Metro Boston- N. E. Region
5 Commonwealth Ave.
Woburn, MA 01801

Re: Phase II Report , 50 Fordham Road Property,
Wilmington / North Reading, Massachusetts

Dear Ms. Ferguson, Ms. Davis,

Please find enclosed a copy of data gathered of an evaluation of Petroleum Distribution, Employee Parking Lot and Drainline Outfall Areas.

Thank you for your cooperation, if you have any questions or if you would like to schedule a meeting to discuss this report, please call me.

Sincerely,

Dino B. Iseppi
Senior Environmental /
Safety Engineer

CC: Kenneth Measheу

CleanHarbors
ENVIRONMENTAL ENGINEERING CORPORATION
325 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-1200

December 7, 1990

Tony DelGaizo
Conservation Administrator
Town Hall
North Reading Conservation Commission
North Reading, Massachusetts 01864

Re: Request for Determination of Applicability
Former General Electric Co. Facility,
50 Fordham Road, Wilmington/North Reading, MA
CHEE Job No.: E-2910

Dear Mr. DelGaizo,

Clean Harbors Environmental Engineering, Inc. (CHEE) has applied for an Emergency Discharge Permit from the United States Environmental Protection Agency (USEPA) for the discharge of treated groundwater from a pump test to be performed at the above referenced site. CHEE has obtained USEPA and Massachusetts Department of Environmental Protection (MADEP) approval pending approval from the North Reading Conservation Commission (NRCC). A copy of the letters of request and approval of the Emergency Discharge Permit are attached. CHEE is pleased to present the attached Request for Determination of Applicability (RDA) for work to be performed at the Former General Electric Co. facility. CHEE is requesting approval from the NRCC to conduct the scope of work described in the RDA.

The proposed scope of work, submitted as part of the RDA, has been prepared for the purpose of conducting a 24-hour pump test on a recovery well. Information from the pump test will be used to determine actual pumping rates from the well for the design and implementation of a groundwater remediation system. As part of this scope of work, CHEE proposes to treat the groundwater generated during the pump test with granular activated carbon to remove any volatile organic compounds (VOCs). With prior approval from the NRCC, treated groundwater will be discharged to a drainage manhole, which in turn empties into a drainage ditch located adjacent to a wetland area in North Reading.

The proposed scope of work will be performed within an area subject to protection under the Wetlands Protection Act (310 CMR 10.00) and will contribute to the protection of the resource areas (bordering land subject to flooding, bordering vegetated wetlands and the buffer zone to those areas) by complying with general performance standards established by 310 CMR 10.55, 10.56 and 10.57.

Prior to performance of the pump test, mitigating measures will be implemented to remove any potential threat to the resource area, as detailed on the Site Plan presented as Figure 1 in the RDA. Based upon the proposed mitigating measures and discharge procedures, the proposed scope of work will have no adverse affect on the resource areas.

Thank you for allowing Clean Harbors Environmental Engineering, Inc. the opportunity to submit this Request for Determination of Applicability for your approval. Should you have any questions or require additional information, please contact the undersigned at (617) 849-1800.

Sincerely,

Michael J. Smith
Project Engineer, ext. 1147

for NG Nelhuebel

Norman G. Nelhuebel
Manager, Remedial Systems ext 1130

MJS/mjs
Attachments

cc: Mike Ianniello, GE
Ken Meashey, GE
Iris Davis, MADEP
David Tordoff, USEPA
Mrs. Rosemarie Stanicich, Trustee
Mr. Henry A. Dardeno, Trustee
CHEE File E-2910

10.99: Forms

Form 1

DEQE File No. _____
(To be provided by DEQE)

Commonwealth of Massachusetts

City/Town _____

Applicant _____

Request for a Determination of Applicability Massachusetts Wetlands Protection Act, G.L. c. 131, §40

1. I, the undersigned, hereby request that the North Reading Conservation Commission make a determination as to whether the area, described below, or work to be performed on said area, also described below, is subject to the jurisdiction of the Wetlands Protection Act, G.L. c. 131, §40.

2. The area is described as follows. (Use maps or plans, if necessary, to provide a description and the location of the area subject to this request.)

The site is a 13 acre parcel of land situated on the eastern side of Fordham Road within an industrial park in Wilmington and North Reading, Massachusetts. The proposed work is to be performed on a recovery well, RW-1, located between Buildings 1 and 3 (see Figure 1). Both buildings are currently occupied by Ametek Aerospace Products and used for the manufacture of aircraft instrumentation. The site is located at a latitude and longitude of 43°, 33", 37' North and 71°, 8", 7' East, respectively (UTM: 4,714,000 m N; 324,500 m E). Ms. Rosemarie Stanicich and Mr. Henry A. Dardeno, Trustees, are the current property owners.

The property is relatively flat and abuts a drainage ditch located

continued on attached page

3. The work in said area is described below. (Use additional paper, if necessary, to describe the proposed work.)

CHEE plans to conduct a 24 hour pump test on a recovery well which may generate 10 to 50 gpm (12,000 to 60,000 gallons) of groundwater, although actual expected flow rates will probably produce less than 15 gpm (less than 21,600 gallons).

The 12,000 to 60,000 gallons of water generated during the pump test will be treated on site and discharged into the storm drainage system described in Question 2. Treatment will consist of granular activated carbon (GAC) for the removal of volatile organic compounds (VOCs). The GAC filtration system will consist of two carbon filter units designed to run in series. This method of treatment will provide a means by which the

continued on attached page

Question 2 *(continued)*

in a wetland area to the east and Fordham Road and industrial parcels to the west and south. Surface runoff from the work area is collected in a drainage manhole and drained via a drainline which discharges to a drainage ditch approximately 450 feet to the east of the work area. The border of the palustrine broad-leaved deciduous forested wetland is located approximately 500 feet from the work area. Most surface drainage in the wetland flows southeast towards the Ipswich river. An inactive drinking water supply well, formerly operated by the town of North Reading, known as the Stickney well is located approximately 1,000 feet northeast of the work area.

Question 3 *(continued)*

treated groundwater may be monitored at a point mid-way between the two filter units. By field screening samples taken at the mid-point, a determination can be made on the quality of the water entering the second filter unit. If any volatile organic compounds (VOCs) are detected at this sample point, the system may be shut off and discharge may be halted prior to the release of any VOCs. This method will ensure that the effluent from the GAC treatment system will be less than state and federal drinking water standards for VOCs and total petroleum hydrocarbon compounds (TPHs). The GAC filtration system will be capable of treatment at the flowrate defined above. An HNU photoionization detector will be employed for continuous field screening of mid-point and effluent samples. The HNU will utilize a 10.2 eV bulb and will be capable of detecting any compounds suspected to be in the groundwater. Additionally, water samples from the influent and effluent of the GAC filtration system will be taken two hours after startup and at the conclusion of the 24 hour test and analyzed in a certified laboratory to demonstrate system operation. The performance of the proposed work is necessary to design a groundwater remediation system that will adequately clean the VOCs currently in the groundwater at the site.

CHEE representatives will screen the treated groundwater for VOCs and monitor the drainage ditch and wetlands for signs of flooding. Flooding is not anticipated. However, if there is an indication of flooding, water discharge will be discontinued until the water level subsides. To control erosion and avoid sedimentation of the resource area, staked haybales will be placed at the outfall of the drainline in the drainage ditch to dissipate the flow of water. The wetlands should not be disturbed by the pump test.

10.99: continued

4. The owner(s) of the area, if not the person making this request, has been given written notification of this request on December 10, 1990 (date)
The name(s) and address(es) of the owner(s):

Wilmington Realty Trust
c/o Frank Dardeno, Sr.
424 Broadway Street
Somerville, MA 02145

5. I have filed a complete copy of this request with the appropriate regional office of the Massachusetts Department of Environmental Quality Engineering on December 10, 1990 (date)

Metro Boston/Northeast
38 Commerce Way
Woburn, MA 01801

Southeast
Lakeville Hospital
Lakeville, MA 02346

Central
15B Grove Street
Worcester, MA 01605

Western
State House West, 4th Floor
436 Dwight Street
Springfield, MA 01103

6. I understand that notification of this request will be placed in a local newspaper at my expense in accordance with Section 10.05(3) (b) 1 of the regulations by the Conservation Commission and that I will be billed accordingly.

Signature Michael Smith Name Michael Smith

Address 325 Wood Rd, Braintree, MA 02184 Tel (617)849-1800

CleanHarbors
ENVIRONMENTAL ENGINEERING CORPORATION
325 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-1200

November 28, 1990

David Tordoff
United States Environmental Protection Agency
60 Westview Street
Lexington, MA 02173-3185

RE: Emergency Discharge Permit
50 Fordham Road. (Former GE Facility)
Wilmington. MA 01801
CHEE Job No.: E-2910

Dear Mr. Tordoff:

Clean Harbors Environmental Engineering, Inc. (CHEE), requests an emergency discharge permit for treating groundwater generated from a pump test to be performed on a recovery well at a former General Electric Co. (GE) facility located at 50 Fordham Road in Wilmington, Massachusetts.

CHEE plans to conduct a 24 hour pump test which may generate 12,000 to 60,000 gallons (10 to 50 gpm) of groundwater. Levels of chlorinated and non-chlorinated organic compounds have been reported in groundwater samples taken in this area. GE has contracted Clean Harbors to remediate the area with the implementation of a groundwater extraction and treatment system.

The former GE property (hereafter referred to as the "site") is a 13 acre parcel of land situated on the eastern side of Fordham Road within an industrial park in Wilmington and North Reading, Massachusetts. The site is located at a latitude and longitude of 43 degrees, 33 minutes, 37 seconds North and 71 degrees, 8 minutes, 7 seconds East, respectively. The site is currently occupied by three buildings, originally built in 1968. GE occupied the site from 1971 until August 7, 1989 and subleased a portion of the property (Building No. 2) to Converse, a sports shoe manufacturer, from 1973 to 1986. Hamilton Standard, a manufacturer of hydrogen generators, also occupied the property buildings from 1983 to 1985. Ms. Rosemarie Stanicich and Mr. Henry A. Dardeno, Trustees, are the current property owners.

The property is relatively flat and abutted by intermittent bedrock outcrops, Fordham Road and industrial parcels to the west; by Converse property to the south; and by wooded wetlands to the east and north. An inactive drinking water supply well, formerly operated by the town of North Reading, known as the Stickney well is located approximately 500 feet northeast of the property.

The 12,000 to 60,000 gallons of water generated during the pump test will be treated on site. Treatment will consist of granular activated carbon (GAC) for the removal

of volatile organic compounds (VOC's). The GAC filtration system will be capable of treatment at the flowrate defined above. Effluent from the GAC treatment system will be less than state and federal drinking water standards for VOC's and total petroleum hydrocarbon compounds (TPH's). The effluent from the temporary treatment system will be field screened for the presence of any VOC's using an HNU photoionization detector. The HNU will utilize a 10.2 eV bulb and will be capable of detecting any compounds suspected to be in the groundwater.

