M. Peter Lanahan
Manager, Hudson River Project

Corporate Environmental Programs
General Electric Company
One Computer Drive South, Albany, NY 12205
*518 458 6648 Dial Comm: 8*920-6648*
*Fax: 518 458 1014 Dial Comm: 8*920-9301*

December 8, 1993

EPA Region II, Building 209, MS-211
Chief, Response: Prevention Branch
2890 Woodbridge Avenue
Edison, New Jersey 08837

RE: CONTINUOUS RELEASE REPORT (CR-ERNS # 140381)
ANNUAL UPDATE

Dear Sir or Madam:

On October 12, 1992, the General Electric Company (GE) called the National Reponse Center (NRC) to report facts under investigation that may constitute a continuing release of a hazardous substance. The NRC assigned the report CR-ERNS Number 140381. By letter dated November 9, 1992, a written notification was sent pursuant to 40 C.F.R. § 302.8(e) to follow-up on the initial telephone notification.

40 C.F.R. § 302.8 (c) and § 302.8 (f) require that a follow-up notification be provided 30 days after the first anniversary date of the initial written notification. The following information is supplied to comply with the above requirements:

1. **The name, location and Dunn and Bradstreet number of the facility;**

   GE has no conclusive evidence that there has been an unpermitted release of a reportable quantity of PCBs from any facility under its ownership or control. Based on investigations conducted pursuant to a consent order with the New York State Department of Environmental Conservation (NYSDEC) it appears the PCBs detected in the Hudson River could have been released from a number of locations, including; contaminated sediments within water conveyance channels in an abandoned mill not under GE's control or ownership and subsurface seepage from the GE Hudson Falls Capacitor manufacturing facility.

The data does not prove that the PCB loading in excess of 1 pound/day was due to releases from the Allen Mills structure as opposed to the GE facility. However, the investigation does indicate that the elevated PCB loading, was probably due to scouring of PCB contaminated sediments from the Allen Mills after a bar screen within the mill failed, and allowed large amounts of water to move through a tunnel which is now known to harbor sediments with PCB concentrations in excess of 50,000 ppm.

Since the water flowing through the abandoned mill has been greatly reduced, and potential scouring of contaminated sediments within the mill controlled, the PCB level in the river has dropped and stabilized at a level of 10-30 parts per trillion. This equates to approximately 0.1-0.5 pounds/day of PCB in the river, which is below the reportable quantity (RQ) level. It is not certain that these levels will remain this low and additional monitoring will be performed to verify that this is indeed occurring. It is also not clear what portion of the remaining load if any, is due to loading from the GE facility. This will be determined by on-going investigations of the ground water system and the Allen Mills.

The area of concern in the river is located at a latitude of 43 deg., 15 min. and 44 sec., and a longitude of 73 deg., 35 min., and 24 sec. The GE Hudson Falls facility Dunn and Bradstreet number is 093256063.

The name and telephone number of the person in charge of this investigation is:

John G. Haggard
General Electric Company
1 Computer Drive South
Albany, NY 12205
(518) 458-6619

2. **The population density within a one-mile radius of the facility**

The population density within a one-mile radius of this 0.2 mile stretch of the River is more than 1000 persons.

3. **The identity and location of sensitive populations and ecosystems within a one-mile radius of the facility.**

The relevant sensitive populations or ecosystems within a one-mile radius is the is the Hudson River ecosystem.

4. **The name, identity, and CASRN of the hazardous substance.**

   Polychlorinated biphenyls, CASRN 133-63-63

5. **The upper and lower bounds of the normal range of the release over the previous year.**

   The attached report and associated appendix provides the estimates of mass loading to the river which includes contribution from a number of potential sources (see #1 above). Using the Fort Edward monitoring station employed, the normal range of PCB loading over the last year (November 1992 - October 1993) is estimated as:

Monitoring Station	PCB Loading (Kilograms/day)
Ft. Edward	7.4 - 0.13

   There is considerable uncertainty associated with this estimate. As we have previously advised you, because of data gaps, in order to arrive at the estimates sent herewith, it was necessary to make a number of assumptions. The precise source of the PCBs to the river is not known, measurements were not continuously made, the measuring point was some distance from the location of the suspected source, the measuring point may not have yielded completely representative samples, and many values were calculated by interpolation rather than measured. Therefore, there are inherent uncertainties in the accuracy of the mass loading estimates presented.

6. **The source(s) of release**

   (See the explanation provided in # 1 above.)

7. **The frequency of the release and the fraction of the release from each source and the specified period over which it occurs.**

   GE's monitoring data indicate the continuous presence of PCBs from the source area. The loading is fluctuating within an established range, as discussed above.

8. **A brief statement describing the basis for stating that the release is continuous and stable in quantity and rate.**

PCB's have been detected within the specified range of concentration over a period of 13 months. Although the amounts detected vary within a range, PCBs are generally present without interruption. Thus, GE's data suggest that a PCB release is occurring that meets the definition of continuous at 40 C.F.R. 302.8(b). GE's monitoring data also establish a range of PCB concentrations that occur regularly in the River and appear to be predictable. Thus, the data suggest that the PCB release meets the definition of "stable in quantity and rate" at 40 C.F. R. 302.8(b).

9. **An estimate of the total annual amount that was released in the previous year.**

   The attached report details the estimates of PCB loading from the source area over the last year.

10. **The environmental medium affected by the release, and its average flowrate and designated use.**

    The PCBs have been detected in the Hudson River. The average flowrate of the River in the area in which PCBs have been detected is approximately 5200 cubic feet/second. The Hudson River is a mixed-use river.

GE still has no conclusive evidence that there has been an unpermitted release of a reportable quantity of PCBs from any facility under its control or ownership. Nevertheless, available data indicates that there may be an on-going release of PCBs to the Hudson River. The additional information presented in this annual update does not change GE's basis, as set forth in it's letter dated November 9, 1993 for stating such an on-going release appears to be stable in quantity and rate. The information presented in this letter is accurate and current to the best of GE's knowledge and belief.

GE will continue to monitor PCB loading in this area. GE is hopeful that PCB loading will stay below RQ limits over the next year. If you have any questions please do not hesitate to call the undersigned at (518) 458-6619.

Yours truly,

M. Peter Lanahan, Manager
Hudson River Project

cc: New York State Emergency Response Commission
Case # 9208046
Washington County Local Emergency Planning Committee
Mr. Douglas Tomchuk, U. S. EPA
Mr. Michael O'Toole, NYSDEC

REPORT

HUDSON RIVER PROJECT

CONTINUOUS RELEASE REPORT

ADDENDUM II

GENERAL ELECTRIC COMPANY
CORPORATE ENVIRONMENTAL PROGRAMS
ALBANY, NEW YORK

DECEMBER 1993

O'BRIEN & GERE ENGINEERS, INC.
5000 BRITTONFIELD PARKWAY
SYRACUSE, NEW YORK 13221

TABLE OF CONTENTS

SECTION 1 - INTRODUCTION

1.01 Background

This report presents PCB mass loading estimates to the upper Hudson River from one or more of several potential sources located in the vicinity of Bakers Falls (Bakers Falls Source). These estimates were calculated by O'Brien & Gere Engineers, Inc. (O'Brien & Gere) on behalf of the General Electric Company (GE). Mass loading from the Bakers Falls source was estimated from PCB mass loading calculations which considered river flow and PCB measurements within the Fort Edward, New York region of the upper Hudson River. Mass loading estimates are presented as mean monthly loading rates, for the period November 1992 through October 1993.

