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FINAL
MONTHLY PROGRESS REPORT
TO
COMMONWEALTH EDISON COMPANY

MAR 25 1988

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM
FOR
BYRON NUCLEAR POWER STATION
BYRON, ILLINOIS

PREPARED AND SUBMITTED
BY
TELEDYNE ISOTOPES MIDWEST LABORATORY

Reviewed by: *ADM*

Date: *3/28/88*

Reporting Period: January - December, 1987

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TABLE OF CONTENTS

<u>Section</u>		<u>Page</u>
	List of Tables	iii
1.0	INTRODUCTION	1
2.0	LISTING OF MISSED SAMPLES	2
 <u>Appendices</u>		
A	Interlaboratory Comparison Program Results	A-1
B	Collection Schedule	B-1

BYRON

LIST OF TABLES

<u>No.</u>	<u>Title</u>	<u>Page</u>
1	Airborne Particulates and Iodine-131, Locations By-01, 02, 03, 04	4
2	Airborne Particulates and Iodine-131, Locations By-05, 06, 07, 08	6
3	Airborne Particulates and Iodine-131, Locations By-21, 22, 23, 24	8
4	Airborne Particulates, Quarterly Composites of Weekly Collections	10
5	Gamma Radiation, as Measured by TLDs	12
6	Precipitation	15
7	Milk	17
8	Fish, Edible Portions	19
9	Vegetables	20
10	Grass and Cattlefeed	21
11	Cooling Water	23
12	Surface Water	26
12	Well Water	30
14	Aquatic Vegetation	31
15	Bottom Sediments	32
16	Milch Animal and Nearest Residence Census	33

BYRON

LIST OF TABLES (continued)

<u>No.</u>	<u>Title</u>	<u>Page</u>
17	Summary Table, First Quarter	38
18	Summary Table, Second Quarter	41
19	Summary Table, Third Quarter	46
20	Summary Table, Fourth Quarter	50

BYRON

1.0 INTRODUCTION

The following constitutes the current Monthly Progress Report for the Environmental Radiological Monitoring Program conducted at the Byron Nuclear Power Station, Byron, Illinois. Results of completed analyses are presented in the attached tables. Missing entries indicate analyses that are not completed and the results will appear in subsequent reports.

Data obtained in the program are well within the ranges previously encountered in the program and to be expected in the environmental media sampled.

None of the media sampled this month contained radioactivity attributable to the construction of Byron Nuclear Power Station.

For all gamma isotopic analyses, spectrum is computer scanned from 80 to 2048 KeV. Specifically included are Mn-54, Co-58, Fe-59, Co-60, Zn-65, Zr-95, Nb-95, Ru-103, Ru-106, I-131, Ba-La-140, Cs-134, Cs-137, Ce-141, and Ce-144. Naturally occurring gamma-emitters, such as K-40 and Ra daughters, are frequently detected but not listed here. Data listed as "<" are at the 4.66 sigma level, others are 2 sigma. Cs-134 and Cs-137 are listed separately. All other gamma emitters are listed under "Other Gammas". Unless noted otherwise, the less than value ("<") reported under "Other Gammas" is for Co-60 and may be higher or lower for other radionuclides.

All concentrations, except gross beta, are decay corrected to the time of collection.

Deviations from Scheduled Sampling and Corrective Actions Taken

All samples were collected within the scheduled period unless noted otherwise in the Listing of Missed Samples.

BYRON

2.0 LISTING OF MISSED SAMPLES

Sample Type	Location	Expected Collection Date	Reason
Airborne Particulates	BY-02	11-30-87	AP Filter Missing
Fish	BY-12 BY-13	4th Qtr.	Not available. Several attempts to collect fish were unsuccessful.

NOTE: Page 3 is intentionally left out.

BYRON

Table 1. Airborne Particulates and Iodine-131^a
 Collection: Weekly
 Units: 10⁻² pCi/m³

Week Ending	Byron BY-01		Stillman Valley BY-02 (C)		Near Site E BY-03		Paynes Point BY-04	
	Volume (m ³)	Gross Beta	Volume (m ³)	Gross Beta	Volume (m ³)	Gross Beta	Volume (m ³)	Gross Beta
01-05-87	279	3.9±0.4	285	3.9±0.4	286	4.4±0.5	285	4.0±0.4
01-12-87	286	3.4±0.4	285	3.6±0.4	285	3.4±0.4	286	2.9±0.4
01-19-87	285	3.8±0.4	285	3.6±0.4	285	3.6±0.4	285	3.7±0.4
01-26-87	285	2.3±0.4	285	2.6±0.4	285	2.6±0.4	285	2.7±0.4
02-02-87	290	2.7±0.4	286	3.0±0.4	287	0.5±0.2	284	2.8±0.4
02-09-87	283	2.6±0.4	286	2.3±0.4	286	2.0±0.3	285	2.6±0.4
02-16-87	284	2.3±0.4	284	2.8±0.4	284	2.4±0.4	285	2.2±0.4
02-23-87	285	2.1±0.3	286	2.2±0.4	285	2.2±0.4	285	1.9±0.3
03-02-87	289	1.7±0.3	286	2.1±0.3	286	1.8±0.3	285	2.0±0.3
03-09-87	286	3.5±0.4	291	3.0±0.4	285	3.2±0.4	286	3.4±0.4
03-16-87	285	2.0±0.3	285	2.7±0.4	286	2.0±0.3	286	1.9±0.3
03-23-87	285	3.9±0.4	286	5.0±0.5	285	4.8±0.5	285	3.6±0.4
03-30-87	292	<u>1.1±0.3</u>	281	<u>1.4±0.3</u>	287	<u>1.2±0.3</u>	285	<u>1.2±0.2</u>
1st Qtr. Mean±s.d.		2.7±0.9		2.9±0.9		2.6±1.2		2.7±0.8
04-06-87	281	2.3±0.4	284	2.4±0.4	284	2.3±0.4	284	2.3±0.4
04-13-87	281	2.5±0.4	289	2.5±0.4	282	2.4±0.4	284	2.2±0.4
04-20-87	287	1.8±0.3	287	1.6±0.3	287	1.7±0.3	287	1.8±0.3
04-27-87	285	3.5±0.4	285	4.7±0.5	286	4.9±0.5	286	3.8±0.4
05-04-87	288	2.2±0.4	285	2.2±0.3	283	2.1±0.3	284	2.3±0.4
05-11-87	284	2.6±0.4	288	3.6±0.4	286	3.0±0.4	286	2.5±0.4
05-18-87	283	1.6±0.3	274	2.0±0.4	285	2.4±0.4	285	2.2±0.4
05-25-87	285	0.8±0.3	285	0.8±0.3	285	0.8±0.3	284	1.1±0.3
06-01-87	288	1.1±0.4	286	1.8±0.4	287	1.8±0.4	287	1.7±0.4
06-08-87	284	1.2±0.4	295	2.3±0.4	285	2.7±0.4	283	2.4±0.4
06-15-87	285	2.3±0.4	284	2.2±0.4	283	2.6±0.4	284	2.2±0.4
06-22-87	289	2.6±0.4	291	2.9±0.4	290	2.6±0.4	290	2.2±0.4
06-29-87	286	<u>2.2±0.6</u>	281	<u>2.7±0.4</u>	281	<u>2.3±0.4</u>	280	<u>2.1±0.4</u>
2nd Qtr Mean ± s.d.		2.2±0.6		2.4±1.0		2.4±0.9		2.1±0.8

^a Iodine-131 concentrations are <0.07 pCi/m³ unless noted otherwise.

BYRON

Table 1. Airborne Particulates and Iodine-131^a (continued)

Week Ending	Byron BY-01		Stillman Valley BY-02 (C)		Near Site E BY-03		Paynes Point BY-04	
	Volume (m ³)	Gross Beta	Volume (m ³)	Gross Beta	Volume (m ³)	Gross Beta	Volume (m ³)	Gross Beta
07-06-87	287	1.6±0.3	284	2.5±0.4	286	2.2±0.4	284	2.3±0.4
07-13-87	281	2.0±0.3	288	2.4±0.4	286	2.0±0.3	285	1.9±0.3
07-20-87	286	2.4±0.4	284	2.9±0.4	284	2.9±0.4	284	2.2±0.4
07-27-87	287	3.4±0.4	289	4.1±0.4	290	3.4±0.4	270	3.6±0.4
08-03-87	284	2.8±0.4	280	3.7±0.4	282	3.1±0.4	282	2.6±0.4
08-10-87	285	1.9±0.3	289	2.7±0.4	289	2.4±0.4	288	2.3±0.4
08-17-87	286	2.2±0.4	286	2.6±0.4	286	1.0±0.3	285	1.4±0.3
08-24-87	283	2.1±0.3	282	2.5±0.4	282	2.5±0.4	279	1.4±0.3
08-31-87	286	1.9±0.2	287	2.5±0.3	287	2.0±0.2	287	2.1±0.2
09-07-87	285	3.1±0.4	288	3.4±0.4	287	3.2±0.4	287	3.4±0.4
09-14-87	285	2.6±0.4	283	3.8±0.4	283	2.8±0.4	284	3.2±0.4
09-21-87	286	1.5±0.3	285	2.2±0.4	285	2.3±0.4	284	2.1±0.3
09-28-87	289	2.5±0.3	285	3.0±0.3	286	2.8±0.3	285	2.7±0.3
3rd Qtr. Mean±s.d.		2.3±0.6		2.9±0.6		2.5±0.6		2.4±0.7
10-05-87	283	1.7±0.3	285	2.4±0.4	286	2.5±0.4	285	2.0±0.3
10-12-87	283	1.1±0.3	286	1.3±0.3	293	1.2±0.3	294	1.8±0.3
10-19-87	288	3.2±0.4	288	3.9±0.4	280	3.0±0.4	286	3.1±0.4
10-26-87	287	1.4±0.3	283	2.2±0.4	283	1.6±0.3	283	1.5±0.3
11-02-87	285	2.7±0.4	289	3.1±0.4	296	3.5±0.4	296	3.2±0.4
11-09-87	281	2.9±0.4	288	3.7±0.4	281	3.0±0.4	281	3.0±0.4
11-16-87	289	3.9±0.4	280	4.8±0.5	289	4.0±0.4	289	4.2±0.4
11-23-87	287	2.5±0.4	286	2.9±0.4	285	2.4±0.4	286	2.4±0.4
11-30-87	286	2.2±0.4	ND ^b		286	2.6±0.4	287	2.8±0.4
12-07-87	286 ^c	2.3±0.4	295	2.6±0.4	294	2.6±0.4	287	3.1±0.4
12-14-87	274	2.7±0.4	272	3.6±0.4	275	2.9±0.4	274	3.0±0.4
12-21-87	286	3.0±0.4	285	3.2±0.4	286	2.6±0.4	287	2.9±0.4
12-28-87	295	3.8±0.4	290	3.4±0.4	323 ^d	1.7±0.3	320 ^d	3.6±0.4
4th Qtr. Mean±s.d.		2.6±0.8		3.1±0.9		2.6±0.8		2.9±0.7

^a Iodine-131 concentrations are <0.07 pCi/m³ unless noted otherwise.

^b No data; AP Filter missing.

^c Meter malfunctioned. Volume estimated from running time.

^d Sample collected on 12-29-87.

BYRON

Table 2. Airborne Particulates and Iodine-131^a
 Collection: Weekly
 Units: 10⁻² pCi/m³

Week Ending	Near Site S BY-05		Oregon BY-06		Mt. Morris BY-07 (C)		Leaf River BY-08 (C)	
	Volume (m ³)	Gross Beta	Volume (m ³)	Gross Beta	Volume (m ³)	Gross Beta	Volume (m ³)	Gross Beta
01-05-87	286	4.0±0.4	284	4.4±0.5	284	3.8±0.4	284	4.7±0.5
01-12-87	285	2.9±0.4	285	3.2±0.4	286	3.4±0.4	286	3.7±0.4
01-19-87	284	3.6±0.4	285	3.5±0.4	285	3.2±0.4	285	3.4±0.4
01-26-87	285	2.5±0.4	284	2.7±0.4	284	2.6±0.4	285	2.5±0.4
02-02-87	286	2.7±0.4	288	2.4±0.4	279	2.6±0.4	288	2.5±0.4
02-09-87	278	2.7±0.4	284	2.9±0.4	284	2.5±0.4	285	2.7±0.4
02-16-87	292	2.3±0.3	283	2.2±0.4	283	2.6±0.4	283	2.8±0.4
02-23-87	285	0.6±0.3	286	2.1±0.4	286	2.1±0.4	286	2.1±0.4
03-02-87	286	2.0±0.3	288	2.1±0.3	285	2.0±0.3	287	2.0±0.3
03-09-87	280	3.6±0.4	281	3.7±0.4	283	3.2±0.4	285	3.2±0.4
03-16-87	286	2.4±0.4	286	2.4±0.4	286	2.9±0.4	285	2.2±0.4
03-23-87	285	2.5±0.4	285	3.8±0.4	285	3.4±0.4	285	3.9±0.4
03-30-87	293	1.2±0.3	291	1.3±0.3	289	1.1±0.3	288	0.7±0.3
1st Qtr. Mean±s.d.		2.5±0.9		2.8±0.9		2.7±0.7		2.8±1.0
04-06-87	286	2.7±0.4	283	2.3±0.4	283	2.3±0.4	283	2.2±0.4
04-13-87	282	2.1±0.4	278	2.5±0.4	280	2.0±0.4	282	2.4±0.4
04-20-87	288	2.0±0.3	289	2.0±0.3	288	1.8±0.3	288	1.7±0.3
04-27-87	286	3.3±0.4	285	3.3±0.4	285	2.0±0.4	285	4.4±0.4
05-04-87	284	2.6±0.4	284	2.3±0.4	285	2.8±0.4	286	2.3±0.4
05-11-87	286	3.2±0.4	285	3.1±0.4	287	3.1±0.4	287	3.0±0.4
05-18-87	285	2.4±0.4	285	2.2±0.4	282	2.4±0.4	282	2.3±0.4
05-25-87	284	1.1±0.3	285	1.2±0.3	285	0.9±0.3	285	1.0±0.3
06-01-87	287	1.8±0.4	287	1.9±0.4	288	2.3±0.4	287	2.0±0.4
06-08-87	283	2.3±0.4	283	2.6±0.4	285	2.8±0.4	285	2.3±0.4
06-15-87	284	2.9±0.4	284	2.9±0.4	284	2.9±0.4	284	2.9±0.4
06-22-87	290	2.7±0.4	290	3.3±0.4	290	2.9±0.4	290	2.9±0.4
06-29-87	282	2.2±0.4	283	2.9±0.4	283	2.3±0.4	284	2.4±0.4
2nd Qtr Mean ± s.d.		2.4±0.6		2.5±0.6		2.2±0.8		2.4±0.4

^a Iodine-131 concentrations are <0.07 pCi/m³ unless noted otherwise.