The performance of the proposed work is necessary in order to design a groundwater remediation system that will adequately clean the VOC's currently in the groundwater at the site. The drawdown pump will be activated and will produce an estimated flowrate of 10 to 50 gallons per minute for a duration of approximately 24 hours. During the pump test influent and effluent samples will be taken two hours after startup and at the conclusion of the 24 hour test to demonstrate system operation.

The wetlands will not be disturbed by the pump test. The discharge from the temporary treatment system will be pumped to a drainline leading to a drainage ditch in North Reading, east of the site. The wetlands vegetation will not be adversely affected.

Pertinent information:

Our client is:
Mike Ianiello, Remedial Project Engineer, General Electric Co.
1 Computer Drive South, Albany, New York 12205

The property owners are:
Ms. Rosemarie Stanicich and Mr. Henry A. Dardeno, Trustees

The property is currently occupied by:
Ametek Aerospace Products, Inc.
50 Fordham Road, Wilmington, Massachusetts 01801

The engineering consultant is:
Clean Harbors Environmental Engineering
325 Wood Road, Braintree, Massachusetts 02184

If you have any questions, or would like any additional information, please do not hesitate to call me at (617) 849-1800 ext. 1147.

Sincerely,

Michael J. Smith
Project Engineer

RKiernan for NG Nelhuebel
Norman G. Nelhuebel
Manager, Remedial Systems Group

cc: CHEE Files; Job No. E-2910
Mike Ianiello, General Electric
Ken Measbey, General Electric
Iris Davis, MADEP
Howard Ray, CHI-Albany
Brian Chapman, CHI-Bedford

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
ENVIRONMENTAL SERVICES DIVISION
60 WESTVIEW STREET, LEXINGTON, MASSACHUSETTS 02173-3185

30 November 1990

Mr. Michael Ianiello
General Electric Company
1 Computer Drive South
Albany, New York 12205

Re: **CORRECTION**
NPDES Permit Exclusion
Pump Test
Former General Electric Co. Facility
50 Fordham Road
Wilmington, Massachusetts 01887

Dear Mr. Ianiello:

Based on information provided by Mr. Michael Smith of Clean Harbors (CHI), Inc., I grant you, pursuant to Title 40 of the Code of Federal Regulations, Part 122.3(d), an exclusion from the requirement for a permit under the National Pollution Discharge Elimination System (NPDES), in order that pump tests may be conducted at the referenced location.

Subject to other controls that may be established by the State of Massachusetts, and the Town of North Reading (due to the discharge location), you are authorized to discharge up to 50 gallons of treated water per minute from a treatment system consisting of groundwater depression leading to an activated carbon treatment system (sized appropriately for the anticipated flow) prior to discharge into a storm drainage system, leading to the Ipswich River. The discharge must be done in accordance with the following provisions:

1. No discharge of oil, sufficient to cause a sheen (as defined in 40 CFR 110), occurs to the drainage system. The discharge of a sheen of oil, or gasoline, constitutes an oil spill and must be reported, immediately, to the National Response Center (NRC) at (800) 424-8802.

2. Security provisions are maintained to assure that system failure, vandalism, or other incident will be addressed in a timely fashion, preventing the loss of oil or contaminated water to the storm drainage system.

3. Sampling and analysis, in accordance with EPA Methods, must be performed for Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX). Total BTEX is not to exceed 100 ppb, while Benzene may not exceed 5 ppb. In addition, Vinyl Chloride may not exceed 2 ppb, Trans 1,2-Dichloroethylene may not exceed 100 ppb, Trichloroethylene, Perchloroethylene, and Styrene may not

exceed 5 ppb, 1,1-Dichloroethylene may not exceed 7 ppb, and 1,1,1-Trichloroethane may not exceed 200 ppb, Total Petroleum Hydrocarbons may not exceed 5 ppm. Sampling and analysis of the influent, between filters (if in series), and the effluent to the receiving waters, must be performed on the first day, third day, and every third day of discharge. In addition portable instrumentation must be used, at least every 4 hours of discharge, to assure that Total Volatile Contaminants does not exceed 5 ppm at any times. Analytical Reports, with quality control information, are to be reported to the DEP Regional Engineer, and to this office within 8 weeks of completion of the pump test.

4. You, or your representative, provide 24 hours notice of the anticipated start-up of discharge.

Because the purpose of this exclusion from the regulations is to allow pump tests, the exclusion will be in effect for 3 days from system start-up. Although 3 days, at a flow of up to 50 gpm is anticipated, the exclusion may be adjusted, verbally, if operational condition require (ie; equipment failure or weather).

If any questions should arise, please do not hesitate to contact me at (617) 860-4362.

Sincerely,

David W. Tordoff
On-Scene Coordinator
Response and Prevention Section

cc: T. Landry — EPA
G. Gilmore — MaDEP-DWPC
R. Chalpin — MaDEP-DSHW
M. Smith — CHI

ENVIRONMENTAL ENGINEERING CORPORATION
325 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-1200

November 21, 1990

Ms. Iris Davis
Massachusetts Department of Environmental Protection
5 Commonwealth Avenue
Woburn, MA 01801

Re: **Emission Calculations, Preliminary Site Plan and Process & Instrumentation Diagram for Proposed Groundwater Treatment System at Former GE Facility**
50 Fordham Road, Wilmington, MA
CHEE Job No. E-2910

Dear Ms. Davis:

Please find enclosed a copy of the site plan and preliminary process and instrumentation diagram (P&ID) for the proposed groundwater remediation system to be implemented at the former General Electric (GE) facility at 50 Fordham Road in Wilmington, Massachusetts. The site plan indicates the proposed location of the recovery well and equipment shed for the system. These locations are subject to change based on further discussion with General Electric and Ametek personnel to define optimum locations for both. The P&ID defines the proposed unit operations, equipment and flow configuration for the groundwater extraction and treatment system. The P&ID will be updated and finalized pending changes encountered during the pump test to be performed on the proposed well. At this time Clean Harbors Environmental Engineering, Inc. (CHEE) is pursuing an EPA Waiver of Exclusions (through David Tordoff, USEPA, Lexington office) for treatment and discharge of groundwater generated during the pump test.

Also please find enclosed a copy of engineering calculations estimating annual vapor emission rates for volatile organic compounds (VOC's) from the proposed system.

These calculations are based on data obtained from groundwater sampling performed by Goldberg-Zoino and Associates (November 1989) in the vicinity of the proposed recovery well. The influent levels assumed for the worst case calculations represent conditions which reflect the highest levels found for each compound in any of the nearby wells. The assumed nominal contaminant concentrations reflect the levels of VOC's that CHEE expects to be present in the groundwater under active pumping conditions. Please understand that all calculations are based on estimates only and are subject to change based on actual operating conditions. The calculations will also be revised upon completion of the pump test and sample analysis to reflect actual VOC concentrations. CHEE expects VOC concentrations to decrease over the duration of the remedial measures. As the remedial process progresses, CHEE shall revise and update the estimates provided here.

Should you have any questions or require more information, please contact the undersigned at (617) 849-1800 extensions 1147 or 1130, respectively.

Sincerely,

Michael J Smith

Michael J. Smith
Project Engineer

R Kiernan for NG Nelhuebel

Norman G. Nelhuebel
Manager, Remedial Systems

MJS/mjs
Attachments

cc: Mike Ianniello (GE) w/o
Ken Meashey (GE) w/o
Howard Ray (CH- Albany) w/o
Brian Chapman (CHI) w/o
CHEE File No. E-2910

Clean Harbors, Inc.
Remedial Systems Division

Calculation Sheet
Job # : E-2910
Calc. #: M-01
Date : 11-13-90
Name: M. Smith
Checked: R Keenan
Pg 1 of 6

Purpose:

The purpose of the following calculations is to estimate annual vapor emission rates.

Assumptions:

- Continuous operation for 24 hours per day, 350 days of annual operation (assuming two weeks of shut-down for maintenance)
- 25 gallons per minute water flow rate
- 55 degrees F groundwater temperature
- 100% of VOC's will be transferred from the groundwater to the air stream in the air stripping tower
- Influent water concentrations obtained from Goldberg, Zoino and Associates Phase II report
- Activated vapor phase carbon system operates at an efficiency of 90%

Method:

1) Calculate worst case emissions with no emission control (no vapor carbon system).
2) Calculate nominal operating condition emissions with no emission control.
3) Calculate worst case emissions with emission control.
4) Calculate nominal operating conditions with emission control.

Conclusions:

The calculations illustrate the following:

- Annual emissions for worst case conditions with no emission control are estimated at 2.6 tons per year.
- Annual emissions for nominal operating conditions with no emission control are estimated at .79 tons per year.
- Annual emissions for worst case conditions with emission control are estimated at .26 tons per year.
- Annual emissions for nominal operating conditions with emission control are estimated at .08 tons per year.

Clean Harbors, Inc.
Remedial Systems Division

Calculation Sheet
Job # : E-2910
Calc. #: M-01
Date : 11-13-90
Name: M. Smith
Checked: R Kuenzli
pg 4 of 6

1,1 Dichloroethylene,

$$\frac{.05 * 25 * 3.785 * 60}{453,600} = .0006 \text{ lb/hr}$$

$$= 5.04 \text{ lb/yr}$$

1,1,1 Trichloroethane $\frac{.05 * 25 * 3.785 * 60}{453,600} = .0006$ lb/hr

$= 5.04$ lb/yr

1,1 Dichloroethane,

$$\frac{.12 * 25 * 3.785 * 60}{453,600} = .0015 \text{ lb/hr}$$

$$= 12.6 \text{ lb/yr}$$

Styrene,

$$\frac{.09 * 25 * 3.785 * 60}{453,600} = .0011 \text{ lb/hr}$$

$$= 9.24 \text{ lb/yr}$$

TOTAL WORST CASE VOC EMISSION RATE:

$3,364 + 1,472 + 410 + 5.04 + 5.04 + 5.04 + 5.04 + 12.6 + 9.24 =$

$= 5,288$ lb/yr $= 2.6$ Tons/year

Clean Harbors, Inc.
Remedial Systems Division

Calculation Sheet
Job # : E-2910
Calc. #: M-01
Date : 11-13-90
Name: M. Smith
Checked: R Keenan

Toluene,

$$\frac{14 * 25 * 3.785 * 60}{453600} = .1752 \text{ lb/hr}$$

$$= 1472 \text{ lb/yr}$$

Vinyl Chloride,

$$\frac{3.9 * 25 * 3.785 * 60}{453,600} = .0488 \text{ lb/hr}$$

$$= 410.0 \text{ lb/yr}$$

Trichloroethylene

$$\frac{.05 * 25 * 3.785 * 60}{453600} = .0006 \text{ lb/hr}$$

$$= 5.04 \text{ lb/yr}$$

Perchloroethylene

$$\frac{.05 * 25 * 3.785 * 60}{453,600} = .0006 \text{ lb/hr}$$

$$= 5.04 \text{ lb/yr}$$

Clean Harbors, Inc.
Remedial Systems Division

Calculation Sheet
Job # : E-2910
Calc. #: M-01
Date : 11-13-90
Name: M. Smith
Checked: RKleeman
pg 2 of 6

Air Emission Calculations:

- WORST CASE CONCENTRATIONS ARE (in ppm):

Trans 1,2 Dichloroethylene	32.0
Toluene	14.0
Vinyl Chloride	3.9
Trichloroethylene	.05
Perchloroethylene	.05
1,1 Dichloroethylene	.05
1,1,1 Trichloroethane	.05
1,1 Dichloroethane	.12
Styrene	.09
TOTAL	50.31 ppm

Note: These values were obtained from GZA's Phase II Report. Data is from sampling and analysis performed in November 1989.