1.02 Objectives and Scope

The principle objective of the mass loading calculations was to estimate the mass of PCB loading to the river from the Bakers Falls Source since Addendum 1 of the Continuous Release Report was issued. Figure 1 presents the sampling locations for which the estimates were calculated. For the estimates provided herein, monthly data for the time period November 1992 through October 1993 (inclusive) were evaluated.

In Addendum 1, five mass loading estimate methods were compared. It was found that the range of estimated PCB mass loadings provided by the multiple estimation approach was small (O'Brien & Gere, 1993). In that comparison, weekly and daily mass estimates were evaluated. Weekly mass estimates were similar to

daily estimates. Therefore for this report, weekly mass loading rates were calculated for Fort Edward only.

An outline of the remainder of this report is provided below.

Methods

- Monitoring Methods - information on the monitoring program including PCB sampling and analysis, and river flow monitoring are presented.
- Estimation Method - the approach used to estimate weekly mass loading at Fort Edward is presented.

Results

- A summary of the data is presented.

SECTION 2 - METHODS

2.01 Monitoring Methods

Upper Hudson River water column monitoring for PCB mass loading calculations consisted of water column sampling at weekly intervals (approximately) by O'Brien & Gere, for GE. The monitoring program was a continuation of previous sampling which began in April, 1991. Sampling and analysis for congener-specific PCBs and TSS were conducted. Mass estimates were calculated using two water column monitoring locations on the upper Hudson River (Figure 1):

Location	Approximate River Mile(HRM)
Fenimore Bridge, Hudson Falls	197.0
Route 197 Bridge in Fort Edward	194.2

Samples collected from both locations were vertically stratified composite samples.

Upper Hudson River flows were monitored by United States Geological Survey (U.S.G.S.) at the Fort Edward gauging station. Flows were reported by U.S.G.S. as mean daily flows, in cubic feet per second (cfs). Mean daily flow data for Fort Edward were obtained from a U.S.G.S. draft summary dated October 14, 1993. However, flows at the Fort Edward gauging station were not provided by U.S.G.S. for three time periods between November 1992 and October 1993:

- December 26, 1992 to January 5, 1993
- June 13, 1993 to July 3, 1993

- July 6, 1993 to July 22, 1993

Difficulties with river flow monitoring equipment is the purported reason for the lack of data during these periods. For each of the above time periods, flows for dates preceding and following the subject time period were averaged. The resulting river flow estimate was used to calculate mass loading for these periods. In addition, U.S.G.S. mean daily flows were not yet available from September 8, 1993 through the end of October. Therefore, instantaneous flows calculated from stage height measurements taken at the Fort Edward gauging station during sampling were used to calculate loading during that period.

2.02 PCB Mass Loading Estimation Method

Mass loading is described in general terms as:

$$L = Q * C \qquad (2)$$

where L is loading (M/T), Q is flow (l^3/T), and C is PCB concentration (M/l^3). Here, M, T, and l represent mass, time, and length, respectively. For sampling results with PCB concentrations below the detection limit (< 11 ng/L), a value of 5.5 ng/L was used along with flow to estimate mass loading.

Average weekly flow from U.S.G.S. gauging data at Fort Edward (Q_W) were calculated and multiplied by weekly PCB analytical data from the Fort Edward monitoring location (C_W), yielding average weekly loading rates (L_W) as follows:

$$L_W = Q_W * C_W \qquad (3)$$

Monthly loading rates L_M were estimated as the sum of weekly average loading rates for each month according to:

$$L_M = \sum_{i=1}^{n} L_W \qquad (4)$$

Where n is the number of weeks in the month.

The following assumptions were used to estimate average weekly loading rates at Fort Edward:

- Loading from the Bakers Falls source was represented by PCB concentrations at Fort Edward;
- Average weekly concentrations were represented by PCB concentrations of samples collected approximately once per week;
- PCBs originating from the Bakers Falls source area were eventually transported through the Fort Edward Dam remnant deposit region of the river; and
- Fort Edward Dam remnant deposits (remnants) contributed insignificant amounts of PCBs to the river.

From initial review of water column PCB data, two data outliers were suspected. The suspected outliers were 1086 ng/L and 665 ng/L which occurred on January 14, 1993 and May 5, 1993, respectively. To evaluate whether the observations were outliers, a statistical method of evaluation called the Q test (Christian, 1980) was employed. From the results of this

test, these data were omitted from the mass loading estimates. Revised mass loadings were calculated using the average PCB concentration preceding and following each of these time periods.

For comparison, the table below presents mass loading calculated by including the subject data along with revised estimates excluding these data:

	Loading Estimates	
Data Utilized	January	May
All data	157 Kg/mo	175 Kg/mo
Excluding suspect data	20 Kg/mo	62 Kg/mo

The tables and figures provided in the results section include the suspected outliers, however the suspect data has been excluded from the mass estimates presented in Appendix A.

SECTION 3 - RESULTS

PCB mass loading from the Bakers Falls source was calculated from environmental sampling and analysis data. These data were developed by collecting samples from the Hudson River monitoring station at Fort Edward (Rt. 147 bridge) located downstream of the source area and testing these samples for PCB. The PCB mass loading estimation method provided monthly PCB mass loading estimates from November 1992 through October 1993.

The monthly PCB mass loading estimates are presented in Table 1 and Figure 3. Summary statistics are presented in Table 1, as well. The mean monthly PCB loading estimate at Fort Edward was 25 kg/mo. Over the 12 month integration period, monthly loading estimates at Fort Edward ranged from 5 kg/mo at to 103 kg/mo. Temporal trends in loading estimates generally follow PCB concentration patterns. Past trends observed included a loading decrease through the winter months following the maximum in September 1991 and increases during the Summer of 1992, with subsequent declines during the Fall of 1992 (O'Brien & Gere, 1993). During 1993, maximum loading occurred during the spring high flow period and subsequently declined to low levels during the summer months. Data summaries for the weekly estimates are included in Appendix 1.

The mass estimates presented include uncertainties due to limitations associated with the method of calculation. Specifically, the release of PCBs is expected to be continuous, whereas measurements used to estimate loading were conducted at fixed intervals. Loading estimates utilized data from water column sampling conducted generally at weekly intervals along with mean daily flows.

Therefore, the resulting estimates do not account for fluctuations which may occur within these intervals.

REFERENCES

Christian, Gary D. Analytical Chemistry, 3rd Edition, John Wiley and Sons, Inc. 1980.

O'Brien & Gere Engineers, Inc. Hudson River Project, Addendum to Continuous Release Report. February 1993.