BYRON

Table 2. Airborne Particulates and Iodine-131^a (continued)

Week Ending	Near Site S BY-05		Oregon BY-06		Mt. Morris BY-07 (C)		Leaf River BY-08 (C)	
	Volume (m ³)	Gross Beta	Volume (m ³)	Gross Beta	Volume (m ³)	Gross Beta	Volume (m ³)	Gross Beta
07-06-87	284	2.2±0.4	282	2.4±0.4	285	2.3±0.4	285	2.3±0.4
07-13-87	285	2.0±0.3	285	1.3±0.3	285	1.9±0.3	285	1.8±0.3
07-20-87	284	3.6±0.4	284	3.7±0.4	285	1.1±0.3	285	3.6±0.4
07-27-87	289	3.4±0.4	289	3.8±0.4	289	3.8±0.4	289	3.2±0.4
08-03-87	282	2.8±0.4	282	3.0±0.4	283	2.7±0.4	283	2.8±0.4
08-10-87	288	1.7±0.3	288	2.9±0.4	288	2.5±0.4	287	2.2±0.3
08-17-87	291	2.5±0.4	288	2.7±0.4	286	2.5±0.4	285	2.5±0.4
08-24-87	283	1.9±0.3	283	2.5±0.4	283	2.4±0.4	283	2.0±0.4
08-31-87	286	1.8±0.2	286	2.3±0.3	286	2.2±0.2	286	2.4±0.3
09-07-87	279	3.1±0.4	282	3.5±0.4	282	3.5±0.4	281	3.0±0.4
09-14-87	292	2.7±0.4	290	3.0±0.4	290	3.1±0.4	290	3.5±0.4
09-21-87	285	1.7±0.3	286	1.9±0.3	285	1.3±0.3	285	1.9±0.3
09-28-87	285	2.4±0.3	286	3.0±0.3	287	3.1±0.3	286	2.9±0.3
3rd Qtr. Mean±s.d.		2.4±0.6		2.8±0.7		2.5±0.7		2.6±0.6
10-05-87	288	1.8±0.3	286	2.3±0.4	284	1.9±0.3	284	2.1±0.3
10-12-87	283	1.2±0.3	284	1.5±0.3	285	1.2±0.3	286	1.5±0.3
10-19-87	287	3.2±0.4	288	3.6±0.4	286	3.6±0.4	286	3.3±0.4
10-26-87	289	1.8±0.3	287	1.8±0.3	287	1.5±0.3	287	1.9±0.3
11-02-87	286	3.5±0.4	285	3.2±0.4	286	3.2±0.4	287	3.1±0.4
11-09-87	281	3.4±0.4	282	3.1±0.4	282	3.3±0.4	281	3.0±0.4
11-16-87	289	4.0±0.4	288	4.6±0.5	288	4.1±0.4	287	3.9±0.4
11-23-87	285	2.9±0.4	284	3.0±0.4	285	2.8±0.4	285	3.1±0.4
11-30-87	288	2.7±0.4	288	2.9±0.4	287	2.8±0.4	285	2.7±0.4
12-07-87	286	2.0±0.4	286	2.6±0.4	286	2.6±0.4	295	2.8±0.4
12-14-87	274	2.8±0.4	273	3.2±0.4	273	3.2±0.4	273	3.5±0.4
12-21-87	286	2.4±0.4	285	3.5±0.4	285	2.8±0.4	285	2.8±0.4
12-29-87	244	3.8±0.5	295 ^b	4.3±0.4	294 ^b	3.5±0.4	295 ^b	4.0±0.4
4th Qtr. Mean±s.d.		2.7±0.8		3.0±0.9		2.8±0.8		2.9±0.7

^a Iodine-131 concentrations are <0.07 pCi/m³ unless noted otherwise.

^b Sample collected on 12-28-87.

BYRON

Table 3. Airborne Particulates and Iodine-131^a
 Collection: Weekly
 Units: 10⁻² pCi/m³

Week Ending	BY-21		BY-22		BY-23		BY-24	
	Volume (m ³)	Gross Beta	Volume (m ³)	Gross Beta	Volume (m ³)	Gross Beta	Volume (m ³)	Gross Beta
01-05-87	279	4.1±0.4	278	4.3±0.5	284	4.2±0.5	280	4.4±0.5
01-12-87	286	3.8±0.4	286	3.4±0.4	285	4.0±0.4	286	3.2±0.4
01-19-87	285	3.5±0.4	285	3.8±0.4	284	3.4±0.4	284	3.5±0.4
01-26-87	285	2.8±0.4	285	2.8±0.4	285	2.9±0.4	285	2.7±0.4
02-02-87	287	2.8±0.4	289	2.7±0.4	287	2.7±0.4	287	3.1±0.4
02-09-87	282	3.0±0.4	282	2.9±0.4	285	2.8±0.4	285	3.2±0.4
02-16-87	284	2.5±0.4	284	3.0±0.4	284	2.8±0.4	284	2.4±0.4
02-23-87	286	2.5±0.4	286	2.1±0.4	285	2.2±0.4	285	1.9±0.3
03-02-87	289	2.2±0.4	289	2.5±0.4	286	2.0±0.3	287	2.2±0.4
03-09-87	283	3.7±0.4	283	3.3±0.4	283	3.6±0.4	284	3.4±0.4
03-16-87	285	2.4±0.4	285	2.4±0.4	285	2.5±0.4	285	2.6±0.4
03-23-87	252	3.1±0.4	286	3.5±0.4	286	3.6±0.4	286	3.5±0.4
03-30-87	291	1.3±0.3	292	1.1±0.3	290	1.2±0.3	290	1.4±0.3
1st Qtr. Mean ± s.d.		2.9±0.8		2.9±0.8		2.9±0.8		2.9±0.8
04-06-87	282	2.7±0.4	281	2.3±0.4	282	2.2±0.4	282	2.4±0.4
04-13-87	280	2.6±0.4	280	2.3±0.4	280	2.6±0.4	281	2.3±0.3
04-20-87	287	1.7±0.3	287	2.2±0.4	287	1.6±0.4	287	1.7±0.3
04-27-87	269	2.5±0.4	285	3.8±0.4	285	3.6±0.4	285	3.2±0.4
05-04-87	289	2.6±0.4	289	2.7±0.4	287	2.9±0.4	288	2.2±0.4
05-11-87	284	2.6±0.4	284	3.4±0.4	285	3.4±0.4	285	3.2±0.4
05-18-87	283	2.6±0.4	283	2.4±0.4	283	2.3±0.4	283	2.7±0.4
05-25-87	285	1.0±0.3	284	1.0±0.3	284	1.1±0.3	284	1.7±0.3
06-01-87	288	2.0±0.4	288	2.3±0.4	288	2.0±0.4	288	2.1±0.4
06-08-87	193	2.4±0.6	281	2.8±0.4	281	2.3±0.4	281	2.6±0.4
06-15-87	284	2.9±0.4	284	2.8±0.4	285	3.1±0.4	285	2.2±0.4
06-22-87	65	1.5±1.0	289	2.8±0.4	289	3.1±0.4	289	3.0±0.4
06-29-87	287	2.5±0.4	288	2.6±0.4	288	2.4±0.4	287	2.7±0.4
2nd Qtr Mean ± s.d.		2.3±0.6		2.6±0.7		2.5±0.7		2.5±0.5

^a Iodine-131 concentrations are <0.07 pCi/m³ unless noted otherwise.

BYRON

Table 3. Airborne Particulates and Iodine-131^a (continued)

Week Ending	BY-21		BY-22		BY-23		BY-24	
	Volume (m ³)	Gross Beta	Volume (m ³)	Gross Beta	Volume (m ³)	Gross Beta	Volume (m ³)	Gross Beta
07-06-87	286	2.4±0.4	285	2.5±0.4	285	2.4±0.4	285	2.2±0.4
07-13-87	280	2.3±0.4	279	2.2±0.4	280	2.0±0.4	280	2.4±0.4
07-20-87	272	3.7±0.4	286	2.5±0.4	286	2.3±0.4	286	2.4±0.4
07-27-87	286	4.2±0.4	287	3.7±0.4	287	4.1±0.4	287	4.3±0.4
08-03-87	286	3.3±0.4	285	3.1±0.4	285	3.1±0.4	285	3.1±0.4
08-10-87	285	2.3±0.4	285	2.7±0.4	285	2.6±0.4	285	2.9±0.4
08-17-87	285	2.9±0.4	285	2.4±0.4	285	3.1±0.4	285	3.1±0.4
08-24-87	283	2.5±0.4	283	2.6±0.4	283	2.5±0.4	283	2.5±0.4
08-31-87	286	2.2±0.2	286	2.4±0.3	286	2.5±0.3	286	2.4±0.3
09-07-87	285	3.7±0.4	285	3.8±0.4	285	3.7±0.4	285	4.1±0.4
09-14-87	285	3.2±0.4	285	3.8±0.4	286	3.1±0.4	286	3.3±0.4
09-21-87	285	2.2±0.4	286	2.6±0.4	286	2.3±0.4	286	2.3±0.4
09-28-87	290	3.4±0.3	290	3.8±0.3	286	3.3±0.3	286	3.4±0.3
3rd Qtr. Mean±s.d.		2.9±0.7		2.9±0.6		2.8±0.6		3.0±0.7
10-05-87	284	2.4±0.4	284	2.2±0.4	286	2.3±0.4	285	2.5±0.4
10-12-87	282	1.1±0.3	282	1.7±0.3	287	1.6±0.3	283	1.5±0.3
10-19-87	287	4.5±0.4	287	4.1±0.4	287	3.9±0.4	288	3.8±0.4
10-26-87	288	1.8±0.3	288	1.9±0.3	288	1.7±0.3	288	1.5±0.3
11-02-87	285	3.6±0.4	285	3.6±0.4	286	3.4±0.4	286	3.4±0.4
11-09-87	281	3.5±0.4	281	3.0±0.4	281	3.1±0.4	281	2.9±0.4
11-16-87	289	4.9±0.5	289	4.9±0.5	289	4.6±0.4	289	4.5±0.4
11-23-87	285	2.8±0.4	285	3.1±0.4	285	3.5±0.4	285	3.3±0.4
11-30-87	287	3.1±0.4	286	3.1±0.4	286	2.9±0.4	286	2.7±0.4
12-07-87	282	3.1±0.4	282	2.8±0.4	283	3.1±0.4	284	2.5±0.4
12-14-87	274	3.8±0.4	274	3.3±0.4	274	3.5±0.4	274	2.0±0.3
12-21-87	286	0.8±0.3	286	2.5±0.4	286	3.2±0.4	286	3.0±0.4
12-29-87	333	3.5±0.4	334	3.5±0.4	330	3.6±0.4	330	4.1±0.4
4th Qtr. Mean±s.d.		3.0±1.2		3.0±0.9		3.1±0.8		2.9±0.9

^a Iodine-131 concentrations are <0.07 pCi/m³ unless noted otherwise.

BYRON

Table 4. Airborne Particulates
 Collection: Quarterly composites of weekly collections
 Units: pCi/m³

Location	Lab Code	Volume 3 (m ³)	Sr-89	Sr-90	Cs-134	Cs-137	Other Gammas ^a
<u>1st Quarter 1987</u>							
BY-01	BYAP-500	3714	<0.01	<0.01	<0.01	<0.01	<0.01
BY-02	501	3711	<0.01	<0.01	<0.01	<0.01	<0.01
BY-03	502	3712	<0.01	<0.01	<0.01	<0.01	<0.01
BY-04	503	3707	<0.01	<0.01	<0.01	<0.01	<0.01
BY-05	504	3711	<0.01	<0.01	<0.01	<0.01	<0.01
BY-06	505	3710	<0.01	<0.01	<0.01	<0.01	<0.01
BY-07	506	3699	<0.01	<0.01	<0.01	<0.01	<0.01
BY-08	507	3712	<0.01	<0.01	<0.01	<0.01	<0.01
BY-21	508	3673	<0.01	<0.01	<0.01	<0.01	<0.01
BY-22	509	3710	<0.01	<0.01	<0.01	<0.01	<0.01
BY-23	510	3710	<0.01	<0.01	<0.01	<0.01	<0.01
BY-24	511	3708	<0.01	<0.01	<0.01	<0.01	<0.01
<u>2nd Quarter 1987</u>							
BY-01	BYAP-607	3706	<0.01	<0.01	<0.01	<0.01	<0.01
BY-02	608	3704	<0.01	<0.01	<0.01	<0.01	<0.01
BY-03	609	3704	<0.01	<0.01	<0.01	<0.01	<0.01
BY-04	610	3704	<0.01	<0.01	<0.01	<0.01	<0.01
BY-05	611	3707	<0.01	<0.01	<0.01	<0.01	<0.01
BY-06	612	3701	<0.01	<0.01	<0.01	<0.01	<0.01
BY-07	613	3705	<0.01	<0.01	<0.01	<0.01	<0.01
BY-08	614	3708	<0.01	<0.01	<0.01	<0.01	<0.01
BY-21	615	3376	<0.01	<0.01	<0.01	<0.01	<0.01
BY-22	616	3703	<0.01	<0.01	<0.01	<0.01	<0.01
BY-23	617	3704	<0.01	<0.01	<0.01	<0.01	<0.01
BY-24	618	3705	<0.01	<0.01	<0.01	<0.01	<0.01

^a See Introduction.