1) - WORST CASE ANNUAL EMISSIONS (Assuming 100% Air Stripper Efficiency): WITH NO EMISSION CONTROL

Trans 1,2 Dichloroethylene,

$$= \frac{(32\ mg/l) * (25\ gal/min) * (3.785\ l/gal) * (60\ min/hr)}{(453{,}600\ mg/lb)}$$

$$= .4005\ lb/hr$$

$$\therefore = (.4005\ lb/hr)(8400\ hr/yr)$$

$$= 3{,}364\ lb/yr$$

Clean Harbors, Inc.
Remedial Systems Division

Calculation Sheet
Job # : E-2910
Calc. #: M-01
Date : 11-13-90
Name: M. Smith
Checked: K Kaufman
pg 5 of 6

2) – CALCULATE ANNUAL EMISSIONS FOR NOMINAL OPERATIONS WITH NO EMISSION CONTROL

Nominal operation concentrations are assumed to be:

15* ppm TOTAL VOC's

* NOTE: This assumption is based on data from other wells in the area and on data obtained from similar systems under similar conditions.

$$\frac{(15\ \frac{mg}{l}) * (25\ \frac{gal}{min}) * (3.785\ \frac{l}{gal}) * (60\ \frac{min}{hr})}{(453600\ mg/lb)} = .1877\ lb/hr$$

92.6 MW 1.7 .0665 3427.53

$$.1877\ lb/hr * 24\ hr/day * 350\ days/year = 1,577\ lb/yr$$

OR

.79 tons/yr

Clean Harbors, Inc.
Remedial Systems Division

Calculation Sheet
Job # : E-2910
Calc. #: M-01
Date : 11-13-90
Name: M. Smith
Checked: R Keenan

3) - Worst Case Annual Emissions with Emission Control pg 6 of 6

It is assumed that the vapor phase activated carbon units have a removal efficiency of 90%

$5,288\ lb/yr * (1.00 - .90) =$ **528.8 lbs/yr**

OR

.26 Tons/Year

4) - Nominal Operation Annual Emissions with Emission Control

$1,577\ lb/y * (1.0 - .90) =$ **157.7 lb/yr**

OR

.079 Tons/Year

ENVIRONMENTAL ENGINEERING CORPORATION
325 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-1200

November 21, 1990

Mr. Tom Todd
GE Materials Acquisition Center
117 Business Park Drive
Utica, New York 13502

Re: **Revised Cost Estimate for Groundwater Remediation System**
CHEE Job No. E-2910

Dear Mr. Todd:

Please find enclosed a clarification of revised costs to the Scope of Work for Remedial Measures at the 50 Fordham Road Property in Wilmington, Massachusetts, dated October 12, 1990. These costs reflect the estimated costs for designing and implementing a single groundwater treatment system to operate in the area of the former underground tank farm. The previous estimates given were based on the implementation of two similar, but independent systems. The costs were presented in a format by which each area of concern could be tracked as its own cost center.

The engineering, design and permitting costs would be the same for one or two systems. The two proposed systems were essentially identical, and the costs were divided equally between the two systems. Therefore, for the implementation of one system, the engineering, design and permitting costs would remain unchanged from what was originally estimated in our August 2, 1990 submittal. The capital equipment costs would change by the amount of $2,500.00 because the boiler cost would not be split between the systems. Also, under the aforementioned proposal, the groundwater from both pump tests was assumed to be treated using activated carbon units. The amount of carbon to be used was assumed to be sufficient for both pump tests due to the relatively low contamination levels and small volume of water to be treated. The costs associated with the disposal of this carbon was also shared between the systems.

REVISED WORK & COST PLAN

The following is a summary of budgetary costs which have been estimated for implementation of the proposed RM.

	Underground Tank Farm Area
A. Engineering, Design & Drafting	**$10,600**
B. Regulatory/Compliance Permitting - Air Emission - Water Discharge	**$ 4,500**
C. Capital Equipment - Air Stripping Tower - Vapor Adsorber Units - Liquid Carbon Adsorber Unit - Sequestering System - Particulate Filter(s) - Pipe, Valves & Fittings - Pumps & Blowers - Instrumentation & Controls - Electrical Panel - Wooden Structure	**$70,220**
- Steam Generator/Boiler	**$ 5,000**
D. Recovery Well - Well Installation - Well Development - Pump Test (24 Hr)	**$ 6,000**
E. Treatment of Groundwater for Pump Test	**$ 9,460**
F. Utility Service Drop	**$ 750**
G. Site Construction & Installation - System Setup - Field power and control wiring - Process lines aboveground	**$ 5,000**
H. System Startup &Troubleshoot	**$ 2,450**
TOTALS	**$113,980**

Should you have any questions or require more information on what is provided, please give me a call at (617) 849-1800 ext.1130

Sincerely,

R Kiernan for NG Nelhuebel

Norman G. Nelhuebel
Manager, Remedial Systems

NGN/ngn
cc: Brian Chapman (CHI)
Howard Ray (CH-Albany)
Mike Ianniello (GE)
Ken Meashey (GE)
Iris Davis (MA-DEP)
CHEE File No. E-2910

GE Corporate
Environmental Programs

Michael Ianniello
Remedial Project Engineer

Northeast/Midwest Regions
General Electric Company
1 Computer Drive South, Albany, NY 12205
*518 458-9108 Dial Comm: 8*920-9000*

November 13, 1990

Via Fax

Ms. Iris Davis
The Commonwealth of Massachusetts
Department of Environmental Protection
Metropolitan Boston/Northeast Region
5 Commonwealth Avenue
Woburn, MA 01801

Re: Wilmington DEP Case No. 3-0578

Dear Iris:

Please extend the deadline for submission of the design of the Interim Measure until November 26, 1990. Also, per our conversation, please let the record reflect this is an Interim Measure not a Short Term Measure as stated in the November 2, 1990 letter.

Very truly yours,

Mike Ianniello

Michael L. Ianniello
Remedial Project Engineer

/ale

GENERAL ELECTRIC COMPANY
CORPORATE ENVIRONMENTAL PROGRAMS

1 COMPUTER DRIVE SOUTH
ALBANY, NY 12205

PHONE NO. (518) 458-9108
FAX NO. (518) 458-9247

DATE: November 13, 1990

TO: Iris Davis

Commonwealth of Mass

PHONE NO: _____ FAX NO: 617.932.6322

FROM: Mike Iannello

NUMBER OF PAGES TO FOLLOW: 1

COPIES TO: _____

COMMENTS: _____

If there are any problems with the transmission of this document, please call ALINA at (518) 458-9108.

File Copy

The Commonwealth of Massachusetts
Department of Environmental Protection
Metropolitan Boston - Northeast Region
5 Commonwealth Avenue
Woburn, Massachusetts 01801

Daniel S. Greenbaum
Commissioner

November 5, 1990

Mr. Michael Ianniello
General Electric Company
1 Computer Drive South
Albany, N.Y. 12205

RE: WILMINGTON-General Electric
Short Term Measure for
50 Fordham Road
DEP Case No. 3-0518

Dear Mr. Ianniello:

This letter is to confirm the submittal date of November 10, 1990 for the Short Term Measure (STM) proposed for the 50 Fordham Road property. This date was agreed upon at an October 10, 1990 meeting between yourself and Department of Environmental Protection (the Department) representatives. The proposal will include the design specifications for the remediation system(s) that will be used on the subject site, and a schedule of the work to be performed and date of completion.

As discussed in the October 10, 1990 meeting, the submittal date is considered an Interim Deadline. This deadline is adopted by the Department of Environmental Protection as an Interim Deadline pursuant to its authority under M.G.L. c.21E Section 3A(j) and 310 CMR 40.534(5). Failure to comply with this Interim Deadline may result in action pursuant to M.G.L. c21A Section 16, and 310 CMR 5.00.

If you have any questions please contact Iris Davis at (617) 935-2160 or the letterhead address.

Very truly yours,

Iris W. Davis
Environmental Analyst

Stephen M. Johnson
for Richard J. Chalpin
Regional Engineer

RJC/IWD/ram

cc: Jim Persky, DWS/NERO
DEP/WSC, 1 Winter St., Boston, Ma 02108
BOH, 121 Glen Road, Wilmington, MA 01887

10/10/90 GE meeting

Mike Iannillo, GE

Richard Kiernan, Clean Harbors

Sharon G.

Iris D

Amy F.

2 issues ⇒ Converse tank (BTEX)

⇒ tank farm (chlorinated)

possibly 2 separate systems (GW pump & treat)

Design Proposal for:

pump & treat ⇒ Converse tank
tank farm
GZ-101 area

} 11/10/90 ⇒ depending on receiving PO from GE within 7-10 days.

Write Memo 10/10/90

[redacted]

Rick Keenan - 849-1200 x 1118
Mike Iannello
Amy Ferguson
Sharon Geeslamo
Ian Davis

-They may have two systems running; one for the BTEX the other for Chlorinated.
-BTEX - area does not want to do soil venting
Revised proposal: due: November 10, 1990
additional well by metal finishing area.

GE Corporate
Environmental Programs

...chael Ianniello
Remedial Project Engineer

Northeast/Midwest Regions
General Electric Company
1 Computer Drive South, Albany, NY 12205
518 458-9108 Dial Comm: 8*920-9000

November 13, 1990

Via Fax

Ms. Iris Davis
The Commonwealth of Massachusetts
Department of Environmental Protection
Metropolitan Boston/Northeast Region
5 Commonwealth Avenue
Woburn, MA 01801

Re: Wilmington DEP Case No. 3-0578

Dear Iris:

Please extend the deadline for submission of the design of the Interim Measure until November 26, 1990. Also, per our conversation, please let the record reflect this is an Interim Measure not a Short Term Measure as stated in the November 2, 1990 letter.

Very truly yours,

Mike Ianniello

Michael L. Ianniello
Remedial Project Engineer

/ale

ENVIRONMENTAL ENGINEERING CORPORATION
325 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-1200

Given to AF at meeting of 10/10/90

September 4, 1990

Mr. Mike Ianniello
General Electric Corporate Environmental Programs
1 Computer Drive South
Albany, New York 12205

Re: **Implementation of Groundwater Treatment System**
CHEE Job No. E-2910

Dear Mr. Ianniello:

Clean Harbors Environmental Engineering, Inc.(CHEE) is pleased to submit the following proposed Scope of Work for Remedial Measures at the 50 Fordham Road Property in Wilmington, Massachusetts. A review of the Draft Phase II Report prepared by Goldberg-Zoino & Associates, Inc. (GZA) and a site walkdown were performed to better understand site characteristics and to establish baseline criteria for the design and implementation of Remedial Measures (RM).