TABLES

TABLE 1

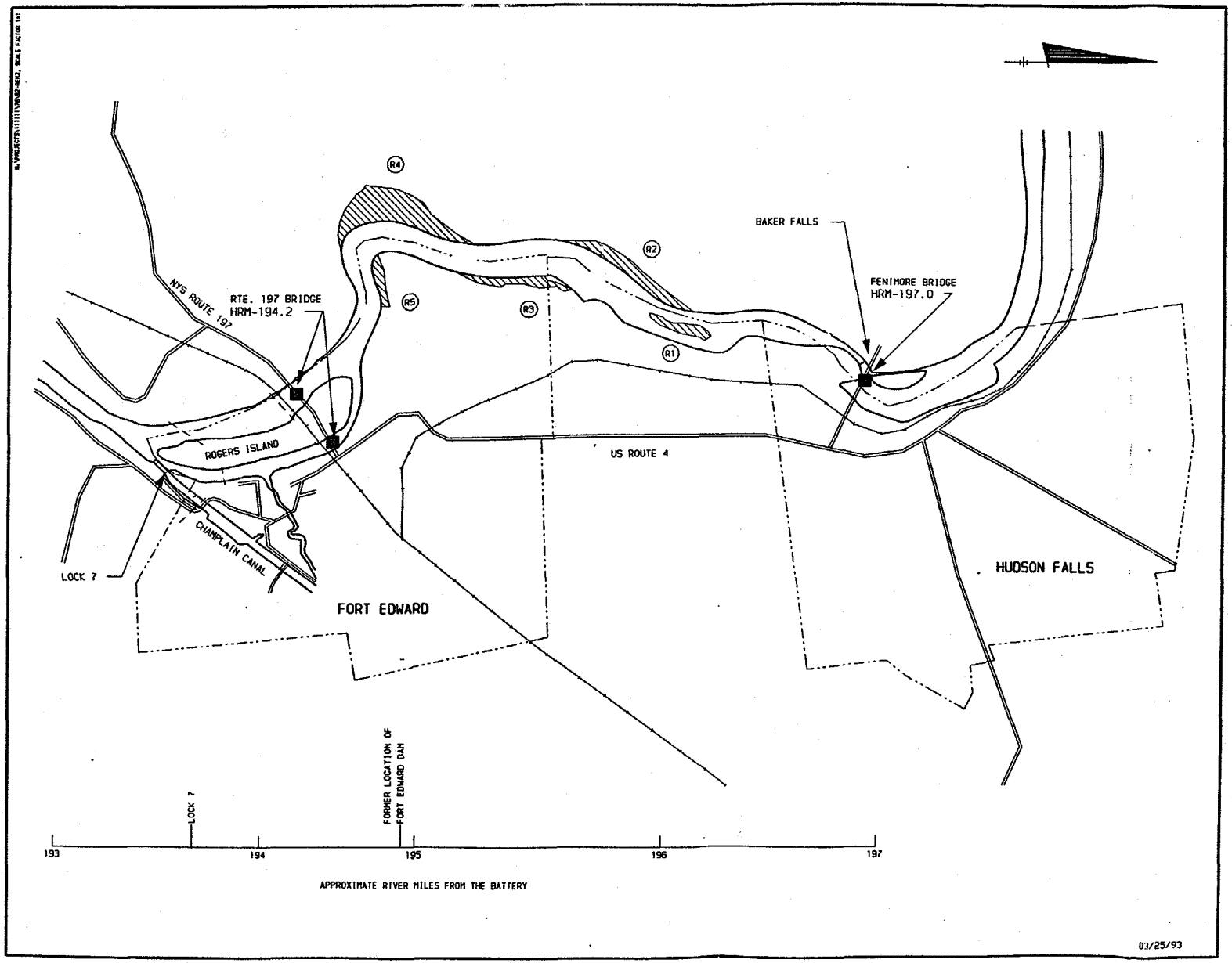
GENERAL ELECTRIC COMPANY
Estimated Monthly PCB Mass Loading
From Bakers Falls Source
Using Data Collected at Ft. Edward

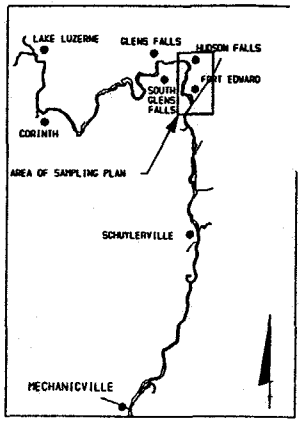
Month-Yr	Avg Flow (cfs)	Mass (kg/mo)
Nov-92	7881	37
Dec-92	7326	11
Jan-93	7365	20
Feb-93	4537	11
Mar-93	3638	8
Apr-93	16790	103
May-93	5993	62
Jun-93	2864	11
Jul-93	2431	14
Aug-93	2497	6
Sep-93	2622	5
Oct-93	3288	8
STATISTICAL SUMMARY		
Mean	5603	25
Minimum	2431	5
Maximum	16790	103
Std dev	3905	28

FIGURES

FIGURE 1

317802





LOCATION PLAN
NOT TO SCALE

LEGEND

R1 APPROXIMATE REMNANT AREA LOCATION

HRM-197.0 SAMPLING LOCATION

GENERAL ELECTRIC COMPANY
FORT EDWARD DAM PCB REMNANT
DEPOSIT CONTAINMENT
POST-CONSTUCTION
MONITORING PROGRAM

SITE PLAN

2000 0 2000

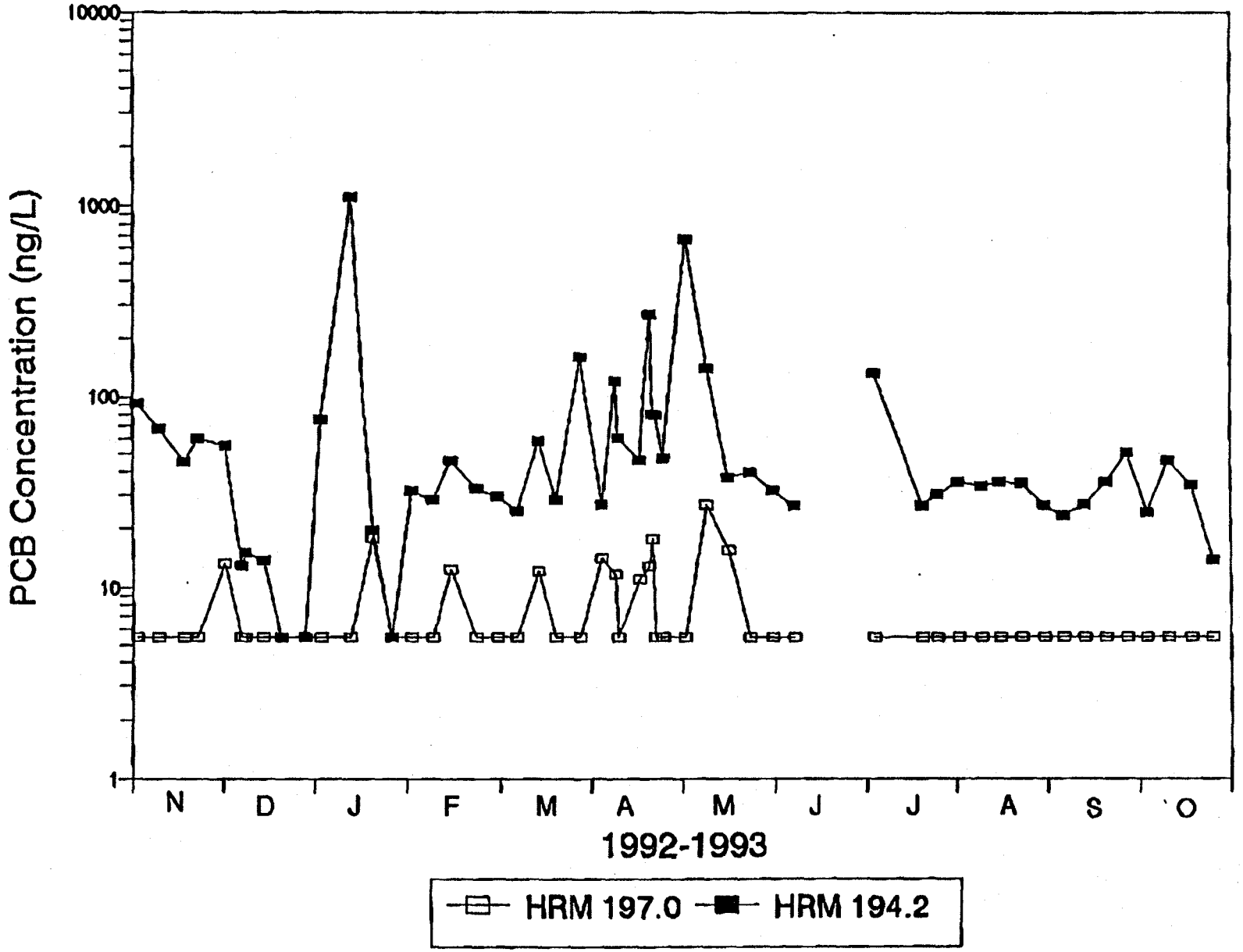
1" = 2000'

MARCH 1993

O'BRIEN & GERE
ENGINEERS, INC.