BYRON

Table 4. Airborne Particulates (continued)

Location	Lab Code	Volume 3 (m)	Sr-89	Sr-90	Cs-134	Cs-137	Other Gammas ^a
<u>3rd Quarter 1987</u>							
BY-01	BYAP-706	3712	<0.01	<0.01	<0.01	<0.01	<0.01
BY-02	707	3710	<0.01	<0.01	<0.01	<0.01	<0.01
BY-03	708	3713	<0.01	<0.01	<0.01	<0.01	<0.01
BY-04	709	3684	<0.01	<0.01	<0.01	<0.01	<0.01
BY-05	710	3713	<0.01	<0.01	<0.01	<0.01	<0.01
BY-06	711	3711	<0.01	<0.01	<0.01	<0.01	<0.01
BY-07	712	3740	<0.01	<0.01	<0.01	<0.01	<0.01
BY-08	713	3710	<0.01	<0.01	<0.01	<0.01	<0.01
BY-21	714	3694	<0.01	<0.01	<0.01	<0.01	<0.01
BY-22	715	3707	<0.01	<0.01	<0.01	<0.01	<0.01
BY-23	716	3705	<0.01	<0.01	<0.01	<0.01	<0.01
BY-24	717	3707	<0.01	<0.01	<0.01	<0.01	<0.01
<u>4th Quarter 1987</u>							
BY-01	BYAP-887	3710	<0.01	<0.01	<0.01	<0.01	<0.01
BY-02	888	3427	<0.01	<0.01	<0.01	<0.01	<0.01
BY-03	889	3757	<0.01	<0.01	<0.01	<0.01	<0.01
BY-04	890	3755	<0.01	<0.01	<0.01	<0.01	<0.01
BY-05	891	3666	<0.01	<0.01	<0.01	<0.01	<0.01
BY-06	892	3711	<0.01	<0.01	<0.01	<0.01	<0.01
BY-07	893	3708	<0.01	<0.01	<0.01	<0.01	<0.01
BY-08	894	3714	<0.01	<0.01	<0.01	<0.01	<0.01
BY-21	895	3743	<0.01	<0.01	<0.01	<0.01	<0.01
BY-22	896	3743	<0.01	<0.01	<0.01	<0.01	<0.01
BY-23	897	3743	<0.01	<0.01	<0.01	<0.01	<0.01
BY-24	898	3745	<0.01	<0.01	<0.01	<0.01	<0.01

^a See Introduction.

BYRON

Table 5. Gamma Radiation, as Measured by Thermoluminescent Dosimeters (TLDs)

STANDARD RADIOLOGICAL MONITORING PROGRAM				
	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
Date Placed:	12-29-86	03-30-87	06-30-87	09-28-87
Date Removed:	03-30-87	06-30-87	09-28-87	12-28-87
Days in the Field:	91	92	90	91
Location	Average mR/Qtr.			
<u>Offsite Indicator Locations</u>				
BY-01 - Byron	11.9±0.7	11.3±0.7	12.8±0.8	14.1±0.4
BY-03 - Nearsite East	14.3±0.8	15.7±1.4	14.9±0.9	16.1±0.4
BY-04 - Paynes Point	14.1±0.7	16.0±0.8	15.0±0.8	17.7±0.3
BY-05 - Nearsite South	16.4±0.8	17.5±0.8	17.1±1.2	19.3±1.2
BY-06 - Oregon	12.3±0.7	13.0±0.9	13.3±1.0	15.1±0.4
Mean ± s.d.	13.8±1.8	14.7±2.5	14.6±1.7	16.5±2.1
<u>Onsite Indicator Locations</u>				
BY-21 - Onsite North	11.2±0.7	11.4±0.9	11.9±0.8	13.6±0.5
BY-22 - Onsite ESE	17.6±1.0	18.1±0.7	19.3±1.7	19.4±0.4
BY-23 - Onsite South	16.3±1.3	16.7±0.9	17.1±1.3	18.8±0.3
BY-24 - Met. Tower	16.1±1.2	16.8±1.0	16.7±1.4	18.2±0.6
Mean ± s.d.	15.3±2.7	15.8±3.0	16.2±3.1	17.5±2.6
<u>Background Locations</u>				
BY-02 - Stillman Valley	13.2±0.9	12.5±0.8	13.2±0.9	15.2±0.6
BY-07 - Mt. Morris	14.0±0.8	15.7±0.8	16.7±1.6	17.6±0.7
BY-08 - Leaf River	13.3±0.8	14.7±1.1	14.2±1.1	16.7±0.7
Mean ± s.d.	13.5±0.4	14.3±1.6	14.7±1.8	16.5±1.2

BYRON

Table 5. Gamma Radiation, as Measured by TLDs (continued)

SPECIAL PROGRAM				
Inner Ring, Near Site Boundary, Indicator Locations				
	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
Date Placed:	12-29-86	03-30-87	06-30-87	09-28-87
Date Removed:	03-30-87	06-30-87	09-28-87	12-28-87
Days in the Field:	91	92	90	91
Location	Average mR/Qtr.			
BY-101-1	16.9±1.4	19.4±2.3	17.5±1.5	19.8±1.2
BY-101-2	16.1±0.9	16.2±0.7	18.3±1.0	18.0±0.4
BY-102-1	16.6±1.4	18.6±1.1	18.2±1.2	19.6±0.5
BY-102-2	16.2±1.1	16.0±1.3	18.7±1.0	17.0±1.1
BY-103-1	15.9±0.8	16.6±0.7	16.8±0.9	19.7±1.2
BY-103-2	15.6±1.4	15.7±0.9	16.7±1.0	17.7±0.2
BY-104-1	16.4±0.8	17.2±1.0	17.5±0.8	18.4±1.1
BY-104-2	16.9±0.9	16.1±0.8	17.8±1.0	18.4±0.4
BY-105-1	16.5±0.8	17.5±0.7	18.0±1.2	18.7±0.7
BY-105-2	16.1±0.8	16.4±0.7	18.6±1.2	19.0±0.5
BY-106-1	16.1±0.8	16.3±0.8	17.3±1.1	17.5±0.7
BY-106-2	15.1±0.9	15.2±0.8	17.3±1.7	16.8±1.1
BY-107-1	16.6±0.8	17.7±1.2	17.0±0.9	19.0±0.7
BY-107-2	17.0±0.9	17.1±0.8	18.8±0.9	20.3±1.5
BY-108-1	16.5±0.8	17.9±0.7	17.8±1.0	18.7±0.6
BY-108-2	14.1±0.7	14.8±0.9	15.2±0.8	16.5±0.6
BY-109-1	14.9±0.7	15.7±0.8	15.5±0.8	18.0±1.0
BY-109-2	15.9±1.3	14.0±0.8	16.8±1.6	16.1±0.9
BY-110-1	14.9±1.1	15.4±0.8	15.3±0.8	17.8±0.7
BY-110-2	15.2±0.9	13.8±0.9	16.3±0.9	15.9±0.6
BY-111-1	15.7±0.8	16.7±0.8	17.2±1.2	17.7±0.5
BY-111-2	16.0±0.8	15.8±0.8	17.5±1.0	17.0±0.7
BY-112-1	15.0±0.8	15.6±0.7	16.3±0.9	17.7±1.1
BY-112-2	14.8±1.0	13.6±0.8	16.5±1.5	15.6±0.6
BY-113-1	14.6±0.7	15.4±0.7	16.0±0.8	17.4±0.6
BY-113-2	13.0±0.7	12.7±1.0	17.1±1.6	14.8±0.5
BY-114-1	12.6±0.7	13.2±0.8	13.3±0.8	16.0±1.0
BY-114-2	14.8±0.9	13.6±0.7	16.2±0.9	15.9±0.6
BY-115-1	14.5±0.8	15.1±0.9	15.8±0.8	17.0±0.6
BY-115-2	14.1±0.9	14.2±1.1	15.4±0.9	16.3±0.5
BY-116-1	13.0±0.7	13.5±0.8	14.0±0.9	15.5±0.7
BY-116-2	13.8±1.1	13.4±1.0	15.2±0.8	16.7±1.1
Mean ± s.d.	15.4±1.2	15.6±1.7	16.7±1.4	17.5±1.4

BYRON

Table 5. Gamma Radiation, as Measured by TLDs (continued)

SPECIAL PROGRAM				
Outer Ring, Near 5 Mile Radius, Indicator Locations				
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Date Placed:	12-29-86	03-30-87	06-30-87	09-28-87
Date Removed:	03-30-87	06-30-87	09-28-87	12-28-87
Days in the Field:	91	92	90	91
Location	Average mR/Qtr.			
BY-201-1	14.4±0.8	15.8±0.9	15.5±0.8	17.4±0.4
BY-201-2	17.1±0.9	15.8±0.8	18.4±0.8	17.3±0.9
BY-202-1	14.3±0.8	15.1±0.8	17.2±1.6	16.9±0.3
BY-202-2	15.7±1.0	15.6±0.9	17.4±0.9	17.6±0.6
BY-203-1	11.9±0.8	11.4±0.7	12.4±0.9	14.0±0.4
BY-203-2	15.0±0.8	14.7±1.2	16.2±0.9	16.6±0.5
BY-204-1	12.9±0.9	13.0±0.7	13.6±0.8	15.1±0.4
BY-204-2	16.8±0.9	16.3±0.7	18.6±0.9	18.5±0.5
BY-205-1	17.0±0.8	16.0±0.8	18.4±1.4	17.1±0.3
BY-205-2	15.5±0.8	14.9±0.7	17.2±1.0	16.5±0.7
BY-206-1	16.6±0.8	16.3±0.9	17.9±0.8	17.9±0.9
BY-206-2	16.4±0.8	15.9±0.7	18.0±0.8	17.7±0.2
BY-207-1	17.0±0.9	17.0±0.8	19.0±1.6	19.0±0.4
BY-207-2	16.1±0.8	15.2±0.7	17.6±1.1	17.4±0.2
BY-208-1	17.8±1.0	17.4±0.7	19.1±0.9	19.0±0.7
BY-208-2	17.2±0.9	17.0±1.0	18.4±0.8	19.9±1.0
BY-209-1	16.0±0.8	16.6±0.8	17.7±0.8	18.7±0.8
BY-209-2	14.3±0.8	13.9±0.7	16.4±1.6	16.2±0.3
BY-210-1	16.7±1.1	15.9±0.7	17.5±0.8	18.3±1.0
BY-210-2	15.8±0.8	15.5±0.8	17.0±0.9	17.7±0.4
BY-211-1	15.5±0.8	14.5±0.8	16.4±0.9	16.3±0.6
BY-211-2	17.2±0.9	16.6±0.7	19.7±1.5	18.6±0.7
BY-212-1	16.5±0.9	16.3±0.8	21.1±0.8	18.5±0.9
BY-212-2	17.7±1.1	17.4±0.8	18.4±0.9	19.0±0.5
BY-213-1	16.5±0.9	14.9±0.8	19.8±1.4	18.6±0.3
BY-213-2	16.8±0.8	17.5±0.9	19.6±0.9	18.9±0.4
BY-214-1	15.5±0.8	15.2±1.2	17.5±0.8	15.8±0.7
BY-214-2	16.2±0.9	15.8±0.8	17.9±0.8	17.9±0.9
BY-215-1	16.7±1.0	16.3±0.9	19.8±1.1	18.0±0.5
BY-215-2	16.4±0.8	16.1±0.7	18.2±1.1	18.2±0.6
BY-216-1	17.8±0.9	15.9±0.7	20.7±1.0	17.5±0.9
BY-216-2	16.8±1.0	17.2±0.8	18.7±0.8	18.9±0.6
Mean ± s.d.	16.1±1.3	15.7±1.3	17.8±1.8	17.6±1.3

BYRON

Table 6. Precipitation
Units: (pCi/l)

MONTHLY COLLECTIONS				
Collection Period	Lab Code	Gross Beta	Lab Code	Gross Beta
	<u>Reeverts Pine Hill Dairy Farm</u>		<u>Kenneth Druien Farm</u>	
		BY-15		BY-16
January, 87	BYP-222	<12.2	BYP-223	NA ^a
February, 87	234	<10.5	235	NA
March, 87	1106	<9.7	1107	<9.7
April, 87	276	<12.8	277	51.6±9.4
May, 87	286	7.1±3.6	287	10.8±3.8
June, 87	310	21.0±3.9	311,2	<4.9
July, 87	328,9	<12.3	330	21.2±8.2
August, 87	339,40	<2.8	341	6.2±1.9
September, 87	361	<12.0	362	<12.0
October, 87	378,9	<12.0	380	<12.0
November, 87	392	<8.5	393	<8.5
December, 87	406	<12.9	407	<12.9
	<u>Whitten Holsteins</u>		<u>Ed Seabold Farm</u>	
		BY-17		BY-20
January, 87	BYP-224	<12.2	BYP-225	<12.2
February, 87	236	<10.5	237,8	<10.5
March, 87	1108	<9.7	1109	<9.7
April, 87	278	63.2±1.0	279	58.8±9.7
May, 87	288	<5.8	289	8.0±3.6
June, 87	313	12.8±6.1	314	33.8±7.5
July, 87	331	<11.3	332	77.6±11.0
August, 87	342	<2.8	343	<2.8
September, 87	363	<12.0	364	NA ^a
October, 87	385	<12.0	382	<12.0
November, 87	394	<8.5	395	<8.5
December, 87	408	<12.9	409	<12.9

^a NA = Not analyzed; not enough sample for analysis. Sample was reserved for quarterly composite.