Discussions between yourself and Murray Sharkey and Norman Nelhuebel of CHEE identified three (3) areas to be addressed: 1) A BTEX problem in the area of the former underground storage tank; 2) a chlorinated solvent problem in the area of the former underground tank farm ; and 3) a contaminated soil problem in the area of the sewer outfalls. This proposal addresses the first two problems. Insufficient information was available on the contaminated soils and this will be addressed at a later date.

The following includes a general description and overview of the proposed RM to be implemented at the site. Also included are preliminary, budgetary costs for the proposed RM. Please understand that the design and respective costs presented herein are estimates only and are subject to change based on reported analytical data, limited information defining aquifer characteristics and the balance of any subsurface, investigatory work yet to be performed by GZA or others. This letter report is further broken down into three sections for your review; Design Basis, Remedial System Description and Scope of Work.

I. DESIGN BASIS

The area of the former underground storage tank has a contaminated soil and groundwater problem. The contaminated soils would be best suited for a soil vent system. This would not address the contaminated groundwater problem. CHEE recommends installing a groundwater treatment system large enough to handle flow from both problem areas. The additional costs for a system to treat both streams would be the labor required to run the additional piping to a common location from both wells. This cost would be small compared to the installation of a soil vent system. The groundwater could be treated for a period of time and the area re-evaluated for a future soil vent system.

For the purpose of developing a preliminary remedial system design and reasonably defining costs anticipated for successful implementation of the RM, CHEE proposes the following design criteria and assumptions:

A. One (1) groundwater recovery well will be located in the former tank farm area to treat the contaminant plume as defined. Groundwater from the bedrock area will be pumped to the treatment system.

B. A second (2) groundwater recovery well will be located in the area of the underground fuel tank and will pump groundwater from the overburden aquifer to the treatment system.

C. The maximum total groundwater recovery rate will be less than 50 gallons per minute.

D. The primary contaminants targeted for removal are TCE, PCE, DCE, TCA, DCA,Vinyl Chloride, and BTEX.

E. Total VOC loading to the proposed remedial system will be in the range of 50-100 ppm for the duration of the RM.

F. Contaminants are recovered in the aqueous phase, where no separate or non-aqueous phase liquid is present.

G. The RM will primarily address groundwater remediation. Excavation of contaminated soils will not be addressed within the immediate scope of the RM.

II. REMEDIAL SYSTEM DESCRIPTION

Based on the above described design criteria and assumptions, as well as information documented in the Draft Phase II Report, a preliminary remedial system design has been selected for the proposed application. In similar recovery and treatment scenarios, CHEE has successfully applied air stripping technology coupled with emission controls as a means to more efficiently proceed with the remedial action process in the most timely and cost effective manner. As time progresses in the remedial action process, the levels of contamination are expected to diminish at which point the remedial system may be considered for reevaluation, where there may be the potential to simplify or scale down the methods of treatment used (retrofit with liquid phase carbon). The following includes a more detailed description of the proposed remedial system.

A six(6) inch diameter recovery well will be installed within the proximity of the underground tank farm. The well will be constructed of polyvinyl chloride (PVC) with No. 10 slot well screen. CHEE recommends that the well screen extend from the top of the water table and extend into the bedrock layer to a depth of approximately 30 feet below grade. . The groundwater flow rate will be determined through a 24 hour pump test. Groundwater recovered during the pump test will undoubtedly contain quantities of the contaminants identified. Options for handling pump test water include on-site treatment and discharge or off-site transport and disposal. If possible, it is recommended that the appropriate water discharge permit(s) be obtained prior to the pump test to allow for on-site treatment and discharge versus covering the expense for off-site transport and disposal.

The second recovery well will be installed in the area of the underground fuel storage tank to pump from the overburden aquifer. A six(6) inch recovery well will be installed. The boring will be advanced to a depth of thirty (30) feet which is the depth to bedrock. The well will be constructed of PVC and will be screened for the entire depth. A second pump test as described above will be performed on this well. The piping from the recovery well can be trenched or run aboveground to the treatment system. A more detailed review will be required to determine the most economical approach for running the piping

from the recovery wells (aboveground and heat traced versus trenching and excavating potentially contaminated soils) to the treatment system

Groundwater depression pumps will then be deployed and secured in each well at a predesignated elevation. There will also be the flexibility to reposition the depression pumps at increasing depths in the well. This will enable groundwater recovery down to select vertical locations in the aquifer since the contamination exists in different portions of the aquifer. The depression pumps will be provided with a water level shut-off probe and the necessary external controls to maintain the optimum water table depression required. Flow from the wells to the system will be regulated using manual flow control valves and combination flow indicator/totalizers.

Groundwater recovered from the wells is transfered to the system where it is first prefiltered to remove any fine silt or colloidal material. Particulate matter has the potential to foul, clog or even damage any of the downstream components if left in the process stream. Following the prefiltration step, a sequestering agent will be required. Sequestering agents are typically utilized in groundwater applications where elevated levels of iron, manganese or other dissolved solids are reported. These constituents will normally precipitate under oxidizing conditions such as aeration whereas the sequestering agent acts to maintain the solubility of the dissolved solid under such conditions. In the absence of a sequestering agent, dissolved solids will precipitate and accumulate in the air stripping tower causing the packing to foul and plug over time. This subsequently results in a reduction in stripping efficiency, extended system downtime for maintenance/repair and significant expense potentially associated with complete replacement of the packing material. CHEE recommends the use of a sequestering agent in this application because of the elevated levels of iron and manganese reported in the groundwater.

Solids-free groundwater will proceed to the Air Stripping System where volatile organic compounds are removed and transferred from the groundwater stream to the air. Groundwater is pumped to the top of the tower where it is evenly distributed over the packing material. As groundwater cascades down through the packing it mixes with a countercurrent flow of ambient air fed through the bottom of the tower. The air-to-water ratio used through the stripping tower is critical to assure that the exchange between the air and water is sufficient to evaporate the volatile compounds from the groundwater at a high removal efficiency. Removal efficiencies realized for the contaminants of concern typically exceed 95%. The solvent-laden vapor exits the top of the tower where it is first treated prior

to exhausting to the atmosphere. The best available emission control technology identified at this time for the removal of chlorinated organic hydrocarbons is gas-phase, activated carbon adsorption. CHEE proposes the implementation of a dual adsorber system with the capability for on-site, low pressure steam regeneration. The adsorber system will be operated in series, where solvent emissions are first transfered through the primary unit followed by flow through the secondary unit. When contaminant breakthrough is detected in the primary unit, it will be taken off-line for steam regeneration at which point the secondary unit takes the primary position. Following the steam regeneration cycle, the adsorber is put back on-line in the secondary position where the rotation is repeated again. Steam passed through each spent carbon unit is recovered,condensed and consolidated in storage drums. Often times the condensate will separate as two discrete liquid phases, water and solvent. The drummed condensate volume can be further reduced by decanting off the water phase and returning it to the system for additional treatment. The chlorinated solvents, which are more dense than water, will remain at the bottom of the drum. Toluene and other less dense hydrocarbons which normally separate on the surface of the water may in fact also remain at the bottom of the drum due to a co-solvent affect with the chlorinated solvents.

Treated groundwater which has completed its travel down through the air stripping tower collects in an integrally mounted sump. The water is automatically purged and transferred to the point of ultimate discharge using level switches which control the high and low level setpoints in the sump by respectively turning the sump discharge pump on and off. It should be noted that the effluent water quality from the air stripper must satisfy the water quality criteria set by the responsible agency prior to discharge. Water quality requirements will vary based on the point of discharge; sanitary sewer, subsurface recharge, surface water discharge. Should the air stripper effluent water quality not satisfy the requirements set by the governing agency, effluent polishing in the form of liquid-phase activated carbon will be required.

The system will also be instrumented with the controls necessary to maintain a fail-safe operation thereby automatically energizing and de-energizing equipment as required. Pipe, valves and fittings will be constructed of polyvinyl chloride (PVC) with select portions of piping around the vapor adsorber units to be provided in steel. Tanks for holding groundwater and sequestering agent will be constructed of high-density polyethylene while tanks for the activated carbon system(s) described will be provided as epoxy coated steel pressure vessels. The air stripper tower, extension pieces and top

reducing cone will be constructed of fiberglass. To protect the system from seasonal extremes in temperature and weather, a wooden structure will be built to house the remedial system. Equipment which remains exposed will be insulated as required. The structure also

provides the security which may be necessary. In addition, a security fence may be desired to further prevent unauthorized entry and vandalism.

III. SCOPE OF WORK

The following is a summary of work which has been estimated for implementation of the proposed RM.

A. Engineering, Design & Drafting

B. Regulatory/Compliance Permitting
- Air Emission
- Water Discharge

C. Capital Equipment
- Air Stripping Tower
- Vapor Adsorber Units
- Liquid Carbon Adsorber Units
- Sequestering System
- Steam Generator/Boiler
- Particulate Filter(s)
- Pipe, Valves & Fittings
- Pumps & Blowers
- Instrumentation & Controls
- Electrical Panel
- Wooden Structure

D. Recovery Well
- Well Installation
- Well Development
- Pump Test (24 Hr)

E. Treatment of Groundwater for Pump Test

F. Utility Service Drop

G. Site Construction & Installation
- System Setup
- Field power and control wiring
- Process lines aboveground

H. System Startup &Troubleshoot

Engineering time is included in the above estimate for preparing air emission and water discharge permit applications. Any requirements to attend any meetings or to generate any submittals to the state or other regulatory bodies would be in addition to the above scope of work.

CHEE will make every effort possible to minimize costs associated with the project. Should you have any questions or require more information on the what is provided, please give me a call at (617) 849-1800 ext.1118

Sincerely,

Richard J. Kiernan

Richard J. Kiernan
Senior Chemical Engineer

RJK/rjk
cc: Norman Nelhuebel (CHEE)
Murray Sharkey (CHEE)
Brian Chapman (CHI)
Howard Ray (CH-Albany)
CHEE File No. E-2910

Steve Johnson

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Protection
Office of General Counsel

One Winter Street, Boston, Massachusetts 02108
Telephone: (617) 292-5568

Daniel S. Greenbaum
Commissioner

Willard R. Pope
General Counsel

November 29, 1990

Angela Cogliano, Docket Clerk
Office of Administrative Appeals
Department of Environmental Protection
One Winter Street - 3rd floor
Boston, Massachusetts 02108

In the matter of General Electric Company et al.
Order No. 809
Docket No. 90-126

Dear Ms. Cogliano:

Please find enclosed, for filing in this matter, a Notice of Substitution of Counsel and a Certificate of Service.

Thank you for your assistance.

Yours truly,

Marcia Sherman

MS/mp
cc: Jeffrey Davidson
Madelaine Berg
Sabin Lord
Stephen Johnson
Ron White
Christos Tsiotos
William Gaughan

1555M

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER POLLUTION CONTROL

In the Matter of General Electric Company Ametek Aerospace Products, Inc. and Wilmington Realty Trust 50 Fordham Road Wilmington, Massachusetts 01887	Administrative Order No. 809 Docket No. 90-126 Notice of Substitution of Counsel

Please substitute Anne Bingham for Marcia Sherman as counsel for the Division of Water Pollution Control in this matter.