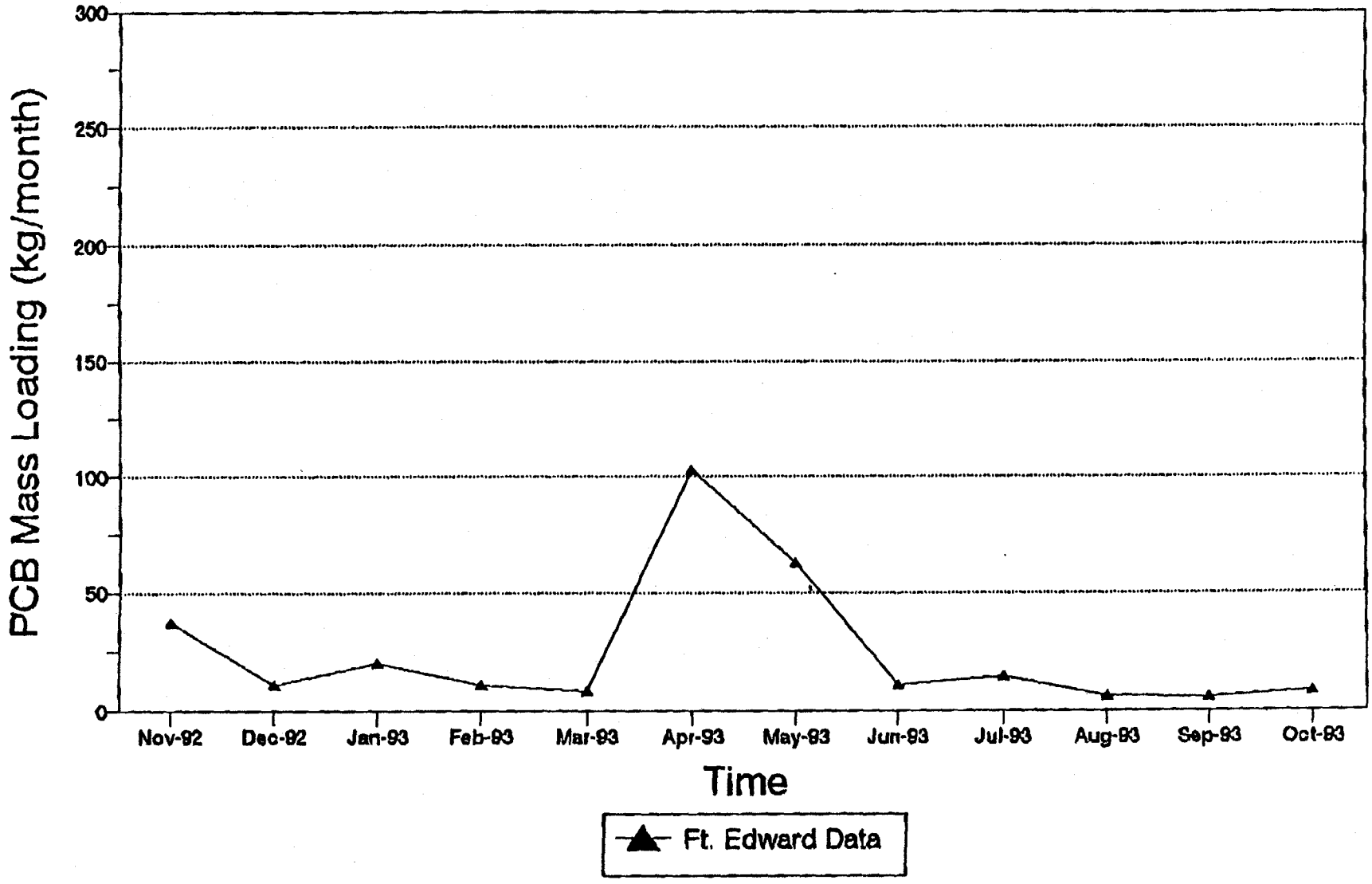
Preliminary
12/8/93

Figure 2
General Electric Company
Water Column Total PCB Concentrations



Notes:
*Method Detection Limit: 11.0 ng/l
*Practical Quantitation Limit = 44.0 ng/L
*Data losses in June and July occurred due to laboratory errors.

Figure 3
General Electric Company
PCB Mass Loading at Fort Edward



O'Brien & Gere Engineers, Inc.
December 6, 1993

APPENDICES

Appendix 1

GENERAL ELECTRIC COMPANY
Estimated PCB Mass Loading
Bakers Falls Source on a Weekly Basis

Day of Year	Date Sampled	Fort Edward (1) PCB (ng/L)	Weekly (ng/L)	USGS Daily(2) (cfs)	Mean Weekly (cfs)	PCB mass loading at Fort Edward (3) (kg/wk)	(kg/mo)
11/01/92				5760			
11/02/92				5150			
11/03/92				5870			
11/04/92	11/04/92	91.8		7190			
11/05/92				7890			
11/06/92				7850			
11/07/92			91.8	8160	8839	10.70	
11/08/92				7390			
11/09/92				6920			
11/10/92				6380			
11/11/92	11/11/92	68.0		6260			
11/12/92				6340			
11/13/92				7030			
11/14/92			68.0	10300	7231	8.40	
11/15/92				9970			
11/16/92				9370			
11/17/92				7880			
11/18/92				7510			
11/19/92	11/19/92	65.7		7800			
11/20/92				6590			
11/21/92			65.7	6530	7978	8.95	
11/22/92				6780			
11/23/92				8300			
11/24/92	11/24/92	60.0		10400			
11/25/92				9710			
11/26/92				9640			
11/27/92				9750			
11/28/92			60.0	9630	9173	9.40	
11/29/92				9070			
11/30/92				8640			
		November 1992 Total					37

(1) Ft. Edward station located on Rt. 197 Bridge at approximate HRM 194.2. For samples collected on 01/14/93, 05/05/93, 06/13/93 through 07/03/93, and 07/10/93 through 07/17/93 Ft. Edward estimated PCB conc. calculated from average using data preceding and following missing PCB conc. data in each case. PCB data from samples collected on 01/14/93 and 05/05/93 were considered outliers by statistical evaluation using Q test. Other data gaps were due to losses from laboratory errors.

(2) Daily water elevation and velocity recorded by USGS at Ft. Edward gauging station. Values shown are USGS estimates of flow rates except where flow data were unavailable (12/26/92 through 01/05/93, and 01/30/93 through 02/01/93). On these dates, flow rates were estimated using the average of the preceding and following daily flow results in each case. Reported flows from 09/05/93 through 10/31/93 are instantaneous flows measured at the Ft. Edward gauging station during sampling. Estimated and instantaneous flows are denoted with an asterisk (*).