BYRON

Table 6. Precipitation (continued)

QUARTERLY COMPOSITES OF MONTHLY COLLECTIONS							
Composite Period	Lab Code	Sr-89	-Sr-90	Cs-134	Cs-137	Other Gammas ^a	Tritium
<u>J. A. Reeverts Dairy Farm BY-15</u>							
1st Quarter, 87	BYP-262	<10	<2	<10	<10	<15	<200
2nd Quarter, 87	315	<10	<2	<10	<10	<15	<200
3rd Quarter, 87	373	<10	<2	<10	<10	<15	<200
4th Quarter, 87	410	<10	<2	<10	<10	<15	<200
<u>K. Drueten Dairy Farm BY-16</u>							
1st Quarter, 87	BYP-263	<10	<2	<10	<10	<15	<200
2nd Quarter, 87	316	<10	<2	<10	<10	<15	<200
3rd Quarter, 87	374	<10	<2	<10	<10	<15	223±100
4th Quarter, 87	411,2	<10	<2	<10	<10	<15	<200
<u>Whitten Holsteins BY-17</u>							
1st Quarter, 87	BYP-264,5	<10	<2	<10	<10	<15	<200
2nd Quarter, 87	317	<10	<2	<10	<10	<15	<200
3rd Quarter, 87	375	<10	<2	<10	<10	<15	<200
4th Quarter, 87	413	<10	<2	<10	<10	<15	<200
<u>E. Seabold Dairy Farm BY-20</u>							
1st Quarter, 87	BYP-266	<10	<2	<10	<10	<15	<200
2nd Quarter, 87	318	<10	<2	<10	<10	<15	<200
3rd Quarter, 87	376	<10	<2	<10	<10	<15	<200
4th Quarter, 87	414	<10	<2	<10	<10	<15	<200

^a See Introduction.

BYRON

Table 7. Milk

Collection: Monthly; semimonthly during grazing season (May - October)
 Units: $\mu\text{Ci/l}$

Collection Date	Lab Code	I-131	Sr-89	Sr-90	Cs-134	Cs-137	Other Gammas ^a
<u>J. A. Ræverts Dairy Farm BY-15</u>							
01-05-87	BYMI-16	<0.5	<10	2.0±0.4	<5	<5	<10
02-03-87	86	<0.5	<10	1.6±0.5	<5	<5	<10
03-02-87	154	<0.5	<10	2.1±0.5	<5	<5	<10
04-09-87	256	<0.5	<10	1.6±0.4	<5	<5	<10
05-04-87	315	<0.5	<10	2.3±0.5	<5	<5	<10
05-18-87	401	<0.5	<10	3.6±1.1	<5	<5	<10
06-01-87	473	<0.5	<10	2.4±0.5	<5	<5	<10
06-15-87	558	<0.5	<10	2.4±0.5	<5	<5	<10
07-06-87	679	<0.5	<10	3.4±0.7	<5	<5	<10
07-20-87	769	<0.5	<10	2.4±0.6	<5	<5	<10
08-03-87	827	<0.5	<10	2.5±0.6	<5	<5	<10
08-24-87	952	<0.5	<10	2.3±0.5	<5	<5	<10
09-07-87	1027	<0.5	<10	2.6±0.6	<5	<5	<10
09-21-87	1119	<0.5	<10	3.0±0.6	<5	<5	<10
10-05-87	1195	<0.5	<10	2.3±0.5	<5	<5	<10
10-19-87	1279	<0.5	<10	1.8±0.4	<5	<5	<10
11-02-87	1336	<0.5	<10	2.4±0.6	<5	<5	<10
12-07-87	1464	<0.5	<10	1.9±0.5	<5	<5	<10
<u>Druien Dairy Farm BY-16</u>							
01-05-87	BYMI-17	<0.5	<10	3.2±0.6	<5	<5	<10
02-03-87	87	<0.5	<10	2.5±0.6	<5	<5	<10
03-02-87	155	<0.5	<10	3.8±0.6	<5	<5	<10
04-08-87	257	<0.5	<10	3.2±0.6	<5	<5	<10
05-04-87	316	<0.5	<10	2.4±0.6	<5	<5	<10
05-18-87	402	<0.5	<10	2.5±0.6	<5	<5	<10
06-01-87	474	<0.5	<10	3.1±0.6	<5	<5	<10
06-15-87	559	<0.5	<10	2.8±0.6	<5	<5	<10
07-06-87	680	<0.5	<10	2.9±0.6	<5	<5	<10
07-20-87	770	<0.5	<10	2.7±0.6	<5	<5	<10
08-03-87	828	<0.5	<10	2.4±0.7	<5	<5	<10
08-24-87	953,4	<0.5	<10	2.5±0.4	<5	<5	<10
09-07-87	1028,9	<0.5	<10	2.9±0.5	<5	<5	<10
09-15-87	1120	<0.5	<10	2.1±0.4	<5	<5	<10
10-05-87	1196	<0.5	<10	2.6±0.5	<5	<5	<10
10-19-87	1280	<0.5	<10	2.9±0.6	<5	<5	<10
11-02-87	1337	<0.5	<10	1.9±0.9	<5	<5	<10
12-07-87	1465	<0.5	<10	3.8±0.6	<5	<5	<10

^a See Introduction.

BYRON

Table 7. Milk (continued)

Collection Date	Lab Code	I-131	Sr-89	Sr-90	Cs-134	Cs-137	Other Gammas ^a
<u>Whitten holsteins BY-17</u>							
01-05-87	BYMI-3508	<0.5	<10	3.7±0.6	<5	<5	<10
02-03-87	105	<0.5	<10	2.5±0.5	<5	<5	<10
03-09-87	192	<0.5	<10	2.0±0.5	5	<5	<10
04-15-87	279	<0.5	<10	2.6±0.5	<5	<5	<10
05-04-87	317	<0.5	<10	2.3±0.5	<5	<5	<10
05-18-87	403	<0.5	<10	2.2±0.5	<5	<5	<10
06-01-87	475	<0.5	<10	3.1±0.6	<5	<5	<10
06-15-87	560	<0.5	<10	2.9±0.6	<5	<5	<10
07-06-87	681	<0.5	<10	2.8±0.7	<5	<5	<10
07-20-87	771	<0.5	<10	2.8±0.6	<5	<5	<10
08-03-87	829	<0.5	<10	2.1±0.5	<5	<5	<10
08-24-87	955	<0.5	<10	1.9±0.5	<5	<5	<10
09-07-87	1030	<0.5	<10	1.8±0.5	<5	<5	<10
09-21-87	1121	<0.5	<10	1.8±0.5	<5	<5	<10
10-05-87	1197,8	<0.5	<10	2.4±0.2	<5	<5	<10
10-19-87	1281	<0.5	<10	2.4±0.7	<5	<5	<10
11-02-87	139C	<0.5	<10	2.1±0.5	<5	<5	<10
12-07-87	1466	<0.5	<10	2.6±0.6	<5	<5	<10
<u>Ed Seabold Dairy Farm BY-20</u>							
01-05-87	BYMI-18,9	<0.5	<10	2.8±0.3	<5	<5	<10
02-03-87	88	<0.5	<10	2.2±0.5	<5	<5	<10
03-02-87	156	<0.5	<10	2.9±0.6	<5	<5	<10
04-09-87	258	<0.5	<10	2.4±0.5	<5	<5	<10
05-11-87	364,5	<0.5	<10	2.9±0.7	<5	<5	<10
05-18-87	404	<0.5	<10	2.0±0.5	<5	<5	<10
06-01-87	476	<0.5	<10	3.9±0.6	<5	<5	<10
06-15-87	561	<0.5	<10	2.5±0.5	<5	<5	<10
07-06-87	682	<0.5	<10	2.8±0.6	<5	<5	<10
07-20-87	772	<0.5	<10	2.5±0.6	<5	<5	<10
08-03-87	830	<0.5	<10	2.3±0.6	<5	<5	<10
08-24-87	956	<0.5	<10	2.5±0.6	<5	<5	<10
09-07-87	1031	<0.5	<10	2.6±0.7	<5	<5	<10
09-21-87	1122	<0.5	<10	2.5±0.4	<5	<5	<10
10-05-87	1199	<0.5	<10	2.5±0.5	<5	<5	<10
10-19-87	1282	<0.5	<10	2.0±0.6	<5	<5	<10
11-02-87	1338	<0.5	<10	2.0±0.5	<5	<5	<10
12-01-87	1467	<0.5	<10	2.8±0.6	<5	<5	<10

^a See Introduction.

BYRON

Table 8. Fish, Edible Portions.
 Collection: 3 times per year
 Unit: pCi/g wet weight

Collection Date	Lab Code	Type	Gross Beta	Sr-89	Sr-90	Cs-134	Cs-137	Other Gammas ^a
<u>Oregon Pool of Rock River BY-12</u>								
05-04-87	BYF-204	Sucker	3.2±0.1	<0.1	<0.1	<0.10	<0.10	<0.13
05-04-87	205	Carp	3.0±0.1	<0.1	<0.1	<0.10	<0.10	<0.13
07-06-87	267	Catfish	2.2±0.1	<0.1	<0.1	<0.10	<0.10	<0.13
07-06-87	268	Drum	2.2±0.1	<0.1	<0.1	<0.10	<0.10	<0.13
<u>Upstream BY-13</u>								
05-04-87	BYF-206	Carp	2.9±0.1	<0.1	<0.1	<0.10	<0.10	<0.13
05-04-87	207	Sucker	3.2±0.1	<0.1	<0.1	<0.10	<0.10	<0.13
05-04-87	208	Drum	2.9±0.1	<0.1	<0.1	<0.10	<0.10	<0.13
07-06-87	269	Eel	1.4±0.1	<0.1	<0.1	<0.10	<0.10	<0.13
07-06-87	270	Sucker	2.2±0.1	<0.1	<0.1	<0.10	<0.10	<0.13
07-06-87	271	Drum	1.7±0.1	<0.1	<0.1	<0.10	<0.10	<0.13

BYRON

Table 9. Vegetables
 Collection: Annually
 Units: pCi/g wet weight

Collection Date	Lab Code	Type	Gross Beta	Sr-89	Sr-90	I-131 ^a	Cs-134	Cs-137	Other Gammas ^b
<u>BY-19-1 966 East Weld Bark Road</u>									
08-03-87	BYVe-232	Zucchini	1.7±0.1	<0.1	<0.1	----	<0.1	<0.1	<0.2
08-03-87	233	Broccoli	5.0±0.2	<0.1	<0.1	----	<0.1	<0.1	<0.2
08-03-87	234	Cauliflower	4.2±0.1	<0.1	<0.1	----	<0.1	<0.1	<0.2
08-03-87	235	Cabbage	1.9±0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.2
<u>BY-19-2 6993 North River</u>									
08-03-87	BYVe-236	Cabbage	1.5±0.1	<0.1	<0.1	<0.009	<0.1	<0.1	<0.2
08-03-87	237	Beets	4.8±0.2	<0.1	<0.1	----	<0.1	<0.1	<0.2
08-03-87	238	Squash	2.5±0.1	<0.1	<0.1	----	<0.1	<0.1	<0.2
08-03-87	239,40	Cucumber	1.6±0.1	<0.1	<0.1	----	<0.1	<0.1	<0.2

^a Analysis for I-131 required for cabbage and lettuce only.
^b See Introduction.

BYRON

Table 10. Grass and Cattlefeed
 Collection: Quarterly^a
 Units: pCi/g t weight

Collection Date	Type	Lab Code	Gross Beta	Sr-89	Sr-90	Cs-134	Cs-137	Other Gammas ^b
<u>J. A. Reeverts Dairy Farm BY-15</u>								
02-02-87	Corn	BYCF-275	3.9±0.2	<1.0	<1.0	<0.1	<0.1	<0.2
02-02-87	Hay	276	29.9±1.0	<1.0	<1.0	<0.1	<0.1	<0.2
05-04-87	Grass	BYG-900	5.9±0.2	<1.0	<1.0	<0.1	<0.1	<0.2
07-06-87	Grass	955	6.0±0.2	<1.0	<1.0	<0.1	<0.1	<0.2
10-05-87	Grass	1019,20	12.6±0.5	<1.0	<1.0	<0.1	<0.1	<0.2
<u>K. Durien Dairy Farm BY-16</u>								
02-02-87	Corn	BYCF-277	4.2±0.2	<1.0	<1.0	<0.1	<0.1	<0.2
02-02-87	Silage	278	6.6±0.2	<1.0	<1.0	<0.1	<0.1	<0.2
02-02-87	Hay	279	14.2±0.5	<1.0	<1.0	<0.1	<0.1	<0.2
05-04-87	Grass	BYG-901	5.4±0.2	<1.0	<1.0	<0.1	<0.1	<0.2
07-06-87	Grass	956	7.9±0.3	<1.0	<1.0	<0.1	<0.1	<0.2
10-05-87	Grass	1021	7.3±0.2	<1.0	<1.0	<0.1	<0.1	<0.2

^a Grass is collected during summer. Cattlefeed is collected during winter.