Dated: 11/28/90 Submitted by:

Marcia Sherman
Deputy General Counsel
Department of Environmental Protection
One Winter Street, 3rd Floor
Boston, Massachusetts 02108
617/292-5568

Anne Bingham
Deputy General Counsel
Department of Environmental Protection
One Winter Street 3rd floor
Boston, Massachusetts 02108
617/292-5568

CERTIFICATE OF SERVICE

It is hereby certified that a true and exact copy of a Notice of Substitution of Counsel was mailed, via first class mail, to the following: Madelaine Berg, Esq., Stroock & Stroock & Lavan, Seven Hanover Square, New York, New York 10004-2594; Jeffrey Davidson, Esq., Hale & Dorr 1455 Pennsylvania Avenue N.W. Washington, D.C. 20004; and Christos Tsiotos, Esq. 424 Broadway Somerville, Massachusetts 02145 on this 3rd day of December, 1990.

Signed under the pains and penalties of perjury.

Anne Glenn

PRP Entry/Correction Form

✓ New Entry

__ Correction

1. Site I.D. 3-0518

2. Site Name General Electric

3. Town Wilmington

4. Last or Company Name Converse, Inc.

5. First Name

6. Middle Initial

7. Type of Party (Circle One) CORPORATION INDIVIDUAL PARTNERSHIP TOWN GOVERNMENT STATE AGENCY FED. AGENCY REALTY TRUST OTHER UNKNOWN

8. Attention Mr. Jack Green

9. Title General Counsel

10. Address Line 1 Converse, Inc.

11. Address Line 2 1 Fordham Road

12. State MA

13. Town N. Reading

14. Zip Code 01864

15. Telephone (___) ___-____ Ext.

16. Relationship.....PRP

17. LTBI NOR Date __/__/__

18. Confirmed Disposal Site NOR Date 9/25/90

Signature Amy M. Ferguson Date 10/1/90

Submitted 10/1/90

(55)

TELEPHONE CONVERSATION NOTES
MASS DEQE/NERO/DSHW

SITE REFERENCE GE DATE 9/20/90

SUBJECT TIME 3:30 pm

FROM Mike Lannello (GE-my call) REPRESENTING GZA

TO Amy Ferguson REPRESENTING DEP

DISCUSSION

→ original purpose of call: Heading of Focused FS. (See other phone memo)

- Mike doesn't want to do soil venting at GE site due to excessive cost. Wants to re-inject groundwater to flush contaminants from vadose zone.
- Told him to get quote from another company (Clean Harbors quote out of line). DEP feels that soil venting is necessary; flushing will not be effective.
- Mike says high costs are due to vapor phase GAC costs. He says < 1 ton/year will be emitted therefore AQ says don't require controls. Told him that SAC would probably require this for at least the first couple of months of treatment when conc. are high. Calculations will have to be presented

ACTION REQUIRED/REFERRED TO do DEP for review

(55)

TELEPHONE CONVERSATION NOTES
MASS DEQE/NERO/DSHW

SITE REFERENCE 50 Fordham 30578 DATE 9/10/90

SUBJECT _____ TIME _____

FROM Amy Ferguson REPRESENTING DEQE

TO Ken Measney REPRESENTING GE

DISCUSSION

- called Ken to find out contact person for Converse to send NOR
- Ken reported that Bill Smith (GE) talked w/ Citizen Smith (Wilmington) re: progress during project. Everything is reportedly being held up by Town of Wilmington where various parties review plans
- Told Ken that state doing Risk Assessment for GE property (Stirling Well) is a possibility but that GE would have to sign NORA letter. Ken is still dealing w/ attorneys on this issue
- Told Ken we will be calling the proposed ground-water/vapor extraction on 50 Fordham Rd an "IM" instead of a "STM".

ACTION REQUIRED/REFERRED TO

9/10/90 GE meeting

GTA-101 area → were solvents introduced here?
design specs → ~ 2 wks from now can get to us

Focused FS ~ 2-3 wks to us
- drawdown was noted in most Concord St. wells during pump test.
- didn't know if any drawdown noted in bedrock wells

GE plans to do following for STM:
1) install overburden extraction well at loc. of former #6 storage tank (30' deep screened over saturated area)
2) install extraction well at tank farm location, will will be 30' deep (~ 20' into bedrock) + will be screened in both the overburden + the bedrock.

DEP requested that GE include soil vapor extraction in both locations + GE agreed
DEP requested that GE look at GTA-101 area (SW corner of facility) for possible remediation. GE will evaluate the influence of GW extraction at the tank farm area on GTA-101 area. May determine that addl. extraction well necessary.

DEP suggested that GE install separate overburden & monitoring wells at tank farm area to minimize possible cross contamination & more effectively extract contaminants from barrack. GE opted to stick w/ original plan of one well but agreed not to argue w/ DEP in future if additional work is determined necessary.

GE asked if DEP could do Risk Assessment for drinking water at Stickney + bill GE (up to triple costs)
AF+ID asked JF ⇒ we can do this, but only if GE requests to do RA + we first send them an NORA

GENERAL ELECTRIC COMPANY
CORPORATE ENVIRONMENTAL PROGRAMS

1 COMPUTER DRIVE SOUTH
ALBANY, NY 12205

PHONE NO. (518) 458-9108
FAX NO. (518) 458-9247

DATE: Sept. 5, 1990

TO: IRIS DAVIS

PHONE NO: 935 2160 FAX NO: 935-6393

FROM: Michael Iannello / GE

NUMBER OF PAGES TO FOLLOW: _____

COPIES TO: _____

COMMENTS: IRIS for your review. If the concepts are OK give me a call and I'll start CHEE on a design.

If there are any problems with the transmission of this document, please call ALINA at (518) 458-9108.

CleanHarbors
ENVIRONMENTAL ENGINEERING CORPORATION
325 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-1200

September 4. 1990

Mr. Mike Ianniello
General Electric Corporate Environmental Programs
1 Computer Drive South
Albany, New York 12205

Re: **Implementation of Groundwater Treatment System**
CHEE Job No. E-2910

Dear Mr. Ianniello:

Clean Harbors Environmental Engineering, Inc.(CHEE) is pleased to submit the following proposed Scope of Work for Remedial Measures at the 50 Fordham Road Property in Wilmington, Massachusetts. A review of the Draft Phase II Report prepared by Goldberg-Zoino & Associates, Inc. (GZA) and a site walkdown were performed to better understand site characteristics and to establish baseline criteria for the design and implementation of Remedial Measures (RM).

Discussions between yourself and Murray Sharkey and Norman Nelhuebel of CHEE identified three (3) areas to be addressed: 1) A BTEX problem in the area of the former underground storage tank; 2) a chlorinated solvent problem in the area of the former underground tank farm ; and 3) a contaminated soil problem in the area of the sewer outfalls. This proposal addresses the first two problems. Insufficient information was available on the contaminated soils and this will be addressed at a later date.

The following includes a general description and overview of the proposed RM to be implemented at the site. Also included are preliminary, budgetary costs for the proposed RM. Please understand that the design and respective costs presented herein are estimates only and are subject to change based on reported analytical data, limited information defining aquifer characteristics and the balance of any subsurface, investigatory work yet to be performed by GZA or others. This letter report is further broken down into three sections for your review; Design Basis, Remedial System Description and Scope of Work.

I. DESIGN BASIS

The area of the former underground storage tank has a contaminated soil and groundwater problem. The contaminated soils would be best suited for a soil vent system. This would not address the contaminated groundwater problem. CHEE recommends installing a groundwater treatment system large enough to handle flow from both problem areas. The additional costs for a system to treat both streams would be the labor required to run the additional piping to a common location from both wells. This cost would be small compared to the installation of a soil vent system. The groundwater could be treated for a period of time and the area re-evaluated for a future soil vent system. Soil is continuing source, can't it?

For the purpose of developing a preliminary remedial system design and reasonably defining costs anticipated for successful implementation of the RM, CHEE proposes the following design criteria and assumptions:

A. One (1) groundwater recovery well will be located in the former tank farm area to treat the contaminant plume as defined. Groundwater from the bedrock area will be pumped to the treatment system.

B. A second (2) groundwater recovery well will be located in the area of the underground fuel tank and will pump groundwater from the overburden aquifer to the treatment system.

C. The maximum total groundwater recovery rate will be less than 50 gallons per minute.

D. The primary contaminants targeted for removal are TCE, PCE, DCE, TCA, DCA, Vinyl Chloride, and BTEX.

E. Total VOC loading to the proposed remedial system will be in the range of 50-100 ppm for the duration of the RM.

F. Contaminants are recovered in the aqueous phase, where no separate or non-aqueous phase liquid is present.

G. The RM will primarily address groundwater remediation. Excavation of contaminated soils will not be addressed within the immediate scope of the RM.

II. REMEDIAL SYSTEM DESCRIPTION

Based on the above described design criteria and assumptions, as well as information documented in the Draft Phase II Report, a preliminary remedial system design has been selected for the proposed application. In similar recovery and treatment scenarios, CHEE has successfully applied air stripping technology coupled with emission controls as a means to more efficiently proceed with the remedial action process in the most timely and cost effective manner. As time progresses in the remedial action process, the levels of contamination are expected to diminish at which point the remedial system may be considered for reevaluation, where there may be the potential to simplify or scale down the methods of treatment used (retrofit with liquid phase carbon). The following includes a more detailed description of the proposed remedial system.

A six(6) inch diameter recovery well will be installed within the proximity of the underground tank farm. The well will be constructed of polyvinyl chloride (PVC) with No. 10 slot well screen. CHEE recommends that the well screen extend from the top of the water table and extend into the bedrock layer to a depth of approximately 30 feet below grade. . The groundwater flow rate will be determined through a 24 hour pump test. Groundwater recovered during the pump test will undoubtedly contain quantities of the contaminants identified. Options for handling pump test water include on-site treatment and discharge or off-site transport and disposal. If possible, it is recommended that the appropriate water discharge permit(s) be obtained prior to the pump test to allow for on-site treatment and discharge versus covering the expense for off-site transport and disposal.

The second recovery well will be installed in the area of the underground fuel storage tank to pump from the overburden aquifer. A six(6) inch recovery well will be installed. The boring will be advanced to a depth of thirty (30) feet which is the depth to bedrock. The well will be constructed of PVC and will be screened for the entire depth. A second pump test as described above will be performed on this well. The piping from the recovery well can be trenched or run aboveground to the treatment system. A more detailed review will be required to determine the most economical approach for running the piping

from the recovery wells (aboveground and heat traced versus trenching and excavating potentially contaminated soils) to the treatment system

Groundwater depression pumps will then be deployed and secured in each well at a predesignated elevation. There will also be the flexibility to reposition the depression pumps at increasing depths in the well. This will enable groundwater recovery down to select vertical locations in the aquifer since the contamination exists in different portions of the aquifer. The depression pumps will be provided with a water level shut-off probe and the necessary external controls to maintain the optimum water table depression required. Flow from the wells to the system will be regulated using manual flow control valves and combination flow indicator/totalizers.