(3) Estimated PCB mass loading calculated from PCB concentrations measured in the water column on a weekly basis multiplied by the mean USGS flow rate measured at Ft. Edward. Values for non-detectable PCB concentrations (<11/ng/L) were estimated as 6.6 ng/L.

Appendix 1

GENERAL ELECTRIC COMPANY
Estimated PCB Mass Loading
Bakers Falls Source on a Weekly Basis

Day of Year	Date Sampled	Fort Edward (1) PCB (ng/L)	Fort Edward (1) Weekly (ng/L)	USGS Daily(2) (cfs)	USGS Mean Weekly (cfs)	PCB mass loading at Fort Edward (3) (kg/wk)	PCB mass loading at Fort Edward (3) (kg/mo)
12/01/92				7800			
12/02/92				6730			
12/03/92	12/03/92	54.4		8120			
12/04/92				8300			
12/05/92			54.4	7750	6140	7.56	
12/06/92				7720			
12/07/92				7590			
12/08/92				7400			
12/09/92	12/09/92	13.0		7020			
12/10/92				6680			
12/11/92				6660			
12/12/92			13.0	6910	7169	1.58	
12/13/92				6970			
12/14/92				6630			
12/15/92				6520			
12/16/92	12/16/92	13.6		6460			
12/17/92				6630			
12/18/92				6930			
12/19/92			13.6	7450	6796	1.60	
12/20/92				7120			
12/21/92				7160			
12/22/92	12/22/92	5.5		6870			
12/23/92				7120			
12/24/92				6760			
12/25/92				5870			
12/26/92			5.5	8085 *	6998	0.68	
12/27/92				8085 *			
12/28/92				8085 *			
12/29/92				8085 *			
12/30/92	12/30/92	5.5		8085 *			
		December 1992 Total					11

(1) Ft. Edward station located on Rt. 197 Bridge at approximate HRM 194.2. For samples collected on 01/14/93, 05/05/93, 06/13/93 through 07/03/93, and 07/10/93 through 07/17/93 Ft. Edward estimated PCB conc. calculated from average using data preceding and following missing PCB conc. data in each case. PCB data from samples collected on 01/14/93 and 05/05/93 were considered outliers by statistical evaluation using Q test. Other data gaps were due to losses from laboratory errors.

(2) Daily water elevation and velocity recorded by USGS at Ft. Edward gauging station. Values shown are USGS estimates of flow rates except where flow data were unavailable (12/26/92 through 01/05/93, and 01/30/93 through 02/01/93). On these dates, flow rates were estimated using the average of the preceding and following daily flow results in each case. Reported flows from 09/05/93 through 10/31/93 are instantaneous flows measured at the Ft. Edward gauging station during sampling. Estimated and instantaneous flows are denoted with an asterisk (*).

(3) Estimated PCB mass loading calculated from PCB concentrations measured in the water column on a weekly basis multiplied by the mean USGS flow rate measured at Ft. Edward. Values for non-detectable PCB concentrations (<11/ng/L) were estimated as 5.5 ng/L.

Appendix 1

GENERAL ELECTRIC COMPANY
Estimated PCB Mass Loading
Bakers Falls Source on a Weekly Basis

Day of Year	Date Sampled	Fort Edward (1) PCB (ng/L)	Fort Edward (1) Weekly (ng/L)	USGS Daily(2) (cfs)	Mean Weekly (cfs)	PCB mass loading at Fort Edward (3) (kg/wk)	PCB mass loading at Fort Edward (3) (kg/mo)
01/01/93				5085 *			
01/02/93			11.0	5085 *	5085	1.52	
01/03/93				5085 *			
01/04/93	01/04/93	82.0		5085 *			
01/05/93				5085 *			
01/06/93				10300			
01/07/93				11000			
01/08/93				10100			
01/09/93			63.0	5070	9218	2.92	
01/10/93				8200			
01/11/93				6970			
01/12/93				7110			
01/13/93				740			
01/14/93	01/14/93	1046		7020			
01/15/93				6760			
01/16/93			42	6690	7699	5.52	
01/17/93				6720			
01/18/93				8610			
01/19/93				8120			
01/20/93				8100			
01/21/93	01/21/93	20.0		8280			
01/22/93				8430			
01/23/93			20.0	8360	8371	2.16	
01/24/93				8700			
01/25/93				8500			
01/26/93				8490			
01/27/93	01/27/93	5.5		8100			
01/28/93				8120			
01/29/93				8030			
01/30/93			5.5	5560 *	8219	0.58	
01/31/93				5590 *			
		January 1993 Total					20

(1) Ft. Edward station located on Rt. 197 Bridge at approximate HRM 194.2. For samples collected on 01/14/93, 05/05/93, 06/13/93 through 07/03/93, and 07/10/93 through 07/17/93 Ft. Edward estimated PCB conc. calculated from average using data preceding and following missing PCB conc. data in each case. PCB data from samples collected on 01/14/93 and 05/05/93 were considered outliers by statistical evaluation using Q test. Other data gaps were due to losses from laboratory errors.

(2) Daily water elevation and velocity recorded by USGS at Ft. Edward gauging station. Values shown are USGS estimates of flow rates except where flow data were unavailable (12/26/92 through 01/06/93, and 01/30/93 through 02/01/93). On these dates, flow rates were estimated using the average of the preceding and following daily flow results in each case. Reported flows from 09/05/93 through 10/31/93 are instantaneous flows measured at the Ft. Edward gauging station during sampling. Estimated and instantaneous flows are denoted with an asterisk (*).

(3) Estimated PCB mass loading calculated from PCB concentrations measured in the water column on a weekly basis multiplied by the mean USGS flow rate measured at Ft. Edward. Values for non-detectable PCB concentrations (<11/ng/L) were estimated as 5.5 ng/L.

Appendix 1

GENERAL ELECTRIC COMPANY
Estimated PCB Mass Loading
Bakers Falls Source on a Weekly Basis

Day of Year	Date Sampled	Fort Edward (1) PCB (ng/L)	Weekly (ng/L)	USGS Daily(2) (cfs)	Mean Weekly (cfs)	PCB mass loading at Fort Edward (3) (kg/wk)	(kg/mo)
02/01/93				5690			
02/02/93				5150			
02/03/93	02/03/93	32.0		4160			
02/04/93				4240			
02/05/93				4210			
02/06/93			32.0	4430	4630	2.63	
02/07/93				5120			
02/08/93				4050			
02/09/93				4180			
02/10/93	02/10/93	28.0		3970			
02/11/93				4320			
02/12/93				4630			
02/13/93			28.0	4570	4403	2.11	
02/14/93				4500			
02/15/93				4560			
02/16/93	02/16/93	46.0		4570			
02/17/93				4710			
02/18/93				4590			
02/19/93				4540			
02/20/93			46.0	4510	4589	3.59	
02/21/93				4610			
02/22/93				4520			
02/23/93				4530			
02/24/93	02/24/93	32.0		4510			
02/25/93				4700			
02/26/93				4530			
02/27/93			32.0	4570	4567	2.50	
02/28/93				4460			
		February,1993 Total					11

(1) Ft. Edward station located on Rt. 197 Bridge at approximate HRM 194.3. For samples collected on 01/14/93, 05/05/93, 06/13/93 through 07/03/93, and 07/10/93 through 07/17/93 Ft. Edward estimated PCB conc. calculated from average using data preceding and following missing PCB conc. data in each case. PCB data from samples collected on 01/14/93 and 05/05/93 were considered outliers by statistical evaluation using Q test. Other data gaps were due to losses from laboratory errors.