^b See Introduction.

BYRON

Table 10. Grass and Cattlefeed (continued)

Collection Date	Type	Lab Code	Gross Beta	Sr-89	Sr-90	Cs-134	Cs-137	Other Gammas ^b
<u>Whitten Holsteins BY-17</u>								
02-02-87	Corn	BYCF-280	2.6±0.1	<1.0	<1.0	<0.1	<0.1	<0.2
02-02-87	Silage	281	3.7±0.2	<1.0	<1.0	<0.1	<0.1	<0.2
02-02-87	Hay	282,3	16.0±0.4	<1.0	<1.0	<0.1	<0.1	<0.2
05-04-87	Grass	BYG-902	4.0±0.2	<1.0	<1.0	<0.1	<0.1	<0.2
07-06-87	Grass	957	7.2±0.3	<1.0	<1.0	<0.1	<0.1	<0.2
10-05-87	Grass	1022	9.9±0.4	<1.0	<1.0	<0.1	<0.1	<0.2
<u>E. Seabold Dairy Farm BY-20</u>								
02-02-87	Corn	BCYF-284	3.0	<1.0	<1.0	<0.1	<0.1	<0.2
02-02-87	Hay	285	14.3±0.0	<1.0	<1.0	<0.1	<0.1	<0.2
05-04-87	Grass	BYG-903	7.0±0.2	<1.0	<1.0	<0.1	<0.1	<0.2
07-06-87	Grass	958	8.6±0.3	<1.0	<1.0	<0.1	<0.1	<0.2
10-05-87	Grass	1023	4.5±0.2	<1.0	<1.0	<0.1	<0.1	<0.2

^a Grass is collected during summer. Cattlefeed is collected during winter.
^b See Introduction.

BYRON

Table 11. Cooling Water
Units: pCi/l

WEEKLY COLLECTIONS					
Collection Date	Lab Code	Gross Beta	Collection Date	Lab Code	Gross Beta
<u>Intake Pipe BY-10</u>					
01-02-87	BYCW-46	1.9±0.2	07-03-87	BYCW-2271	3.8±0.8
01-09-87	77	<2.4	07-13-87	2322	3.7±1.1
01-16-87	185,6	2.7±1.0	07-20-87	2373	7.2±1.8
01-23-87	225	2.4±1.0	07-27-87	2446	2.7±1.0
01-30-87	313	1.7±0.9	08-03-87	2565	<2.3
02-09-87	430,1	3.2±1.4	08-10-87	2631	4.7±1.1
02-16-87	490	2.6±1.0	08-17-87	2686	5.4±1.1
02-23-87	533	2.0±0.9	08-24-87	2774	6.5±1.3
03-02-87	596	1.9±0.8	08-31-87	2863	7.2±1.3
03-06-87	684	3.9±0.9	09-07-87	2908	2.8±0.9
03-16-87	784	2.5±0.8	09-11-87	2993	2.7±1.1
03-23-87	838	2.3±0.8	09-21-87	3078,9	2.8±0.7
03-30-87	983	<u>2.4±0.8</u>	09-28-87	3165	<u>2.3±1.0</u>
1st Qtr. mean ± s.d.		2.5±0.6	3rd Qtr. mean ± s.d.		4.3±1.8
04-06-87	1116	4.3±1.0	10-05-87	3308	2.4±1.0
04-10-87	1185	3.7±1.0	10-09-87	3325	3.6±1.0
04-17-87	1227	3.7±1.0	10-19-87	3427	3.5±1.1
04-24-87	1397	4.1±1.0	10-26-87	3571	2.6±1.0
05-01-87	1460	2.1±0.9	11-02-87	3671	2.7±1.0
05-08-87	1537	2.6±0.9	11-09-87	3759	3.2±0.8
05-15-87	1599	3.0±1.0	11-16-87	3947	2.6±1.1
05-22-87	1639	4.0±1.0	11-23-87	4012	5.6±0.9
06-01-87	1781	2.9±1.0	11-30-87	4087	3.7±1.1
06-05-87	1848	2.2±0.9	12-07-87	4183	3.6±1.1
06-15-87	1904	4.1±1.0	12-14-87	4276	3.9±1.1
06-22-87	1951	2.5±0.9	12-21-87	4335,6	4.0±1.1
06-26-87	2133,4	<u>2.4±0.7</u>	12-25-87	4436	<u>2.7±1.0</u>
2nd Qtr. mean ± s.d.		3.2±0.8	4th Qtr. mean ± s.d.		3.4±0.9

BYRON

Table 11. Cooling Water (continued)

WEEKLY COLLECTIONS					
Collection Date	Lab Code	Gross Beta	Collection Date	Lab Code	Gross Beta
<u>Discharge Pipe BY-11</u>					
01-02-87	BYCW-47	10.4±2.8 ^a	07-03-87	BYCW-2272,3	14.6±1.3
01-09-87	78	1.6±0.9	07-13-87	2323	6.7±1.9
01-16-87	187	3.5±1.5	07-20-87	2374	6.1±1.8
01-23-87	226,7	5.0±1.1	07-27-87	2447	12.5±2.2
01-30-87	314	3.8±1.5	08-03-87	2566	5.3±2.2
02-09-87	432	4.6±1.5	08-10-87	2632	11.6±2.2
02-16-87	491	4.9±1.5	08-17-87	2687	6.4±1.9
02-23-87	534	21.2±2.3	08-24-87	2775	15.1±2.3
03-02-87	597	5.1±1.4	08-31-87	2864	7.2±1.8
03-06-87	685	6.7±1.5	09-07-87	2909	11.5±1.8
03-16-87	785	10.9±1.7	09-11-87	2994	7.7±1.5
03-23-87	839	15.3±2.0	09-21-87	3080	8.6±1.6
03-30-87	984	<u>37.2±2.8</u>	09-28-87	3166	<u>6.0±1.2</u>
1st Qtr. mean ± s.d.		10.0±9.8	3rd Qtr. mean ± s.d.		9.2±3.4
04-06-87	1117	59.7±3.6	10-05-87	3309,10	13.2±1.5
04-10-87	1186	7.0±1.7	10-09-87	3326,7	12.5±1.5
04-17-87	1228	22.0±2.4	10-19-87	3428	19.4±2.4
04-24-87	1398	9.5±1.8	10-26-87	3572,3	9.0±1.4
05-01-87	1461,2	4.6±1.6	11-02-87	3672	6.2±1.8
05-08-87	1538	7.0±1.8	11-09-87	3760	9.2±2.0
05-15-87	1600	7.5±1.8	11-16-87	3948	7.3±1.9
05-22-87	1640	9.3±1.9	11-23-87	4013,4	7.9±1.9
06-01-87	1782	8.4±1.9	11-30-87	4088	7.6±2.0
06-05-87	1849,50	11.9±3.0	12-07-87	4184	5.4±1.8
06-15-87	1905	5.2±1.7	12-14-87	4277	6.1±1.8
06-22-87	1952	7.1±1.8	12-21-87	4337	4.4±1.7
06-26-87	2135	5.3±1.2	12-25-87	4437	<u>5.3±1.8</u>
2nd Qtr mean ± s.d.		12.6±14.8	4th Qtr. mean ± s.d.		8.7±4.2

^a Sample was reanalyzed; reported result is an average of the two analyses.

BYRON

Table 11. Cooling Water (continued)

MONTHLY COMPOSITES OF WEEKLY COLLECTIONS							
Composite Period	Lab Code	Sr-89	Sr-90	Cs-134	Cs-137	Other Gammas ^a	Tritium
<u>Intake Pipe BY-10</u>							
January, 87	BYCW-271	<10	<2	<10	<10	<15	<200
February, 87	729	<10	<2	<10	<10	<15	<200
March, 87	1362	<10	<2	<10	<10	<15	<200
April, 87	1486	<10	<2	<10	<10	<15	<200
May, 87	1711	<10	<2	<10	<10	<15	<200
June, 87	2122	<10	<2	<10	<10	<15	<200
July, 87	2493,4	<10	<2	<10	<10	<15	<200
August, 87	3101	<10	<2	<10	<10	<15	<200
September, 87	3504	<10	<2	<10	<10	<15	<200
October, 87	4003	<10	<2	<10	<10	<20	<200
November, 87	4434	<10	<2	<10	<10	<15	<200
December, 87	4759	<10	<2	<10	<10	<15	<200
<u>Discharge Pipe BY-11</u>							
January, 87	BYCW-632	<10	<2	<10	<10	<15	1,250±90
February, 87	730	<10	<2	<10	<10	<15	2,910±130
March, 87	1363	<10	<2	<10	<10	<15	2,230±120
April, 87	1487	<10	<2	<10	<10	<15	10,028±284
May, 87	1712,3	<10	<2	<10	<10	<15	562±100
June, 87	2123	<10	<2	<10	<10	<15	23,130±286
July, 87	2495	<10	<2	<10	<10	<15	115,112±929
August, 87	3102	<10	<2	<10	<10	<15	10,403±186
September, 87	3576	<10	<2	<10	<10	<15	202±100
October, 87	4004	<10	<2	<10	<10	<15	499,642±4700
November, 87	4435	<10	<2	<10	<10	<15	148±80
December, 87	4760	<10	<2	<10	<10	<15	10,629±296

^a See Introduction.

BYRON

Table 12. Surface Water
Units: pCi/l

WEEKLY COLLECTION						
Collection Date	Woodland Creek BY-09		Downstream BY-12		Upstream BY-13 (C)	
	Lab Code	Gross Beta	Lab Code	Gross Beta	Lab Code	Gross Beta
01-05-87	BYSW-43	<1.5	BYSW-44	2.0±0.9	BYSW-45	<1.5
01-12-87	73,4	<1.5	75	1.7±0.9	76	<1.5
01-19-87	182	<1.5	183	2.6±1.0	184	<1.5
01-26-87	222	<1.5	223	2.7±0.9	224	<1.5
02-02-87	309	<1.5	310,11	2.4±1.3	312	<1.5
02-09-87	427	<1.5	428	3.9±1.0	429	4.0±1.0
02-16-87	486	<1.5	497	2.5±0.9	488,9	2.0±1.3
02-23-87	529	<1.5	530,1	2.6±1.3	532	1.9±0.9
03-02-87	593	<1.5	594	2.8±0.9	595	3.3±1.2
03-09-87	680,1	3.4±0.9	682	2.7±0.9	683	3.6±0.9
03-16-87	781	1.4±0.8	782	2.8±0.9	783	2.8±0.9
03-23-87	834	1.8±0.8	835	3.1±0.9	836,7	2.8±0.8
03-30-87	979,80	1.7±0.8	981	3.2±0.9	982	2.3±0.8
1st Qtr. mean ± s.d.		2.1±0.9		2.7±0.5		2.8±0.8
04-06-87	1113	2.8±1.0	1114	3.5±1.0	1115	2.2±1.0
04-13-87	1182	3.1±1.0	1183	3.8±1.0	1184	3.8±1.0
04-20-87	1223,4	4.8±1.0	1225	2.8±1.0	1226	4.3±1.0
04-27-87	1394	4.2±1.0	1395	4.1±1.0	1396	3.6±1.0
05-04-87	1457	2.7±0.9	1458	3.0±1.0	1459	2.6±0.9
05-11-87	1534	3.3±1.0	1535	4.1±1.0	1536	3.6±1.0
05-18-87	1595,6	2.6±1.0	?	3.3±1.0	1598	3.8±1.0
05-25-87	1636	3.8±1.0	16	3.7±1.0	1638	3.2±1.0
06-01-87	1777	3.6±1.1	1778	3.3±1.1	1779,80	3.3±0.7
06-08-87	1845	3.2±0.8	1846	3.3±1.1	1847	3.1±1.1
06-15-87	1901	1.6±0.9	1902	2.5±1.0	1903	2.8±1.0
06-22-87	1948	2.0±0.9	1949	2.6±1.0	1950	3.5±1.1
06-29-87	2030	<1.4	2031	2.7±1.0	2032	2.4±1.0
2nd Qtr mean ± s.d.		3.1±0.9		3.3±0.5		3.2±0.6

BYRON

Table 12. Surface Water (continued)