Groundwater recovered from the wells is transfered to the system where it is first prefiltered to remove any fine silt or colloidal material. Particulate matter has the potential to foul, clog or even damage any of the downstream components if left in the process stream. Following the prefiltration step, a sequestering agent will be required. Sequestering agents are typically utilized in groundwater applications where elevated levels of iron, manganese or other dissolved solids are reported. These constituents will normally precipitate under oxidizing conditions such as aeration whereas the sequestering agent acts to maintain the solubility of the dissolved solid under such conditions. In the absence of a sequestering agent, dissolved solids will precipitate and accumulate in the air stripping tower causing the packing to foul and plug over time. This subsequently results in a reduction in stripping efficiency, extended system downtime for maintenance/repair and significant expense potentially associated with complete replacement of the packing material. CHEE recommends the use of a sequestering agent in this application because of the elevated levels of iron and manganese reported in the groundwater.

what is the 'sequester-ing agent'? will it pose a spread GW quality?

Solids-free groundwater will proceed to the Air Stripping System where volatile organic compounds are removed and transferred from the groundwater stream to the air. Groundwater is pumped to the top of the tower where it is evenly distributed over the packing material. As groundwater cascades down through the packing it mixes with a countercurrent flow of ambient air fed through the bottom of the tower. The air-to-water ratio used through the stripping tower is critical to assure that the exchange between the air and water is sufficient to evaporate the volatile compounds from the groundwater at a high removal efficiency. Removal efficiencies realized for the contaminants of concern typically exceed 95%. The solvent-laden vapor exits the top of the tower where it is first treated prior

to exhausting to the atmosphere. The best available emission control technology identified at this time for the removal of chlorinated organic hydrocarbons is gas-phase, activated carbon adsorption. CHEE proposes the implementation of a dual adsorber system with the capability for on-site, low pressure steam regeneration. The adsorber system will be operated in series, where solvent emissions are first transfered through the primary unit followed by flow through the secondary unit. When contaminant breakthrough is detected in the primary unit, it will be taken off-line for steam regeneration at which point the secondary unit takes the primary position. Following the steam regeneration cycle, the adsorber is put back on-line in the secondary position where the rotation is repeated again. Steam passed through each spent carbon unit is recovered,condensed and consolidated in storage drums. Often times the condensate will separate as two discrete liquid phases, water and solvent. The drummed condensate volume can be further reduced by decanting off the water phase and returning it to the system for additional treatment. The chlorinated solvents, which are more dense than water, will remain at the bottom of the drum. Toluene and other less dense hydrocarbons which normally separate on the surface of the water may in fact also remain at the bottom of the drum due to a co-solvent affect with the chlorinated solvents.

Treated groundwater which has completed its travel down through the air stripping tower collects in an integrally mounted sump. The water is automatically purged and transferred to the point of ultimate discharge using level switches which control the high and low level setpoints in the sump by respectively turning the sump discharge pump on and off. It should be noted that the effluent water quality from the air stripper must satisfy the water quality criteria set by the responsible agency prior to discharge. Water quality requirements will vary based on the point of discharge; sanitary sewer, subsurface recharge, surface water discharge. Should the air stripper effluent water quality not satisfy the requirements set by the governing agency, effluent polishing in the form of liquid-phase activated carbon will be required.

The system will also be instrumented with the controls necessary to maintain a fail-safe operation thereby automatically energizing and de-energizing equipment as required. Pipe, valves and fittings will be constructed of polyvinyl chloride (PVC) with select portions of piping around the vapor adsorber units to be provided in steel. Tanks for holding groundwater and sequestering agent will be constructed of high-density polyethylene while tanks for the activated carbon system(s) described will be provided as epoxy coated steel pressure vessels. The air stripper tower, extension pieces and top

reducing cone will be constructed of fiberglass. To protect the system from seasonal extremes in temperature and weather, a wooden structure will be built to house the remedial system. Equipment which remains exposed will be insulated as required. The structure also provides the security which may be necessary. In addition, a security fence may be desired to further prevent unauthorized entry and vandalism.

III. SCOPE OF WORK

The following is a summary of work which has been estimated for implementation of the proposed RM.

A. Engineering, Design & Drafting

B. Regulatory/Compliance Permitting
- Air Emission
- Water Discharge

C. Capital Equipment
- Air Stripping Tower
- Vapor Adsorber Units
- Liquid Carbon Adsorber Units
- Sequestering System
- Steam Generator/Boiler
- Particulate Filter(s)
- Pipe, Valves & Fittings
- Pumps & Blowers
- Instrumentation & Controls
- Electrical Panel
- Wooden Structure

D. Recovery Well
- Well Installation
- Well Development
- Pump Test (24 Hr)

E. Treatment of Groundwater for Pump Test

F. Utility Service Drop

G. Site Construction & Installation
- System Setup
- Field power and control wiring
- Process lines aboveground

H. System Startup &Troubleshoot

Engineering time is included in the above estimate for preparing air emission and water discharge permit applications. Any requirements to attend any meetings or to generate any submittals to the state or other regulatory bodies would be in addition to the above scope of work.

CHEE will make every effort possible to minimize costs associated with the project. Should you have any questions or require more information on the what is provided, please give me a call at (617) 849-1800 ext.1118

Sincerely,

Richard J. Kiernan

Richard J. Kiernan
Senior Chemical Engineer

RJK/rjk
cc: Norman Nelhuebel (CHEE)
Murray Sharkey (CHEE)
Brian Chapman (CHI)
Howard Ray (CH-Albany)
CHEE File No. E-2910

GENERAL ELECTRIC COMPANY
CORPORATE ENVIRONMENTAL PROGRAMS

1 COMPUTER DRIVE SOUTH
ALBANY, NY 12205

PHONE NO. (518) 458-9108
FAX NO. (518) 458-9247

DATE: Sept. 5, 1990

TO: IRIS DAVIS

PHONE NO: 935 2160 **FAX NO:** 935-6393

FROM: Michael Iannello / CE

BER OF PAGES TO FOLLOW:

ES TO:

COMMENTS: IRIS for your review. If the concepts are OK give me a call and I'll start CHEE on a design.

If there are any problems with the transmission of this document, please call ALINA at (518) 458-9108.

Cleanharbors
ENVIRONMENTAL ENGINEERING CORPORATION
333 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-1200

September 4, 1990

Mr. Mike Ianniello
General Electric Corporate Environmental Programs
1 Computer Drive South
Albany, New York 12205

Re: **Implementation of Groundwater Treatment System**
CHEE Job No. E-2910

Dear Mr. Ianniello:

Clean Harbors Environmental Engineering, Inc.(CHEE) is pleased to submit the following proposal for the Scope of Work for Remedial Measures at the 50 Fordham Road Property in Wilmington, Massachusetts. A review of the Draft Phase II Report prepared by Goldberg-Zoino Associates, Inc. (GZA) and a site walkdown were performed to better understand site characteristics and to establish baseline criteria for the design and implementation of Remedial Measures (RM).

Discussions between yourself and Murray Sharkey and Norman Nelhubel of CHEE identified three (3) areas to be addressed: 1) A BTEX problem in the area of the former underground storage tank; 2) a chlorinated solvent problem in the area of the former underground tank farm ; and 3) a contaminated soil problem in the area of the ~~sewer~~ storm drain outfalls. This proposal addresses the first two problems. Insufficient information was available on the contaminated soils and this will be addressed at a later date.

The following includes a general description and overview of the proposed RM to be implemented at the site. Also included are preliminary, budgetary costs for the proposed RM. Please understand that the design and respective costs presented herein are estimates only and are subject to change based on reported analytical data, limited information defining aquifer characteristics and the balance of any subsurface, investigatory work yet to be performed by GZA or others. This letter report is further broken down into three sections for your review; Design Basis, Remedial System Description and Scope of Work.

I. DESIGN BASIS

The area of the former underground storage tank has a contaminated soil and groundwater problem. The contaminated soils would be best suited for a soil vent system. This would not address the contaminated groundwater problem. CHEE recommends installing a groundwater treatment system large enough to handle flow from both problem areas. The additional costs for a system to treat both streams would be the labor required to run the additional piping to a common location from both wells. This cost would be small compared to the installation of a soil vent system. The groundwater could be treated for a period of time and the area re-evaluated for a future soil vent system.

For the purpose of developing a preliminary remedial system design and reasonably defining costs anticipated for successful implementation of the RM, CHEE proposes the following design criteria and assumptions:

A. One (1) groundwater recovery well will be located in the former tank farm area to treat the contaminant plume as defined. Groundwater from the bedrock area will be pumped to the treatment system.

B. A second (2) groundwater recovery well will be located in the area of the underground fuel tank and will pump groundwater from the overburden aquifer to the treatment system.

C. The maximum total groundwater recovery rate will be less than 50 gallons per minute.

D. The primary contaminants targeted for removal are TCE, PCE, DCE, TCA, DCA, Vinyl Chloride, and BTEX.

E. Total VOC loading to the proposed remedial system will be in the range of 50-100 ppm for the duration of the RM.

F. Contaminants are recovered in the aqueous phase, where no separate or non-aqueous phase liquid is present.

G. The RM will primarily address groundwater remediation. Excavation of contaminated soils will not be addressed within the immediate scope of the RM.

II. REMEDIAL SYSTEM DESCRIPTION

Based on the above described design criteria and assumptions, as well as information documented in the Draft Phase II Report, a preliminary remedial system design has been selected for the proposed application. In similar recovery and treatment scenarios, CHEE has successfully applied air stripping technology coupled with emission controls as a means to more efficiently proceed with the remedial action process in the most timely and cost effective manner. As time progresses in the remedial action process, the levels of contamination are expected to diminish at which point the remedial system may be considered for reevaluation, where there may be the potential to simplify or scale down the methods of treatment used (retrofit with liquid phase carbon). The following includes a more detailed description of the proposed remedial system.

A six(6) inch diameter recovery well will be installed within the proximity of the underground tank farm. The well will be constructed of polyvinyl chloride (PVC) with No. 0 slot well screen. CHEE recommends that the well screen extend from the top of the water table and extend into the bedrock layer to a depth of approximately 30 feet below grade. . The groundwater flow rate will be determined through a 24 hour pump test. Groundwater recovered during the pump test will undoubtedly contain quantities of the contaminants identified. Options for handling pump test water include on-site treatment and discharge or off-site transport and disposal. If possible, it is recommended that the appropriate water discharge permit(s) be obtained prior to the pump test to allow for on-site treatment and discharge versus covering the expense for off-site transport and disposal.

The second recovery well will be installed in the area of the underground fuel storage tank to pump from the overburden aquifer. A six(6) inch recovery well will be installed. The boring will be advanced to a depth of thirty (30) feet which is the depth to bedrock. The well will be constructed of PVC and will be screened for the entire depth. A second pump test as described above will be performed on this well. The piping from the recovery well can be trenched or run aboveground to the treatment system. A more detailed review will be required to determine the most economical approach for running the piping

from the recovery wells (aboveground and heat traced versus trenching and excavating potentially contaminated soils) to the treatment system

Groundwater depression pumps will then be deployed and secured in each well at a predesignated elevation. There will also be the flexibility to reposition the depression pumps at increasing depths in the well. This will enable groundwater recovery down to select vertical locations in the aquifer since the contamination exists in different portions of the aquifer. The depression pumps will be provided with a water level shut-off probe and the necessary external controls to maintain the optimum water table depression required. Flow from the wells to the system will be regulated using manual flow control valves and combination flow indicator/totalizers.