(2) Daily water elevation and velocity recorded by USGS at Ft. Edward gauging station. Values shown are USGS estimates of flow rates except where flow data were unavailable (12/26/92 through 01/05/93, and 01/30/93 through 02/01/93). On these dates, flow rates were estimated using the average of the preceding and following daily flow results in each case. Reported flows from 09/05/92 through 10/31/93 are instantaneous flows measured at the Ft. Edward gauging station during sampling. Estimated and instantaneous flows are denoted with an asterisk (*).

(3) Estimated PCB mass loading calculated from PCB concentrations measured in the water column on a weekly basis multiplied by the mean USGS flow rate measured at Ft. Edward. Values for non-detectable PCB concentrations (<11/ng/L) were estimated as 5.5 ng/L.

Appendix 1

GENERAL ELECTRIC COMPANY
Estimated PCB Mass Loading
Bakers Falls Source on a Weekly Basis

Day of Year	Date Sampled	Fort Edward (1) PCB (ng/L)	Fort Edward (1) Weekly (ng/L)	USGS Daily(2) (cfs)	USGS Mean Weekly (cfs)	PCB mass loading at Fort Edward (3) (kg/wk)	PCB mass loading at Fort Edward (3) (kg/mo)
03/01/93				4440			
03/02/93				4460			
03/03/93	03/03/93	30.0		4470			
03/04/93				4300			
03/05/93				4570			
03/06/93			30.0	4550	4465	2.29	
03/07/93				4430			
03/08/93				3090			
03/09/93				2580			
03/10/93	03/10/93	25.0		3010			
03/11/93				2880			
03/12/93				2890			
03/13/93			25.0	2720	3116	1.33	
03/14/93				2660			
03/15/93				2950			
03/16/93				2500			
03/17/93	03/17/93	55.0		2830			
03/18/93				3460			
03/19/93				2870			
03/20/93			55.0	2890	2837	2.81	
03/21/93				2880			
03/22/93				2400			
03/23/93	03/23/93	29.0		2950			
03/24/93				2880			
03/25/93				2870			
03/26/93				3310			
03/27/93			29.0	3300	2991	1.44	
03/28/93				3420			
03/29/93				4410			
03/30/93				7350			
03/31/93	03/31/93	160		5830			
			March 1993 Total				6

(1) Ft. Edward station located on Rt. 197 Bridge at approximate HRM 194.2. For samples collected on 01/14/93, 05/05/93, 06/13/93 through 07/03/93, and 07/10/93 through 07/17/93 Ft. Edward estimated PCB conc. calculated from average using data preceding and following missing PCB conc. data in each case. PCB data from samples collected on 01/14/93 and 05/05/93 were considered outliers by statistical evaluation using Q test. Other data gaps were due to losses from laboratory errors.

(2) Daily water elevation and velocity recorded by USGS at Ft. Edward gauging station. Values shown are USGS estimates of flow rates except where flow data were unavailable (12/26/92 through 01/05/93, and 01/10/93 through 02/01/93). On these dates, flow rates were estimated using the average of the preceding and following daily flow results in each case. Reported flows from 09/05/93 through 10/31/93 are instantaneous flows measured at the Ft. Edward gauging station during sampling. Estimated and instantaneous flows are denoted with an asterisk (*).

(3) Estimated PCB mass loading calculated from PCB concentrations measured in the water column on a weekly basis multiplied by the mean USGS flow rate measured at Ft. Edward. Values for non-detectable PCB concentrations (<11/ng/L) were estimated as 5.5 ng/L.

Appendix 1

GENERAL ELECTRIC COMPANY
Estimated PCB Mass Loading
Bakers Falls Source on a Weekly Basis

Day of Year	Date Sampled	Fort Edward (1) PCB (ng/L)	Fort Edward (1) Weekly (ng/L)	USGS Daily(2) (cfs)	USGS Mean Weekly (cfs)	PCB mass loading at Fort Edward (3) (kg/wk)	PCB mass loading at Fort Edward (3) (kg/mo)
04/01/93				10200			
04/02/93				9440			
04/03/93			160	8060	9233	25.23	
04/04/93				7680			
04/05/93				6310			
04/06/93				6580			
04/07/93	04/07/93	27.0		6110			
04/08/93				7010			
04/09/93				7280			
04/10/93			27.0	10300	7294	3.96	
04/11/93		121.0		17200			
04/12/93	04/12/93	121.0		29300			
04/13/93	04/13/93	60.0		18100			
04/14/93		60.0		13500			
04/15/93		60.0		13500			
04/16/93		60.0		14000			
04/17/93		46.0		24900		22.59	
04/18/93		46.0		28800			
04/19/93		46.0		21400			
04/20/93	04/20/93	46.0		18200			
04/21/93		46.0		14000			
04/22/93		266		19900			
04/23/93	04/23/93	266		27900			
04/24/93		173		27800		51.62	
04/25/93	04/25/93	79.0		27100			
04/26/93		79.0		24300			
04/27/93		47.0		27800			
04/28/93	04/28/93	47.0		25400			
04/29/93		47.0		23300			
04/30/93		47.0		20400			
			April 1993 Total				103

(1) Ft. Edward station located on Rt. 197 Bridge at approximate HRM 194.2. For samples collected on 01/14/93, 05/05/93, 06/13/93 through 07/03/93, and 07/10/93 through 07/17/93 Ft. Edward estimated PCB conc. calculated from average using data preceding and following missing PCB conc. data in each case. PCB data from samples collected on 01/14/93 and 05/05/93 were considered outliers by statistical evaluation using Q test. Other data gaps were due to losses from laboratory errors.

(2) Daily water elevation and velocity recorded by USGS at Ft. Edward gauging station. Values shown are USGS estimates of flow rates except where flow data were unavailable (12/29/92 through 01/05/93, and 01/30/93 through 02/01/93). On these dates, flow rates were estimated using the average of the preceding and following daily flow results in each case. Reported flows from 09/05/93 through 10/31/93 are instantaneous flows measured at the Ft. Edward gauging station during sampling. Estimated and instantaneous flows are denoted with an asterisk (*).

(3) Estimated PCB mass loading calculated from PCB concentrations measured in the water column on a weekly basis multiplied by the mean USGS flow rate measured at Ft. Edward. Values for non-detectable PCB concentrations (<11/ng/L) were estimated as 5.5 ng/L.