Collection Date	WEEKLY COLLECTION					
	Woodland Creek BY-09		Downstream BY-12		Upstream BY-13 (C)	
	Lab Code	Gross Beta	Lab Code	Gross Beta	Lab Code	Gross Beta
07-06-87	BYSW-2268	1.8±1.0	BYSW-2269	3.1±1.0	BYSW-2270	2.7±1.0
07-13-87	2319	1.4±0.9	2320	3.3±1.0	2321	2.2±1.0
07-20-87	2370	1.6±0.9	2371	4.1±1.1	2372	3.2±1.0
07-27-87	2443	3.4±1.0	2444	3.4±1.0	2445	3.1±1.0
08-03-87	2562	4.2±1.0	2563	5.2±1.4	2564	4.4±1.0
08-10-87	2628	3.5±1.0	2629	2.7±1.3	2630	4.7±1.1
08-17-87	2682	4.7±1.0	2683	5.3±1.1	2684,5	3.3±0.8
08-24-87	2770	3.9±1.0	2771	4.2±1.0	2772,3	4.1±0.7
08-31-87	2859,60	2.8±0.7	2861	2.7±1.2	2862	<2.3
09-07-87	2910,1	1.6±0.6	2912	3.1±1.1	2913	2.6±1.0
09-14-87	2995	3.3±0.9	2996	2.3±1.1	2997	2.1±1.0
09-21-87	3075	2.1±0.8	3076	2.7±1.1	3077	2.3±1.0
09-28-87	3162	1.4±0.8	3163	2.7±1.1	3164	2.5±1.1
3rd Qtr. mean ± s.d.		2.7±1.2		3.4±1.0		3.1±0.9
10-05-87	3305	1.5±0.9	3306	3.7±0.1	3307	1.5±1.0
10-12-87	3322	2.0±1.0	3323	3.2±1.0	3324	2.6±1.0
10-19-87	3423,4	2.0±0.4	3425	3.9±1.1	3426	1.9±0.9
10-26-87	3568	1.9±1.0	3569	3.1±1.1	3570	2.5±0.9
11-02-87	3667	<1.7	3668	3.0±1.0	3669,70	1.7±1.0
11-09-87	3756	1.6±1.0	3757	3.1±1.1	3758	2.5±1.0
11-16-87	3943,4	1.4±0.9	3945	2.9±1.1	3946	2.1±1.0
11-23-87	4009	2.4±1.0	4010	2.6±0.8	4011	2.4±1.0
11-30-87	4083,4	3.4±0.8	4085	3.5±0.8	4086	4.1±0.8
12-07-87	ND ^a		4181	2.8±1.0	4182	3.3±1.0
12-14-87	4272	1.9±1.0	4273,4	3.9±1.1	4275	3.1±1.0
12-21-87	ND ^a		4333	3.1±1.0	4334	3.2±1.0
12-28-87	4420,1	<1.7	4422	3.1±1.0	4423	1.8±1.0
4th Qtr. mean ± s.d.		2.0±0.6		3.2±0.4		2.5±0.8

^a ND = No data; no water collected due to frozen stream.

BYRON

Table 12. Surface Water (continued)

MONTHLY COMPOSITES OF WEEKLY COLLECTIONS				
Composite Period	Lab Code	Cs-134	Cs-137	Other Gammas ^a
<u>Woodland Creek BY-09</u>				
January, 87	BYSW-60,	<10	<10	<15
February, 87	725	<10	<10	<15
March, 87	1359	<10	<10	<15
April, 87	1483,4	<10	<10	<15
May, 87	1719	<10	<10	<15
June, 87	2129,30	<10	<10	<15
July, 87	2501	<10	<10	<15
August, 87	3097,8	<10	<10	<15
September, 87	3503	<10	<10	<15
October, 87	3999	<10	<10	<15
November, 87	4431	<10	<10	<15
December, 87	4756	<10	<10	<15
<u>Downstream BY-12</u>				
January, 87	BYSW-609	<10	<10	<15
February, 87	726,7	<10	<10	<15
March, 87	1360	<10	<10	<15
April, 87	1484	<10	<10	<15
May, 87	1720,1	<10	<10	<15
June, 87	2131	<10	<10	<15
July, 87	2502	<10	<10	<15
August, 87	3099	<10	<10	<15
September, 87	3577	<10	<10	<15
October, 87	4000,1	<10	<10	<15
November, 87	4432	<10	<10	<15
December, 87	4757	<10	<10	<15
<u>Upstream BY-13</u>				
January, 87	BYSW-610,1	<10	<10	<15
February, 87	728	<10	<10	<15
March, 87	1361	<10	<10	<15
April, 87	1485	<10	<10	<15
May, 87	1722	<10	<10	<15
June, 87	2132	<10	<10	<15
July, 87	2503	<10	<10	<15
August, 87	3100	<10	<10	<15
September, 87	3578	<10	<10	<15
October, 87	4002	<10	<10	<15
November, 87	4433	<10	<10	<15
December, 87	4758	<10	<10	<15

^a See Introduction.

BYRON

Table 12. Surface Water (continued)

QUARTERLY COMPOSITES OF WEEKLY COLLECTIONS				
Composite Period	Lab Code	Concentration (pCi/l)		
		Sr-89	Sr-90	Tritium
<u>Woodland Creek BY-09</u>				
1st Quarter, 1987	BYSW-1245	<10	<2	<200
2nd Quarter, 1987	2087	<10	<2	<200
3rd Quarter, 1987	3505	<10	<2	<200
4th Quarter, 1987	4752	<10	<2	<200
<u>Downstream BY-12</u>				
1st Quarter, 1987	BYSW-1246	<10	<2	<200
2nd Quarter, 1987	2088	<10	<2	<200
3rd Quarter, 1987	3574	<10	<2	279±103
4th Quarter, 1987	4753,4	<10	<2	267±42
<u>Upstream BY-13(C)</u>				
1st Quarter, 1987	BYSW-1247	<10	<2	<200
2nd Quarter, 1987	2089	<10	<2	<200
3rd Quarter, 1987	3575	<10	<2	<200
4th Quarter, 1987	4755	<10	<2	<200

BYRON

Table 13. Well Water
Units: pCi/l

QUARTERLY GRAB SAMPLES								
Collection Period	Lab Code	Gross Beta	Sr-89	Sr-90	Tritium	Cs-134	Cs-137	Other Gammas ^a
<u>Off-Site Well BY-14</u>								
1st Quarter, 87	BYWW-41	<2.1	<10	<2	<200	<10	<10	<15
2nd Quarter, 87	1110	<2.1	<10	<2	<200	<10	<10	<15
3rd Quarter, 87	2274	<2.4	<10	<2	<200	<10	<10	<15
4th Quarter, 87	3311	<2.4	<10	<2	<200	<10	<10	<15
<u>McCoy Farmstead Well BY-18</u>								
1st Quarter, 87	BYWW-42	7.2±1.2	<10	<2	<200	<10	<10	<15
2nd Quarter, 87	1111,2	6.4±1.1	<10	<2	<200	<10	<10	<15
3rd Quarter, 87	2275	6.4±1.1	<10	<2	<200	<10	<10	<15
4th Quarter, 87	3312	10.0±1.5	<10	<2	<200	<10	<10	<15

^a See Introduction.

BYRON

Table 14. Aquatic Vegetation
 Collections: 3 times per year
 Units: pCi/g wet weight

Date Collected	Lab Code	Gross Beta	Cs-134	Cs-137	Other Gammas ^a
<u>Oregon Pool of Rock River BY-12</u>					
05-11-87	BYSL-46	4.5±0.2	<0.1	<0.1	<0.2
07-06-87	67	3.9±0.1	<0.1	<0.1	<0.2
10-05-87	80	4.1±0.2	<0.1	<0.1	<0.2
<u>Upstream BY-13</u>					
05-11-87	BYSL-47	4.3±0.5	<0.1	<0.1	<0.2
07-06-87	68	2.0±0.1	<0.1	<0.1	<0.2
10-05-87	81	5.3±0.4	<0.1	<0.1	<0.2

^a See Introduction.

BYRON

Table 15. Bottom Sediments
 Collection: 3 times per year
 Units: pCi/g dry weight.

Date Collected	Lab Code	Gross Beta	Cs-134	Cs-137	Other Gammas ^a
<u>Oregon Pool of Rock River BY-12</u>					
05-04-87	BYBS-195	23.7±3.5	<0.1	1.30±0.73	<0.2
07-06-87	229,30	5.0±3.2	<0.1	<0.1	<0.2
10-05-87	253,4	5.4±1.8	<0.1	<0.1	<0.2
<u>Upstream BY-13</u>					
05-04-87	BYBS-196	16.6±3.2	<0.1	0.20±0.01	<0.2
07-06-87	231	9.2±2.5	<0.1	<0.1	<0.2
10-05-87	255	6.9±2.2	<0.1	<0.1	<0.2

^a See Introduction.

BYRON

MILCH ANIMALS AND NEAREST RESIDENCE CENSUS

BYRON

BYRON DAIRY CENSUS 1987

A. Site Boundary to 2 mi.

None

B. 2 mi. to 5 mi.

1. Reeverts Dairy Farm
5674 N. German Church Road
Route 1
Byron, Illinois

2.1 miles @ 037'

Milks 20 cows
2. Ed Seabold Dairy Farm (BY-20)
6021 N. German Church Road
Route 1
Byron, Illinois

2.8 miles @ 40'

Milks 107 cows
3. J. A. Reeverts Pine Hill Dairy (BY-15)
5728 E. Holcomb Road
Route 1
Oregon, Illinois

3.2 miles @ 108'

Milks 17 cows
4. Warren Danakas
5845 East Holcomb Road
Route 1
Oregon, Illinois

3.3 miles @ 110'

Milks 17 cows

BYRON DAIRY CENSUS 1985 (continued)

5. Kenneth Druien (BY-16)
1725 N. Marri1 Road
Route 1
Oregon, Illinois

3.3 miles @ 134'

Milks 37 cows
6. Oltmann Dairy Farm; Richard Oltmann, owner
1858 N. German Church Road
Route 1
Oregon, Illinois

2.2 miles @ 180'

Milks 18 cows
7. Bill Luepkes
2887 Brick Road
Route 1
Oregon, Illinois

3.7 miles @ 190'

Milks 52 cows
8. Ashelford Dairy Farm
4210 IL Route 2
Route 3
Oregon, Illinois

2.6 miles @ 275'

Milks 27 cows
9. CAM-DEE Farms, Gerald DeVries, owner
5213 N. Town Hall Road
Route 3
Oregon, Illinois

3.3 miles @ 290'

BYRON DAIRY CENSUS 1987 (continued)

10. Allen Camling, Jr.
285 West Camling Road
Route 3
Oregon, Illinois

3.4 miles @ 299'

Milks 50 cows

11. Duane Camling
50 East Camling Road
Route 3
Oregon, Illinois

3.2 miles @ 305'

Milks 26 cows

C. Sampling Locations

BY-15 J. A. Reeverts Pine Hill Dairy

Milks 17 cows

Diet:

May - October: Pasture 5 acres. Hay, corn, protein/
mineral supplement.

November - April: Feedlot 1 acre. Hay, corn, and protein/
supplement.

BY-16 Kenneth Druien Farm

Milks 37 cows

Diet:

May - October: Pasture 10 acres. Hay, corn, oats, and
protein/mineral supplement.

November - April: Feedlot less than 2 acres. Hay, corn,
silage, oats, and protein/mineral
supplement.

BY-17 Bosecker/Lingel Farm

Milks 35 cows

Diet:

May - October: Pasture feedlot 2 acres. Green chop, corn,
hay, oats, protein/mineral supplement.

November - April: Feedlot 2 acres. Silage, haylage, corn,
oats, protein/mineral supplement.

BY-20 Ed Seabold Farm

Milks 107 cows

Diet:

May - October: Feedlot less than 2 acres. Haylage, hay,
corn, protein/mineral supplement.

November - April: Feedlot less than 2 acres. Haylage, silage,
hay, corn, protein/mineral supplement.

BYRON

NEAREST RESIDENCE CENSUS, 1987

Nearest resident of the Byron Station with a five (5) mile radius.

N	1.4 miles
NNE	1.8 miles
NE	1.4 miles
FNE	1.3 miles
E	1.2 miles
ESE	1.6 miles
SE	1.3 miles
SSE	0.8 miles
S	0.7 miles
SSW	0.6 miles
SW	0.8 miles
WSW	1.7 miles
W	1.9 miles
WNW	2.1 miles
NW	0.8 miles
NNW	1.2 miles

Census conducted by P. Coulter on August 10, 1987. There was no change from 1986.