Groundwater recovered from the wells is transfered to the system where it is first prefiltered to remove any fine silt or colloidal material. Particulate matter has the potential to foul, clog or even damage any of the downstream components if left in the process stream. Following the prefiltration step, a sequestering agent will be required. Sequestering agents are typically utilized in groundwater applications where elevated levels of iron, manganese or other dissolved solids are reported. These constituents will normally precipitate under oxidizing conditions such as aeration whereas the sequestering agent acts to maintain the solubility of the dissolved solid under such conditions. In the absence of a sequestering agent, dissolved solids will precipitate and accumulate in the air stripping tower causing the packing to foul and plug over time. This subsequently results in a reduction in stripping efficiency, extended system downtime for maintenance/repair and significant expense potentially associated with complete replacement of the packing material. CHEE recommends the use of a sequestering agent in this application because of the elevated levels of iron and manganese reported in the groundwater.

Solids-free groundwater will proceed to the Air Stripping System where volatile organic compounds are removed and transferred from the groundwater stream to the air. Groundwater is pumped to the top of the tower where it is evenly distributed over the packing material. As groundwater cascades down through the packing it mixes with a countercurrent flow of ambient air fed through the bottom of the tower. The air-to-water ratio used through the stripping tower is critical to assure that the exchange between the air and water is sufficient to evaporate the volatile compounds from the groundwater at a high removal efficiency. Removal efficiencies realized for the contaminants of concern typically exceed 95%. The solvent-laden vapor exits the top of the tower where it is first treated prior

to exhausting to the atmosphere. The best available emission control technology identified at this time for the removal of chlorinated organic hydrocarbons is gas-phase, activated carbon adsorption. CHEE proposes the implementation of a dual adsorber system with the capability for on-site, low pressure steam regeneration. The adsorber system will be operated in series, where solvent emissions are first transfered through the primary unit followed by flow through the secondary unit. When contaminant breakthrough is detected in the primary unit, it will be taken off-line for steam regeneration at which point the secondary unit takes the primary position. Following the steam regeneration cycle, the adsorber is put back on-line in the secondary position where the rotation is repeated again. Steam passed through each spent carbon unit is recovered,condensed and consolidated in storage drums. Often times the condensate will separate as two discrete liquid phases, water and solvent. The drummed condensate volume can be further reduced by decanting off the water phase and returning it to the system for additional treatment. The chlorinated solvents, which are more dense than water, will remain at the bottom of the drum. Toluene and other less dense hydrocarbons which normally separate on the surface of the water may in fact also remain at the bottom of the drum due to a co-solvent affect with the chlorinated solvents.

Treated groundwater which has completed its travel down through the air stripping tower collects in an integrally mounted sump. The water is automatically purged and transferred to the point of ultimate discharge using level switches which control the high and low level setpoints in the sump by respectively turning the sump discharge pump on and off. It should be noted that the effluent water quality from the air stripper must satisfy the water quality criteria set by the responsible agency prior to discharge. Water quality requirements will vary based on the point of discharge; sanitary sewer, subsurface recharge, surface water discharge. Should the air stripper effluent water quality not satisfy the requirements set by the governing agency, effluent polishing in the form of liquid-phase activated carbon will be required.

The system will also be instrumented with the controls necessary to maintain a fail-safe operation thereby automatically energizing and de-energizing equipment as required. Pipe, valves and fittings will be constructed of polyvinyl chloride (PVC) with select portions of piping around the vapor adsorber units to be provided in steel. Tanks for holding groundwater and sequestering agent will be constructed of high-density polyethylene while tanks for the activated carbon system(s) described will be provided as epoxy coated steel pressure vessels. The air stripper tower, extension pieces and top

reducing cone will be constructed of fiberglass. To protect the system from seasonal extremes in temperature and weather, a wooden structure will be built to house the remedial system. Equipment which remains exposed will be insulated as required. The structure also provides the security which may be necessary. In addition, a security fence may be desired to further prevent unauthorized entry and vandalism.

III. SCOPE OF WORK

The following is a summary of work which has been estimated for implementation of the proposed RM.

A. Engineering, Design & Drafting

B. Regulatory/Compliance Permitting
- Air Emission
- Water Discharge

C. Capital Equipment
- Air Stripping Tower
- Vapor Adsorber Units
- Liquid Carbon Adsorber Units
- Sequestering System
- Steam Generator/Boiler
- Particulate Filter(s)
- Pipe, Valves & Fittings
- Pumps & Blowers
- Instrumentation & Controls
- Electrical Panel
- Wooden Structure

D. Recovery Well
- Well Installation
- Well Development
- Pump Test (24 Hr)

E. Treatment of Groundwater for Pump Test

F. Utility Service Drop

G. Site Construction & Installation
- System Setup
- Field power and control wiring
- Process lines aboveground

H. System Startup &Troubleshoot

Engineering time is included in the above estimate for preparing air emission and water discharge permit applications. Any requirements to attend any meetings or to generate any submittals to the state or other regulatory bodies would be in addition to the above scope of work.

CHEE will make every effort possible to minimize costs associated with the project. Should you have any questions or require more information on the what is provided, please give me a call at (617) 849-1800 ext.1118

Sincerely,

Richard J. Kiernan

Richard J. Kiernan
Senior Chemical Engineer

RJK/rjk
cc: Norman Nelhuebel (CHEE)
Murray Sharkey (CHEE)
Brian Chapman (CHI)
Howard Ray (CH-Albany)
CHEE File No. E-2910

7/6/90 Meeting ... 10-12 Am

Attendants: Ken Keaschy } GE
Mike Iannillo }
Amy Ferguson } DEP
Iris Davis }

⇒ Amy/Iris expressed dis-satisfaction with the Risk Assessment in the GE Phase II report.
- need to assess use of groundwater in Stickney Well area
- need to assess extent of contamination in ~~the~~ Conrail track area; beneath parking lot and in wetlands
- need to include magnesium chip disposal area.

⇒ Amy/Iris will review the Risk Assessment and get back to GE with specific comments so that GE can re-do the sections that need work.

⇒ Amy/Iris mentioned that report was very difficult to review since tables/figures were in different section from text.

⇒ Ken/Mike expressed a desire to commence some type of remediation on the site prior to completion of the Phase III and revision of the Phase II.

- Amy/Lisa explained this could be done as a Short Term Measure so that remediation could commence ASAP, HOWEVER an acceptable Phase II and a Ph. III FS/Evaluation of various remedial alternatives would still be required for the site.
- In addition, if additional work / different type of remediation is found to be necessary following the Ph. III, this work must be carried out. i.e., the STM cannot at this time be considered the "final remedial response" though it may be a part of the FRRP.

⇒ GE plans to submit a proposal from Clean Harbors for vapor extraction and/or groundwater extraction & treatment to the DEP.

⇒ There was little discussion about the Phase II report since neither Amy or Lisa have thoroughly reviewed it.

⇒ GE agreed to allow access to STM-4 to Sterling/Dexter as long as a Dept. representative was present during sampling/sampling. Mike I. called later in PM to request that this access be reciprocated by Sterling/Dexter.

Discussions regarding the sewering project:

- GE hired SEA to evaluate the feasibility of sewering Fordham Rd. & tying into Wilmington sewer. SEA estimated the project would cost GE $1.5 million.
- Apparently (according to Ken/Mike) in meetings with the Towns of Reading, N. Reading, Wilmington, the following occurred:
  - Ed Price, Town of Wilmington DPW has his own sewering agenda/scheme. He claims to "own" the sewer. His plans are much more complex than those proposed by SEA and would cost ~$7 mil and take until 1993 to complete. Mr. Price will not budge on his plan.
  - GE has therefore decided that they will upgrade their on-site sewage treatment facility rather than proceed with sewering UNLESS something drastic changes in Wilmington.

GE Aerospace

Automated Systems Department
General Electric Company
P.O. Box 588, Burlington, MA 01803
617 229-5000

April 26, 1990

Ms. Amy Ferguson
Ms. Iris Davis
The Commonwealth of Massachusetts
Department of Environmental Protection
Metro Boston- N. E. Region
5 Commonwealth Ave.
Woburn, MA 01801

DEP/
WOB...

Re: Phase II Report , 50 Fordham Road Property,
Wilmington / North Reading, Massachusetts

Dear Ms. Ferguson, Ms. Davis,

Please find enclosed a copy of our Phase II Report as required by the Massachusetts Contingency Plan regulation 310 CMR 40.00. Per our discussions we have also included some elements of remedial response alternatives to be considered. Development of Phase III Remedial Response Alternatives is forthcoming.

Thank you for your cooperation, if you have any questions or if you would like to schedule a meeting to discuss this report, please call me.

Sincerely,

Dino B. Iseppi
Senior Environmental / Safety Engineer

CC: Kenneth Meashey

FACSIMILE COVER LETTER

GOLDBERG - ZOINO & ASSOCIATES
CONSULTING ENGINEERS / GEOLOGISTS / ENVIRONMENTAL SCIENTISTS

THE GZA BUILDING 320 NEEDHAM STREET NEWTON UPPER FALLS, MA 02164
PHONE : (617) 969 - 0050
FACSIMILE : (617) 965 - 7769

DATE: 4/3/90 FILE NO.: 7650.54

TO : Amy Ferguson
DEP - NE Region

FROM : Stacy Sabol
GZA

FAX NO. (617) 935 - 6393

RE: Concord St. Benchmark info from Surveyor

TOTAL NUMBER OF PAGES (INCLUDING THIS COVER LETTER) : 2

IF THERE ARE ANY PROBLEMS PLEASE CONTACT THE PUBLICATIONS DEPARTMENT AT (617) 969 - 0050 EXT. #220.