Appendix 1

GENERAL ELECTRIC COMPANY
Estimated PCB Mass Loading
Bakers Falls Source on a Weekly Basis

Day of Year	Date Sampled	Fort Edward (1) PCB (ng/L)	Fort Edward (1) Weekly (ng/L)	USGS Daily Q (cfs)	USGS Mean Weekly (cfs)	PCB mass loading at Fort Edward (2) (kg/wk)	PCB mass loading at Fort Edward (2) (kg/mo)
05/01/93		47.0		16900		26.14	
05/02/93				16100			
05/03/93				14900			
05/04/93				12300			
05/05/93	05/05/93	665		11100			
05/06/93				8660			
05/07/93				8040			
05/08/93			94	8830	11604	18.63	
05/09/93				8480			
05/10/93				7830			
05/11/93				6240			
05/12/93	05/12/93	140		5830			
05/13/93				5830			
05/14/93				4620			
05/15/93			140	4360	6170	14.75	
05/16/93				4570			
05/17/93				4550			
05/18/93				4110			
05/19/93	05/19/93	37.0		3740			
05/20/93				2060			
05/21/93				2510			
05/22/93			37.0	1850	3341	2.11	
05/23/93				2130			
05/24/93				1840			
05/25/93				1060			
05/26/93	05/26/93	39.0		2230			
05/27/93				2830			
05/28/93				2900			
05/29/93			39.0	2740	2250	1.50	
05/30/93				2810			
05/31/93				2520			
			May 1993 Total				62

(1) Ft. Edward station located on Rt. 197 Bridge at approximate HRM 194.2. For samples collected on 01/14/93, 05/05/93, 06/13/93 through 07/03/93, and 07/10/93 through 07/17/93 Ft. Edward estimated PCB conc. calculated from average using data preceding and following missing PCB conc. data in each case. PCB data from samples collected on 01/14/93 and 05/05/93 were considered outliers by statistical evaluation using Q test. Other data gaps were due to losses from laboratory errors.

(2) Daily water elevation and velocity recorded by USGS at Ft. Edward gauging station. Values shown are USGS estimates of flow rates except where flow data were unavailable (12/28/92 through 01/05/93, and 01/10/93 through 02/01/93). On these dates, flow rates were estimated using the average of the preceding and following daily flow results in each case. Reported flows from 09/05/93 through 10/31/93 are instantaneous flows measured at the Ft. Edward gauging station during sampling. Estimated and instantaneous flows are denoted with an asterisk (*).

(3) Estimated PCB mass loading calculated from PCB concentrations measured in the water column on a weekly basis multiplied by the mean USGS flow rate measured at Ft. Edward. Values for non-detectable PCB concentrations (<11/ng/L) were estimated as 5.5 ng/L.

Appendix 1

GENERAL ELECTRIC COMPANY
Estimated PCB Mass Loading
Bakers Falls Source on a Weekly Basis

Day of Year	Date Sampled	Fort Edward (1) PCB (ng/L)	Fort Edward (1) Weekly (ng/L)	USGS Daily(2) (cfs)	USGS Mean Weekly (cfs)	PCB mass loading at Fort Edward (3) (kg/wk)	PCB mass loading at Fort Edward (3) (kg/mo)
06/01/93				2610			
06/02/93				2920			
06/03/93	06/03/93	32.0		3120			
06/04/93				3340			
06/05/93			32.0	2780	2960	1.61	
06/06/93				2570			
06/07/93				2870			
06/08/93				2830			
06/09/93				2910			
06/10/93	06/10/93	26.0		2960			
06/11/93				3200			
06/12/93			26.0	3740	3011	1.34	
06/13/93				3500			
06/14/93				2920			
06/15/93				2820			
06/16/93				3000			
06/17/93				3300			
06/18/93				2600			
06/19/93			79.0	2810	2964	4.00	
06/20/93				2970			
06/21/93				2960			
06/22/93				3070			
06/23/93				3510			
06/24/93				1580			
06/25/93				2810			
06/26/93			79.0	2560	2789	3.75	
06/27/93				2530			
06/28/93				2400			
06/29/93				2570			
06/30/93				2360			
			June 1993 Total				11

(1) Ft. Edward station located on Rt. 197 Bridge at approximate HRM 194.2. For samples collected on 01/14/93, 05/05/93, 06/13/93 through 07/03/93, and 07/10/93 through 07/17/93 Ft. Edward estimated PCB conc. calculated from average using data preceding and following missing PCB conc. data in each case. PCB data from samples collected on 01/14/93 and 05/05/93 were considered outliers by statistical evaluation using Q test. Other data gaps were due to losses from laboratory errors.

(2) Daily water elevation and velocity recorded by USGS at Ft. Edward gauging station. Values shown are USGS estimates of flow rates except where flow data were unavailable (12/28/92 through 01/05/93, and 01/30/93 through 02/01/93). On these dates, flow rates were estimated using the average of the preceding and following daily flow results in each case. Reported flows from 09/05/93 through 10/31/93 are instantaneous flows measured at the Ft. Edward gauging station during sampling. Estimated and instantaneous flows are denoted with an asterisk (*).

(3) Estimated PCB mass loading calculated from PCB concentrations measured in the water column on a weekly basis multiplied by the mean USGS flow rate measured at Ft. Edward. Values for non-detectable PCB concentrations (<11/ng/L) were estimated as 6.5 ng/L.

Appendix 1

GENERAL ELECTRIC COMPANY
Estimated PCB Mass Loading
Bakers Falls Source on a Weekly Basis

Day of Year	Date Sampled	Fort Edward (1) PCB (ng/L)	Fort Edward (1) Weekly (ng/L)	USGS Daily(2) (cfs)	USGS Mean Weekly (cfs)	PCB mass loading at Fort Edward (3) (kg/wk)	PCB mass loading at Fort Edward (3) (kg/mo)
07/01/93				2490			
07/02/93				2180			
07/03/93			79.0	2060	2319	3.12	
07/04/93				2350			
07/05/93				2290			
07/06/93				2610			
07/07/93	07/07/93	132		2670			
07/08/93				2530			
07/09/93				2680			
07/10/93			132	2690	2548	5.74	
07/11/93				2520			
07/12/93				2580			
07/13/93				2440			
07/14/93				2520			
07/15/93				2470			
07/16/93				2310			
07/17/93			79.0	2340	2451	3.31	
07/18/93				2430			
07/19/93				2310			
07/20/93				2180			
07/21/93				2210			
07/22/93				2440			
07/23/93	07/23/93	26.0		2410			
07/24/93			26.0	2280	2323	1.03	
07/25/93				2340			
07/26/93				2280			
07/27/93				3280			
07/28/93	07/28/93	30.0		2660			
07/29/93				1990			
07/30/93				2050			
07/31/93			30.0	2540	2466	1.26	
			July 1993 Total				14

(1) Ft. Edward station located on Rt. 197 Bridge at approximate HRM 194.2. For samples collected on 01/14/93, 05/05/93, 06/15/93 through 07/03/93, and 07/10/93 through 07/17/93 Ft. Edward estimated PCB conc. calculated from average using data preceding and following missing PCB conc. data in each case. PCB data from samples collected on 01/14/93 and 05/05/93 were considered outliers by statistical evaluation using Q test. Other data gaps were due to losses from laboratory errors.

(2) Daily water elevation and velocity recorded by USGS at Ft. Edward gauging station. Values shown are USGS estimates of flow rates except where flow data were unavailable (12/26/92 through 01/05/93, and 01/30/93 through 02/01/93). On these dates, flow rates were estimated using the average of the preceding and following daily flow results in each case. Reported flows from 09/05/93 through 10/31/93 are instantaneous flows measured at the Ft. Edward gauging station during sampling. Estimated and instantaneous flows are denoted with an asterisk (*).

(3) Estimated PCB mass loading calculated from PCB concentrations measured in the water column on a weekly basis multiplied by the mean USGS flow rate measured at Ft. Edward. Values for non-detectable PCB concentrations (<11/ng/L) were estimated as 5.5 ng/L.