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility: Byron Nuclear Power Station Docket No. 50-454, 50-455
 Location of Facility: Ogle, Illinois Reporting Period 1st Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean Range	Location with Highest Quarterly Mean		Control Locations Mean Range	Number of Non-routine Results
				Location	Mean Range		
Air Particulates (pCi/m ³)	Gross Beta	156	0.028 (117/117) (0.005-0.049)	By-02, Stillman Valley 6.2 mi @ 56°	0.029 (13/13) (0.014-0.050)	0.028 (39/39) (0.007-0.050)	0
	Gamma Spec.	2	<LLD			<LLD	0
	Sr-89	12	0.01	<LLD		<LLD	0
	Sr-90	12	0.01	<LLD		<LLD	0
	I-131	156	0.07	<LLD		<LLD	0
Airborne Iodine (pCi/m ³)							
	Gamma Background (TLDs) (mR/Dtr.)	12	14.5 (9/9) (11.9-17.6)	By-22, Onsite 0.3 mi @ 101°	17.6 (1/1)	13.2 (3/3) (13.2-14.0)	0
Milk (pCi/l)	I-131	12	<LLD			<LLD	0
	Gamma Spec.	12					0
	Cs-134		5.0	<LLD		<LLD	0
	Cs-137		5.0	<LLD		<LLD	0
	Other Gammas		10.0	<LLD		<LLD	0
	Sr-89	12	10	<LLD		<LLD	0
	Sr-90	12	2	2.6 (9/9) (1.6-3.8)	By-16, Druhen Dairy Farm, 3.3 mi @ 134°	3.2 (3/3) (2.5-3.8)	2.7 (3/3) (2.0-3.7)
Precipitation	Gross Beta	10	12.2 ^b			<LLD	0
	Gamma Spec.	4	20			<LLD	0
	Tritium	4	200			<LLD	0
	Sr-89	4	10	<LLD		<LLD	9
	Sr-90	1	2	<LLD		<LLD	0

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
 Location of Facility Ogle, Illinois Reporting Period 1st Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results
				Location	Mean Range		
Cooling Water (pCi/l)	Gross Beta 26	1.0	10.0 (13/13) (1.6-37.2)	By-11, Discharge 2.3 mi @ 283 ^a	10.0 (13/13) (1.6-37.2)	2.5 (12/13) (1.7-3.9)	0
	Gamma Spec. 6						
	Cs-134 10		<LLD	-	-	<LLD	0
	Cs-137 10		<LLD	-	-	<LLD	0
	Other Gammas 20		<LLD	-	-	<LLD	0
	Tritium 6	200	2130 (3/3) (1250-2910)	By-11, Discharge 2.3 mi @ 283 ^a	2130 (3/3) (1250-2910)	<LLD	0
	Sr-89 6	10	<LLD	-	-	<LLD	0
Sr-90 6	2	<LLD	-	-	<LLD	0	
Surface Water (pCi/l)	Gross Beta 39	1.5	2.4 (17/26) (1.4-3.9)	By-13, Upstream of intake 2.6 mi @ 302 ^a	2.8 (8/13) (1.9-4.0)	2.8 (8/13) (1.9-4.0)	0
	Gamma Spec. 9						
	Cs-134 10		<LLD	-	-	<LLD	0
	Cs-137 10		<LLD	-	-	<LLD	0
	Other Gammas 20		<LLD	-	-	<LLD	0
	Tritium 3	200	<LLD	-	-	<LLD	0
	Sr-89 3	10	<LLD	-	-	<LLD	0
Sr-90 3	2	<LLD	-	-	<LLD	0	

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM: QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
 Location of Facility Ogle, Illinois Reporting Period 1st Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarter ^b Mean		Control Locations Mean ^a Range	Number of Non-routine Results	
				Location	Mean Range			
Well Water (pCi/l)	Gross Beta 2	2.1	7.2 (1/2)	By-18, McCoy Farmstead 1.0 ml @ 235°	7.2 (1/2)	None	0	
	Gamma Spec. 2		-		-	None	0	
	Cs-134 10		<LLD		-	-	None	0
	Cs-137 10		<LLD		-	-	None	0
	Other Gammas 20		<LLD		-	-	None	0
	Tritium 2	200	<LLD		-	-	None	0
	Sr-89 2	10	<LLD		-	-	None	0
	Sr-90 2	2	<LLD		-	-	None	0
Cattlefeed & Grass (pCi/g wet)	Gross Beta 10	1.0	10.9 (7/7) (3.0-29.9)	By-20, Reeverts Dairy 3.2 ml @ 108°	16.9 (2/2) (3.9-29.9)	7.4 (3/3) (2.6-16.0)	0	
	Gamma Spec. 10							
	Cs-134 10	0.1	<LLD		-	-	<LLD	0
	Cs-137 10	0.1	<LLD		-	-	<LLD	0
	Other Gammas 10	0.2	<LLD		-	-	<LLD	0
	Sr-89 10	1.0	<LLD		-	-	<LLD	0
	Sr-90 10	1.0	<LLD		-	-	<LLD	0

^a Mean and range based on detectable measurements only. Fraction indicated in parenthesis.
^b LLD value dependent on volume of sample available for analysis.

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
 Location of Facility Ogle, Illinois Reporting Period 2nd Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results
				Location	Mean Range		
Air Particulates (pCi/m ³)	Gross Beta 156	0.01	0.024 (117/117) (0.008-0.049)	By-22, Onsite 1.3 mi @ 101*	0.026 (13/13) (0.010-0.038)	0.023 (39/39) (0.008-0.047)	0
	Gamma Spec 12	0.01	<LLD	-	-	<LLD	0
	Sr-89 12	0.01	<LLD	-	-	<LLD	0
	Sr-90 12	0.01	<LLD	-	-	<LLD	0
Airborne Iodine (pCi/m ³)	I-131 156	0.07	<LLD	-	-	<LLD	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose	3.0	15.2 (9/9) (11.3-18.1)	By-22, Onsite, 0.3 mi @ 101*	13.1 (1/1) -	14.3 (3/3) (12.5-15.7)	0
Milk (pCi/l)	I-131 20	0.5	<LLD	-	-	<LLD	0
	Gamma Spec. 20						
	Cs-134	5.0	<LLD	-	-	<LLD	0
	Cs-137	5.0	<LLD	-	-	<LLD	0
	Other Gammas	10.0	<LLD	-	-	<LLD	0
	Sr-89 10		<LLD	-	-	<LLD	0
Sr-90 2		2.7 (15/15) (1.6-3.9)	By-16, Druen Dairy Farm, 3.3 mi @ 134*	2.8 (5/5) (2.4-3.2)	2.7 (5/5) (2.0-3.9)	0	

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
 Location of Facility Ogle, Illinois Reporting Period 2nd Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results
				Location	Mean Range		
Surface Water (pCi/l)	Gross Beta 39	1.4	3.2 (25/26) (1.6-4.8)	By-12, Oregon Pool (Rock River 5 ml @ 213"	3.3 (13/13) (2.5-4.1)	3.2 (13/13) (2.2-4.3)	0
	Gamma Spec. 9						
	Cs-134 10		<LLD	-	-	<LLD	0
	Cs-137 10		<LLD	-	-	<LLD	0
	Other Gammas 15		<LLD	-	-	<LLD	0
	Tritium 3	200	<LLD	-	-	<LLD	0
	Sr-89 3	10	<LLD	-	-	<LLD	0
	Sr-90 3	2	<LLD	-	-	<LLD	0
Well Water (pCi/l)	Gross Beta 2	2.1	6.4 (1/2)	By-18, McCoy Farmstead Well 1.0 ml @ 235"	6.4 (1/1)	None	0
	Gamma Spec. 2						
	Cs-134 10		<LLD	-	-	None	0
	Cs-137 10		<LLD	-	-	None	0
	Other Gammas 20		<LLD	-	-	None	0
	Tritium 2	200	<LLD	-	-	None	0
	Sr-89 2	10	<LLD	-	-	None	0
	Sr-90 2	2	<LLD	-	-	None	0

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
 Location of Facility Ogle, Illinois Reporting Period 2nd Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results
				Location	Mean Range		
Precipitation	Gross Beta 12	12.8 ^c	27.3 (7/9) (7.1-58.8)	By-17, Whitten Holsteins 7 mi @ 53°	38.0 (2/3) (12.8-63.2)	38.0 (2/3) (12.8-63.2)	0
	Gamma Spec. 4	20	<LLD	-	-	<LLD	0
	Tritium 6	200	<LLD	-	-	<LLD	0
	Sr-89 4	10	<LLD	-	-	<LLD	0
	Sr-90 4	2	<LLD	-	-	<LLD	0
Cooling Water (pCi/l)	Gross Beta 26	1.0	12.6 (13/13) (4.6-59.7)	By-11, Discharge 2.3 mi @ 283°	12.6 (13/13) (4.6-59.7)	3.2 (13/13) (2.1-4.3)	0
	Gamma Spec. 6						
	Cs-134 10		<LLD	-	-	<LLD	0
	Cs-137 10		<LLD	-	-	<LLD	0
	Other Gammas 20		<LLD	-	-	<LLD	0
	Tritium 6	200	11,240 (3/3) (562-23,130)	By-11, Discharge 2.3 mi @ 283°	11,240 (3/3) (562-23,130)	<LLD	1
	Sr-89 6	10	<LLD	-	-	<LLD	0
	Sr-90 6	2	<LLD	-	-	<LLD	0

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
 Location of Facility Ogle, Illinois Reporting Period 2nd Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results
				Location	Mean Range		
Fish (pCi/g wet)	Gross Beta 5	1.0	3.1 (2/2) (3.0-3.2)	By-12, Oregon Pool of Rock River 4.5 mi @ 213*	3.1 (2/2) (3.0-3.2)	3.0 (3/3) (2.9-3.2)	0
	Gamma Spec. 5						
	Cs-134	0.1	<LLD	-	-	<LLD	0
	Cs-137	0.1	<LLD	-	-	<LLD	0
	Other Gammas	0.13	<LLD	-	-	<LLD	0
	Sr-89 5	1.0	<LLD	-	-	<LLD	0
	Sr-90 5	1.0	<LLD	-	-	<LLD	0
Cattlefeed & Grass (pCi/g wet)	Gross Beta 4	1.0	6.1 (3/3) (5.4-7.0)	By-20, E. Seehold Dairy Farm 2.5 mi @ 41*	7.0 (1/1) -	4.0 (1/1) -	0
	Gamma Spec. 4						
	Cs-134	0.1	<LLD	-	-	<LLD	0
	Cs-137	0.1	<LLD	-	-	<LLD	0
	Other Gammas	0.2	<LLD	-	-	<LLD	0
	Sr-89 4	1.0	<LLD	-	-	<LLD	0
	Sr-90 4	1.0	<LLD	-	-	<LLD	0

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
 Location of Facility Ogle, Illinois Reporting Period 2nd Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results	
				Location	Mean Range			
Aquatic Vegetation (pCi/g wet)	Gross Beta 2	1.0	4.5 (1/1) -	By-12, Oregon Pool of Rock River 4.5 mi @ 213 ^a	4.5 (1/1) -	4.3 (1/1) -	0	
	Gamma Spec. 2							
	Cs-134	0.1	<LLD		-	-	<LLD	0
	Cs-137	0.1	<LLD		-	-	<LLD	0
	Other Gammas	0.2	<LLD		-	-	<LLD	0
Bottom Sediments (pCi/g dry)	Gross Beta 2	1.0	23.7 (1/1) -	By-12, Oregon Pool of Rock River 4.5 mi @ 213 ^a	23.7 (1/1) -	16.6 (1.1) -	0	
	Gamma Spec. 2							
	Cs-134	0.1	<LLD		-	-	<LLD	0
	Cs-137	0.1	1.3 (1/1)		By-12, Oregon Pool of Rock River 4.5 mi @ 213 ^a	1.3 (1/1)	0.2 (1/1)	0
	Other Gammas	0.2	<LLD		-	-	<LLD	0

^a Mean and range based on detectable measurements only. Fractions indicated in parentheses.

^b November - April LLD = 1.0; May - October LLD = 0.5 pCi/l.

^c LLD value dependent on volume of sample available for analysis.

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
 Location of Facility Ogle, Illinois Reporting Period 3rd quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results
				Location	Mean Range		
Air Particulates (pCi/m ³)	Gross Beta 156	0.01	0.027 (117/117) (0.010-0.043)	By-24, Onsite 0.65 mi @ 229 ^a	0.030 (13/13) (0.022-0.043)	0.027 (39/39) (0.011-0.041)	0
	Gamma Spec. 12	0.01	<LLD	-	-	<LLD	0
	Sr-89 12	0.01	<LLD	-	-	<LLD	0
	Sr-90 12	0.01	<LLD	-	-	<LLD	0
Airborne Iodine (pCi/m ³)	I-131 156	0.07	<LLD	-	-	<LLD	0
Gamma Background (R.Ds) (mR/ctr.)	Gamma Dose 12	3.0	15.3 (9/9) (11.9-19.3)	By-22, Onsite 0.3 mi @ 101 ^a	19.3 (1/1) -	14.7 (3/3) (13.2-16.7)	0
Milk (pCi/l)	I-131 24	0.5	<LLD	-	-	<LLD	0
	Gamma Spec. 24						
	Cs-134 5.0		<LLD	-	-	<LLD	0
	Cs-137 5.0		<LLD	-	-	<LLD	0
	Other Gammas 10.0		<LLD	-	-	<LLD	0
	Sr-89 24	10	<LLD	-	-	<LLD	0
Sr-90 24	2	2.6 (18/18) (2.1-3.4)	By-15, Reeverts Dairy Farm, 3.2 mi @ 108 ^a	2.7 (6/6) (2.3-3.4)	2.2 (6/6) (1.8-2.6)	0	
Precipitation	Gross Beta 11	12.3 ^b	35.1 (3/8) (6.2-77.6)	By-20, Seabold Farm 2.5 mi @ 134 ^a	77.6 (1/2) -	<LLD -	0
	Gamma Spec. 4	20	<LLD	-	-	<LLD	0
	Tritium 4	200	223 (1/4) (223)	By-16, Kenneth Druien Farm, 3.3 mi @ 134 ^a	223 (1/4) (223)	<LLD	0
	Sr-89 4	10	<LLD	-	-	<LLD	0
	Sr-90 4	2	<LLD	-	-	<LLD	0