COMMENTS:

TRANSMITTED BY: DATE: TIME:

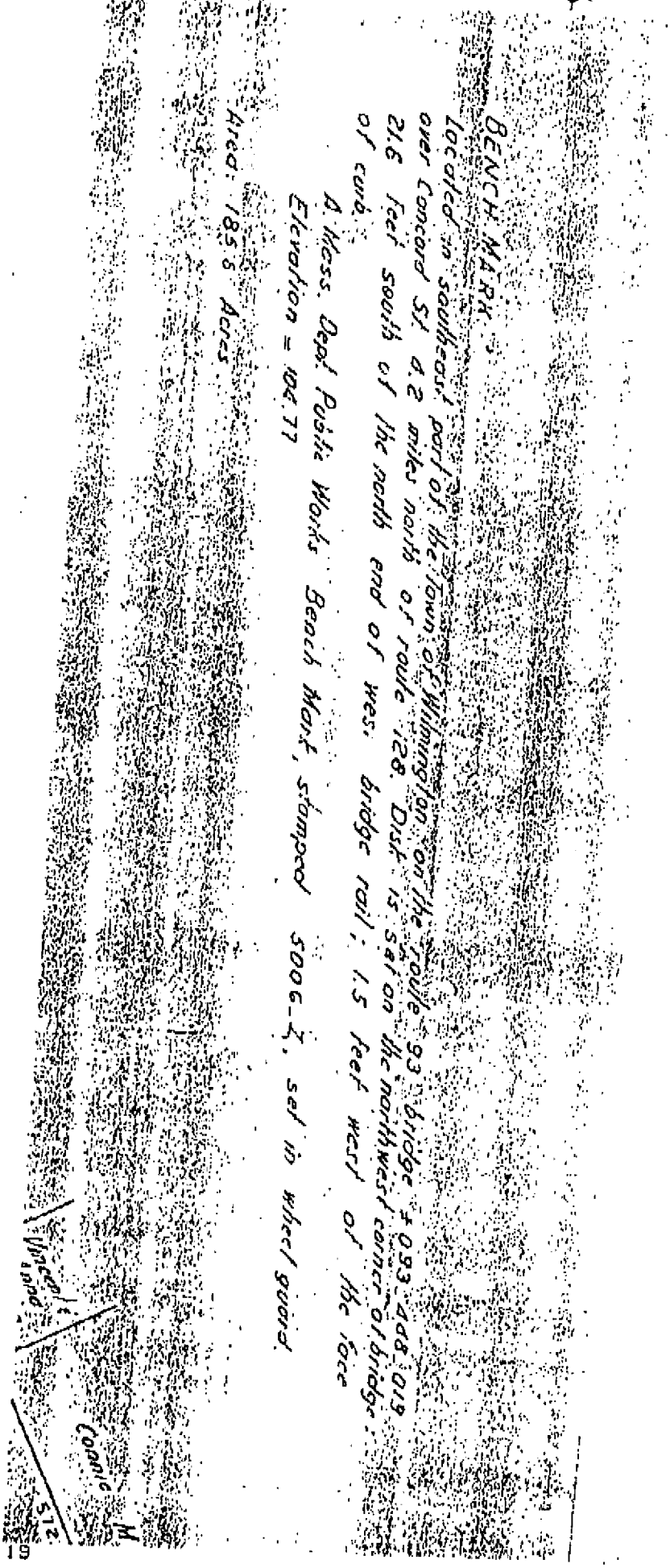
BENCH MARK:

Located in southeast part of the town of Williamstown on the south side of Route 2 over Cascade St. 0.2 miles north of route 128. Disk is set on the northwest corner of bridge 21.6 feet south of the north end of west bridge rail; 1.5 feet west of the face of curb.

A. Mass. Dept. Public Works Bench Mark, stamped 5006-X, set in wheel guard.

Elevation = 104.77

Area: 185.8 Acres



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
ENVIRONMENTAL SERVICES DIVISION
60 WESTVIEW STREET, LEXINGTON, MASSACHUSETTS 02173-3185

30 January 1990

Ms. Heidi Dolan
G.G. Automated Systems
P.O. Box 588
Burlington, Massachusetts 01803-0588

Re: NPDES Permit Exclusion
Tank Decommissioning
50 Fordham Road
Wilmington, Massachusetts

Dear Ms. Dolan:

Based on information provided by Mr. Edward Walsh of Environmental Applications (EA), Inc., I grant you, pursuant to Title 40 of the Code of Federal Regulations, Part 122.3(d), an emergency exclusion from the requirement for a permit under the National Pollution Discharge Elimination System (NPDES), in order to dewater a tank preliminary to removing the tank.

Subject to other controls that may be established by the State of Massachusetts, and the Town of Wilmington, you are authorized to discharge approximately 3,500 gallons water. Due to the extremely low levels of contamination of this previously cleaned tank, a treatment system is not required, however, discharge to storm drainage leading to Martin Brook, must be in accordance with the following conditions:

1. No discharge of oil, sufficient to cause a sheen (as defined in 40 CFR 110), occurs to the unnamed tributary. The discharge of a sheen of oil constitutes an oil spill and must be reported to the National Response Center [(800) 424-8802].

2. Security provisions are maintained to assure that system failure, vandalism, or other incident will be addressed in a timely fashion, preventing the loss of oil or contaminated water to the receiving waters.

3. Sampling and analysis, in accordance with EPA methods, is performed for volatile organic compounds, semi-volatile organic compounds, the 13 RCRA metals, and total cyanide, are to be conducted from the tank, before dewatering, at the discharge, and at points upgradient and downgradient of the outlet to Martin Brook. Analytical Reports, with quality control information, are to be reported to the DEP Regional Office and to this office within 8 weeks of the completion of operations.

4. You, or your representative, provide 24 hours notice of system start-up.

This exclusion will be in effect for 2 days.

If any questions should arise, please do not hesitate to contact me at (617) 860-4362.

Sincerely,

David W. Tordoff
On-Scene Coordinator
Emergency Planning & Response Branch

cc: T. Landry USEPA
M. Ziencina MaDEP-DWPC
R. Chalpin MaDEP-DSHW
E. Walsh EA

GE AEROSPACE
Automated Systems Department
P.O. Box 588
Burlington, MA 01803
(617) 229-5000
8*326-5000

FAX TRANSMISSION COVER SHEET

TELE FAX NO.: 1-(617) 935-6393 (Must Include Area Code) DATE: 1.18.90

NO. OF PAGES: 2 (Including Cover Sheet)

TO: Iris Davis MAIL STOP: ____

PHONE NO.: ( )

COMPANY: DEP - Woburn

ADDRESS: ____

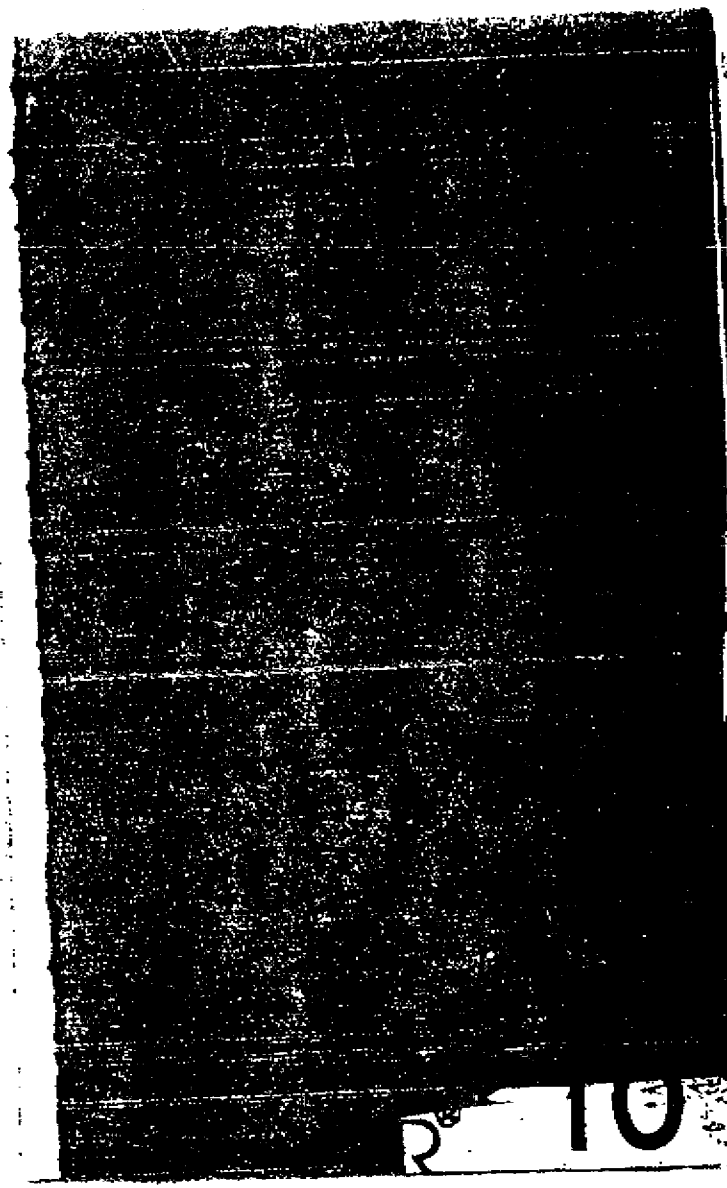
FROM: Heidi Dolan MAIL STOP: 6-1

PHONE NO.: (617) 229-5231 SUBSECT. NO.: 610

MESSAGE: Iris —
Per your Request
— Heidi

GE AEROSPACE ASD FAX NO.: (617) 273-3169

CONFIRMATION AT MACHINE: (617) 229-3041 -OR- 8*326-3041



Reading may join lawsuit against GE

12/13/79 Town Crier

The Town of Reading it seems may soon join the town of North Reading in the $45 million lawsuit against General Electric for alleged pollution at the North Reading - Wilmington line with trichloroethylene (TCE) in 1978.

North Reading's lawsuit became public last week, and alleges that the TCE which caused the Stickney Well in North Reading to close down, in December 1978 came from the General Electric facility in Wilmington, near the North Reading line. That facility is now the property of Ametech.

The well fields of Reading are located directly across the Ipswich River from the site of the former Stickney Well. Reading is now seeking state monies, to fund a battery of tests at its Well 82-20. The well has been ordered shut down, pending tests, and is one of Reading's best producers.

Reading's water treatment plant is unable to treat for TCE or PEC. It is estimated that the costs for Reading can be as high as $2 million. Reading's Public Works Director, Anthony Fletcher, believes the state DEP will probably mandate treatment for well 82-20, whether or not sta. funds are available.

(The Town Crier publisher examined, in a non-technical manner, the site of the well in North Reading, and the possible course of water from General Electric in 1979. At about the same time the Public Health Officer of Wilmington, Ernest Romano, and another official reported that they had examined General Electric, and had not found any possible source of TCE if the publisher's memory is correct.)

GOLDBERG·ZOINO & ASSOCIATES, INC.
CONSULTING ENGINEERS/GEOLOGISTS/ENVIRONMENTAL SCIENTISTS

320 Needham Street Newton Upper Falls, MA 02164
(617) 969-0050 FAX (617) 965-7769

January 10, 1990
GZA File No. 7650.60-C, PC

Mr. James R. Stewart
Chairperson
North Reading Conservation Commission
Town Hall, Murphy Center
235 North Street
North Reading, Massachusetts 01864

Re: Request for Determination of Applicability -- Piezometer Installation, General Electric Company, North Reading, MA

Dear Mr. Stewart:

Enclosed please find a Request for Determination of Applicability along with supporting plans, being submitted by General Electric Company for the proposed manual piezometer installations within "Bordering Vegetated Wetland" and associated "Buffer Zone", in the vicinity of the General Electric Company site in North Reading. We are anticipating a public hearing regarding this Request during the North Reading Conservation Commission meeting scheduled for February 12, 1990.

The installation process described in the Request has been designed in order to allow the project objectives to be met without resulting in any negative impacts to wetland resource areas. Therefore, General Electric Company is seeking a negative Determination for the proposed work.

Thank you for your attention to this submittal. Should you have any questions, please feel free to contact the undersigned at (617) 969-0050, extension 235, or Ms. Heidi Dolan of General Electric Company at (617) 229-5231.

Very truly yours,

GOLDBERG-ZOINO & ASSOCIATES

Stacy A. Sabol
Project Engineer