Appendix 1

GENERAL ELECTRIC COMPANY
Estimated PCB Mass Loading
Bakers Falls Source on a Weekly Basis

Day of Year	Date Sampled	Fort Edward (1) PCB (ng/L)	Fort Edward (1) Weekly (ng/L)	USGS Daily(2) (cfs)	Mean Weekly (cfs)	PCB mass loading at Fort Edward (3) (kg/wk)	PCB mass loading at Fort Edward (3) (kg/mo)
08/01/93				2770			
08/02/93				2540			
08/03/93				2230			
08/04/93	08/04/93	35.0		2440			
08/05/93				2800			
08/06/93				2750			
08/07/93			35.0	2480	2541	1.52	
08/08/93				2500			
08/09/93				2480			
08/10/93				2350			
08/11/93				2440			
08/12/93	08/12/93	33.0		2520			
08/13/93				2480			
08/14/93			33.0	2590	2480	1.40	
08/15/93				2680			
08/16/93				2640			
08/17/93				2490			
08/18/93	08/18/93	35.0		2690			
08/19/93				2280			
08/20/93				2320			
08/21/93			35.0	2180	2484	1.47	
08/22/93				2800			
08/23/93				2500			
08/24/93				2550			
08/25/93	08/25/93	35.0		2510			
08/26/93				2360			
08/27/93				2250			
08/28/93			35.0	2540	2549	1.52	
08/29/93				2510			
08/30/93				2300			
08/31/93				2370			
		August 1993-Total					6

(1) Ft. Edward station located on Rt. 197 Bridge at approximate HRM 194.2. For samples collected on 01/14/93, 05/05/93, 06/13/93 through 07/03/93, and 07/10/93 through 07/17/93 Ft. Edward estimated PCB conc. calculated from average using data preceding and following missing PCB conc. data in each case. PCB data from samples collected on 01/14/93 and 05/05/93 were considered outliers by statistical evaluation using Q test. Other data gaps were due to losses from laboratory errors.

(2) Daily water elevation and velocity recorded by USGS at Ft. Edward gauging station. Values shown are USGS estimates of flow rates except where flow data were unavailable (12/25/92 through 01/05/93, and 01/30/93 through 02/01/93). On these dates, flow rates were estimated using the average of the preceding and following daily flow results in each case. Reported flows from 09/05/93 through 10/31/93 are instantaneous flows measured at the Ft. Edward gauging station during sampling. Estimated and instantaneous flows are denoted with an asterisk (*).

(3) Estimated PCB mass loading calculated from PCB concentrations measured in the water column on a weekly basis multiplied by the mean USGS flow rate measured at Ft. Edward. Values for non-detectable PCB concentrations (<11/ng/L) were estimated as 5.5 ng/L.

Appendix 1

GENERAL ELECTRIC COMPANY
Estimated PCB Mass Loading
Bakers Falls Source on a Weekly Basis

Day of Year	Date Sampled	Fort Edward (1) PCB (ng/L)	Fort Edward (1) Weekly (ng/L)	USGS Daily(2) (cfs)	USGS Mean Weekly (cfs)	PCB mass loading at Fort Edward (3) (kg/wk)	PCB mass loading at Fort Edward (3) (kg/mo)
09/01/93							
09/02/93	09/02/93	26.0		2510 *			
09/03/93							
09/04/93			26.0		2510	1.11	
09/05/93							
09/06/93							
09/07/93							
09/08/93	09/08/93	23.0		2700 *			
09/09/93							
09/10/93							
09/11/93			23.0		2700	1.06	
09/12/93							
09/13/93							
09/14/93							
09/15/93	09/15/93	27.0		3200 *			
09/16/93							
09/17/93							
09/18/93			27.0		3200	1.48	
09/19/93							
09/20/93							
09/21/93							
09/22/93	09/22/93	35.0		2000 *			
09/23/93							
09/24/93							
09/25/93			35.0		2000	1.20	
09/26/93							
09/27/93							
09/28/93							
09/29/93	09/29/93	50.0		2700 *			
09/30/93							
09/31/93							
			September 1993 Total				5

(1) Ft. Edward station located on Rt. 197 Bridge at approximate HRM 194.2. For samples collected on 01/14/93, 05/05/93, 06/13/93 through 07/03/93, and 07/10/93 through 07/17/93 Ft. Edward estimated PCB conc. calculated from average using data preceding and following missing PCB conc. data in each case. PCB data from samples collected on 01/14/93 and 05/05/93 were considered outliers by statistical evaluation using Q test. Other data gaps were due to losses from laboratory errors.

(2) Daily water elevation and velocity recorded by USGS at Ft. Edward gauging station. Values shown are USGS estimates of flow rates except where flow data were unavailable (12/26/92 through 01/05/93, and 01/30/93 through 02/01/93). On these dates, flow rates were estimated using the average of the preceding and following daily flow results in each case. Reported flows from 09/05/93 through 10/31/93 are instantaneous flows measured at the Ft. Edward gauging station during sampling. Estimated and instantaneous flows are denoted with an asterisk (*).

(3) Estimated PCB mass loading calculated from PCB concentrations measured in the water column on a weekly basis multiplied by the mean USGS flow rate measured at Ft. Edward. Values for non-detectable PCB concentrations (<11/ng/L) were estimated as 5.5 ng/L.

Appendix 1

GENERAL ELECTRIC COMPANY
Estimated PCB Mass Loading
Bakers Falls Source on a Weekly Basis

Day of Year	Date Sampled	Fort Edward (1) PCB (ng/L)	Fort Edward (1) Weekly (ng/L)	USGS Daily(2) (cfs)	USGS Mean Weekly (cfs)	PCB mass loading at Fort Edward (3) (kg/wk)	PCB mass loading at Fort Edward (3) (kg/mo)
10/01/93							
10/02/93			50.0		2700	2.31	
10/03/93							
10/04/93							
10/05/93							
10/06/93	10/06/93	24.0		2900 *			
10/07/93							
10/08/93							
10/09/93			24.0		2900	1.19	
10/11/93							
10/12/93							
10/13/93	10/13/93	45.0		2700 *			
10/14/93							
10/15/93							
10/16/93			45.0		2700	2.08	
10/17/93							
10/18/93							
10/19/93							
10/20/93							
10/21/93	10/21/93	18.8		3520 *			
10/22/93							
10/23/93			18.8		3520	1.22	
10/24/93							
10/25/93							
10/26/93							
10/27/93							
10/28/93	10/28/93	14.0		3930 *			
10/29/93							
10/30/93			14.0		3930	0.94	
10/31/93							
		October 1993 Total					8

(1) Ft. Edward station located on Rt. 197 Bridge at approximate HRM 194.2. For samples collected on 01/14/93, 05/05/93, 06/13/93 through 07/03/93, and 07/10/93 through 07/17/93 Ft. Edward estimated PCB conc. calculated from average using data preceding and following missing PCB conc. data in each case. PCB data from samples collected on 01/14/93 and 05/05/93 were considered outliers by statistical evaluation using Q test. Other data gaps were due to losses from laboratory errors.

(2) Daily water elevation and velocity recorded by USGS at Ft. Edward gauging station. Values shown are USGS estimates of flow rates except where flow data were unavailable (12/26/92 through 01/05/93, and 01/30/93 through 02/01/93). On these dates, flow rates were estimated using the average of the preceding and following daily flow results in each case. Reported flows from 09/05/93 through 10/31/93 are instantaneous flows measured at the Ft. Edward gauging station during sampling. Estimated and instantaneous flows are denoted with an asterisk (*).

(3) Estimated PCB mass loading calculated from PCB concentrations measured in the water column on a weekly basis multiplied by the mean USGS flow rate measured at Ft. Edward. Values for non-detectable PCB concentrations (<11/ng/L) were estimated as 5.5 ng/L.