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
 Location of Facility Ogle, Illinois Reporting Period 3rd Quarter 1967
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results
				Location	Mean Range		
Cooling Water (pCi/l)	Gross Beta 26	2.3	9.2 (13/13) (5.3-15.1)	By-11, Discharge at Station	9.2 (13/13) (5.3-15.1)	4.3 (12/13) (2.3-7.2)	0
	Gamma Spec. 6						
	Cs-134 10		<LLD	-	-	<LLD	0
	Cs-137 10		<LLD	-	-	<LLD	0
	Co-58 10		<LLD	-	-	<LLD	0
	Other Gammas 20		<LLD	-	-	<LLD	0
	Tritium 6	200	41,906 (3/3) (202-115,112)	By-11, Discharge at Station	41,906 (3/3) (202-115,112)	<LLD	1
	Sr-89 6	10	<LLD	-	-	<LLD	0
Sr-90 6	2	<LLD	-	-	<LLD	0	
Surface Water (pCi/l)	Gross Beta 39	1.7	3.0 (26/26) (1.4-5.3)	By-12, Downstream of Oregon Dam 4.6 mi @ 213*	3.4 (13/13) (2.3-5.3)	3.1 (12/13) (2.1-4.7)	0
	Gamma Spec. 9						
	Cs-134 10		<LLD	-	-	<LLD	0
	Cs-137 10		<LLD	-	-	<LLD	0
	Other Gammas 20		<LLD	-	-	<LLD	0
	Tritium 3	200	279 (1/2)	By-12, Downstream of Oregon Dam 4.6 mi @ 213*	279 (1/1)	<LLD	0
	Sr-89 3	10	<LLD	-	-	<LLD	0
	Sr-90 3	2	<LLD	-	-	<LLD	0

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
 Location of Facility Ogle, Illinois Reporting Period 3rd Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results	
				Location	Mean Range			
Well Water (pCi/l)	Gross Beta 2	2.4	6.4 (1/2)	By-18, McCoy Farmstead 1.25 ml @ 235*	6.4 (1/1)	None	0	
	Gamma Spec. 2		-		-	None	0	
	Cs-134	10	<LLD		-	-	None	0
	Cs-137	10	<LLD		-	-	None	0
	Other Gammas	20	<LLD		-	-	None	0
	Tritium 2	200	<LLD		-	-	None	0
	Sr-89 2	10	<LLD		-	-	None	0
Sr-90 2	2	<LLD	-	-	None	0		
Fish (pCi/g wet)	Gross Beta 5	1.0	2.2 (2/2) (2.2-2.2)	By-12, Oregon Pool of Rock River, 4.5 ml @ 213*	2.2 (2/2) (2.2-2.2)	1.8 (3/3) (1.4-2.2)	0	
	Gamma Spec. 5				-	<LLD	0	
	Cs-134	0.10	<LLD		-	<LLD	0	
	Cs-137	0.10	<LLD		-	<LLD	0	
	Other Gammas	0.13	<LLD		-	<LLD	0	
	Sr-89 5	0.1	<LLD		-	<LLD	0	
	Sr-90 5	0.1	<LLD		-	<LLD	0	
Cattlefeed & Grass (pCi/g wet)	Gross Beta 4	1.0	7.5 (3/3) (6.0-8.6)	By-20, Seabold Farm 2.5 ml @ 41*	8.6 (1/1)	7.2 (1/1)	0	
	Gamma Spec. 4				-	-	0	
	Cs-134	0.1	<LLD		-	<LLD	0	
	Cs-137	0.1	<LLD		-	<LLD	0	
	Other Gammas	0.2	<LLD		-	<LLD	0	
	Sr-89 4	1.0	<LLD		-	<LLD	0	
	Sr-90 4	1.0	<LLD		-	<LLD	0	

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM (QUARTERLY SUMMARY)

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
 Location of Facility Ogle, Illinois Reporting Period 3rd Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results	
				Location	Mean Range			
Aquatic Vegetation (pCi/g wet)	Gross Beta 2	1.0	3.9 (1/1)	By-12, Oregon Pool of Rock River 4.6 mi @ 213°	3.9 (1/1)	2.0 (1/1)	0	
	Gamma Spec. 2				-	-	0	
	Cs-134	0.1	<LLD		-	-	<LLD	0
	Cs-137	0.1	<LLD		-	-	<LLD	0
	Other Gammas	0.2	<LLD		-	-	<LLD	0
Bottom Sediments (pCi/g dry)	Gross Beta 2	1.0	5.0 (1/1)	By-13, Upstream of Oregon Dam 4.3 mi @ 213°	9.2 (1/1)	9.2 (1/1)	0	
	Gamma Spec. 2				-	-	<LLD	0
	Cs-134	0.1	<LLD		-	-	<LLD	0
	Cs-137	0.1	<LLD		-	-	<LLD	0
	Other Gammas	0.2	<LLD		-	-	<LLD	0
Vegetables	Gross Beta 8	1.0	2.9 (8/8) (1.5-5.0)	By-19-1, 966 East Weld Bark Road	3.2 (4/4) (1.7-5.0)	None	0	
	Gamma Spec. 8				-	-	None	0
	Cs-134	0.1	<LLD		-	-	None	0
	Cs-137	0.1	<LLD		-	-	None	0
	Other Gammas	0.2	<LLD		-	-	None	0
	Sr-89 8	0.1	<LLD		-	-	None	0
	Sr-90 8	0.1	<LLD		-	-	None	0
	I-131 1	0.06	<LLD		-	-	None	0

^a Mean and range based on detectable measurements only. Fractions indicated in parentheses.
^b LLD value dependent on volume of sample available for analysis.

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
 Location of Facility Ogle, Illinois Reporting Period 4th Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^b Range	Number of Non-routine Results
				Location	Mean Range		
Air Particulates (pCi/m ³)	Gross Beta 156	0.01	0.028 (117/117) (0.008-0.049)	By-02, Stillman Valley 6.2 mi @ 56*	0.031 (12/13) (0.013-0.048)	0.029 (38/39) (0.012-0.048)	0
	Gamma Spec. 12	0.01	<LLD	-	-	<LLD	0
	Sr-89 12	0.01	<LLD	-	-	<LLD	0
	Sr-90 12	0.01	<LLD	-	-	<LLD	0
Airborne Iodine (pCi/m ³)	I-131 156	0.07	<LLD	-	-	<LLD	0
Gamma Background (TLDs) (mR/Qttr.)	Gamma Dose 12	3.0	16.9 (9/9) (13.5-19.4)	By-22, Onsite, 0.3 mi @ 101*	19.4 (1/1) -	16.5 (3/3) (15.2-17.6)	0
Milk (pCi/l)	I-131 16	0.5	<LLD	-	-	<LLD	0
	Gamma Spec. 16						
	Cs-134	5.0	<LLD	-	-	<LLD	0
	Cs-137	5.0	<LLD	-	-	<LLD	0
	Other Gammas	10.0	<LLD	-	-	<LLD	0
	Sr-89 16	10	<LLD	-	-	<LLD	0
Sr-90 16	2	2.4 (12/12) (1.8-3.8)	By-16, Drufen Dairy Farm, 3.3 mi @ 134*	2.8 (4/4) (1.9-3.8)	2.4 (4/4) (2.1-2.6)	0	
Precipitation	Gross Beta 12	12.9 ^b	<LLD	-	-	<LLD	0
	Gamma Spec. 4	20	<LLD	-	-	<LLD	0
	Tritium 4	200	<LLD	-	-	<LLD	0
	Sr-89 4	10	<LLD	-	-	<LLD	0
	Sr-90 4	2	<LLD	-	-	<LLD	0

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
 Location of Facility Ogle, Illinois Reporting Period 4th Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results
				Location	Mean Range		
Cooling Water (pCi/l)	Gross Beta 26	1.6	8.7 (13/13) (4.4-19.4)	By-11, Discharge 2.3 mi @ 283 ^a	8.7 (13/13) (4.4-19.4)	3.4 (13/13) (2.4-5.6)	0
	Gamma Spec. 6						
	Cs-134 10		<LLD	-	-	<LLD	0
	Cs-137 10		<LLD	-	-	<LLD	0
	Other Gammas 20		<LLD	-	-	<LLD	0
	Tritium 6	200	170,140 (3/3) (148-499,642)	By-11, Discharge 2.3 mi @ 283 ^a	170,140 (3/3) (148-499,642)	<LLD	1
	Sr-89 6	10	<LLD	-	-	<LLD	0
	Sr-90 6	2	<LLD	-	-	<LLD	0
Surface Water (pCi/l)	Gross Beta 37	1.7	2.6 (22/24) (1.4-3.9)	By-12, Downstream of Oregon Dam 4.6 mi @ 213 ^a	3.2 (13/13) (2.6-3.9)	2.5 (13/13) (1.5-4.1)	0
	Gamma Spec. 9						
	Cs-134 10		<LLD	-	-	<LLD	0
	Cs-137 10		<LLD	-	-	<LLD	0
	Other Gammas 20		<LLD	-	-	<LLD	0
	Tritium 3	200	<LLD	By-12, Downstream of Oregon Dam 4.6 mi @ 213 ^a	267 (1/1) -	267 (1/1) -	0
	Sr-89 3	10	<LLD	-	-	<LLD	0
	Sr-90 3	2	<LLD	-	-	<LLD	0

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
 Location of Facility Ogle, Illinois Reporting Period 4th Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results		
				Location	Mean Range				
Well Water (pCi/l)	Gross Beta 2	2.4	10.0 (1/2)	By-18, McCoy Farmstead 1.0 ml @ 235°	10.0 (1/1)	None	0		
	Gamma Spec. 2		-		-				
	Cs-134 10		<LLD		-	-	None	0	
	Cs-137 10		<LLD		-	-	None	0	
	Other Gammas 20		<LLD		-	-	None	0	
	Tritium 2	200			<LLD	-	-	None	0
	Sr-89 2	10			<LLD	-	-	None	0
Sr-90 2	2		<LLD	-	-	None	0		
Cattlefeed & Grass (pCi/g wet)	Gross Beta 4	1.0	8.1 (3/3) (4.5-12.6)	By-15, Reverts Dairy Farm, 3.2 ml @ 108°	12.6 (1/1)	9.9 (1/1)	0		
	Gamma Spec. 4				-	-			
	Cs-134 0.1		<LLD		-	-	<LLD	0	
	Cs-137 0.1		<LLD		-	-	<LLD	0	
	Other Gammas 0.2		<LLD		-	-	<LLD	0	
	Sr-89 4	1.0			<LLD	-	<LLD	0	
	Sr-90 4	1.0			<LLD	-	<LLD	0	

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
 Location of Facility Ogle, Illinois Reporting Period 4th Quarter 1967
 (County, State)

Sample Type (Units)	Type and Number of Analysis	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Measurements	
				Location	Mean Range			
Aquatic Vegetation (pCi/g wet)	Gross Beta 2	1.0	4.1 (1/1)	By-13, Upstream of Intake, 2.6 mi @ 302°	5.3 (1/1)	5.3 (1/1)	0	
	Gamma Spec. 2		-		-	-	0	
	Cs-134	0.1	<LLD		-	-	<LLD	0
	Cs-137	0.1	<LLD		-	-	<LLD	0
	Other Gammas	0.2	<LLD		-	-	<LLD	0
Bottom Sediments (pCi/g dry)	Gross Beta 2	1.0	5.4 (1/1)	By-13, Upstream of Intake, 2.6 mi @ 302°	6.9 (1/1)	6.9 (1/1)	0	
	Gamma Spec. 2		-		-	-	0	
	Cs-134	0.1	<LLD		-	-	<LLD	0
	Cs-137	0.1	<LLD		-	-	<LLD	0
	Other Gammas	0.2	<LLD		-	-	<LLD	0

^a Mean and range based on detectable measurements only. Fractions indicated in parentheses.
^b LLD value dependent on volume of sample available for analysis.

Appendix A

Interlaboratory Comparison Program Results

NOTE: Appendix A is updated twice a year and the complete Appendix is included in January and July monthly reports only. Please refer to January and July Reports for information.

January, 1988

APPENDIX B
COLLECTION SCHEDULE

Quarter: 4th, 87

Collection Schedule (continued)

Sample Type: Collection Freq.	Code	Month:		
		Oct	NOV	DEC
Date Scheduled:		5 12 19 26	2 9 16 23 30	7 14 21 28
Grass or Cattlefeed: Q	BY-15	10/5 ✓	GRASS	
	-16	10/5 ✓	"	
	-17	10/5 ✓	"	
	-20	10/5 ✓	"	
Milk: SM/M	BY-15	10/5 ✓	10/19 ✓	11/2 ✓
	-16	10/5 ✓	10/19 ✓	11/2 ✓
	-17	10/5 ✓	10/19 ✓	11/2 ✓
	-20	10/5 ✓	10/19 ✓	11/2 ✓
Precipitation: M	BY-15	10/5 ✓	11/2 ✓	12/7 ✓
	-16	10/5 ✓	11/2 ✓	12/7 ✓
	-17	10/5 ✓	11/2 ✓	12/7 ✓
	-20	10/5 ✓	11/2 ✓	12/7 ✓
Air Sampler TLDs Visual Check: W	BY-01 thru BY-08	✓	✓	✓
	BY-21 thru BY-24	✓	✓	✓
All Other TLDs Visual Check: M	BY-101-1,2 thru 116-1,2 -201-1,2 thru 216-1,2	10/5	11/2	12/7
TLD exchange (all): Q		(9/28)		12/28 ✓
Dairy Census: A	a) Site boundary to 2 mi b) 2 miles to 5 miles c) At Dairies: BY-15,16,17,20	NOT SCHEDULED THIS QUARTER		
Nearest Residence Survey: A Check 16 meteorological sectors		NOT SCHEDULED THIS QUARTER		

Notes
Grass:
May, July, and Octo
Cattlefeed:
February

SM: May thru October
M: November thru Apr

August

August

Draft: M. DiPonzio Date 10/1/87
cc: P. Coulter Station Date 10/1/87

Distribution of the Collection Schedule will be by:
November 30 for 1st Q.
February 28 for 2nd Q.
May 31 for 3rd Q.
August 31 for 4th Q.

ATTACHMENT E

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM

BYRON NUCLEAR POWER STATION

JANUARY - DECEMBER, 1988