Dominion®

2008 Annual Environmental Monitoring Report

Kewaunee Power Station

Dominion Energy Kewaunee, Inc.

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2008 Annual Environmental Monitoring Report

Kewaunee Power Station

Part I

Summary and Interpretation

Dominion Energy Kewaunee, Inc.

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REPORT TO

DOMINION NUCLEAR

RADIOLOGICAL MONITORING PROGRAM FOR THE KEWAUNEE POWER STATION KEWAUNEE, WISCONSIN

ANNUAL REPORT - PART I SUMMARY AND INTERPRETATION

January 1 to December 31, 2008

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PREFACE

The staff of Environmental, Inc., Midwest Laboratory were responsible for the acquisition of data presented in this report. Assistance in sample collection was provided by Kewaunee Power Station personnel. The report was prepared by staff members of Environmental, Inc., Midwest Laboratory.

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2.0 SUMMARY

Results of sample analyses during the period January - December 2008 are summarized in Table 4.5. Radionuclide concentrations measured at indicator locations are compared with levels measured at control locations and in preoperational studies. The comparisons indicate background-level radioactivities in almost all samples collected and in no instance were REMP threshold reporting levels exceeded.

3.0 RADIOLOGICAL SURVEILLANCE PROGRAM

Following is a description of the Radiological Surveillance Program and its execution.

3.1 Methodology

The sampling locations are shown in Figure 4-1. Table 4.1 describes the locations, lists for each direction and distance from the reactor, and indicates which are indicators and which are control locations.

The sampling program monitors the air, terrestrial, and aquatic environments. The types of samples collected at each location and the frequency of collections are presented in Table 4.2, using sample codes defined in Table 4.3. The collections and analyses that comprise the program are described below. Finally, the execution of the program in the current reporting year is discussed.

3.1.1 The Air Program

Airborne Particulates

Airborne particulates are collected on a 47 mm diameter, 0.8μ porosity glass fiber filter, at a volumetric rate of approx. one cubic foot per minute. The filters are collected weekly from six locations (K-1f, K-2, K-7, K-8, K-31 and K-41), and dispatched by mail to Environmental, Inc. for radiometric analysis. The particulate filters are counted for gross beta activity, a minimum of three days after the date of collection, to allow for the decay of naturally-occurring short-lived radionuclides.

Quarterly composites from each sampling location are analyzed for gamma-emitting isotopes on a high-purity germanium (HPGe) detector.

Airborne Iodine

Charcoal filters are located at locations K-1f, K-2, K-7, K-8, K-31 and K-41. The filters are changed bi-weekly and analyzed for iodine-131 immediately after arrival at the laboratory.

Ambient Gamma Radiation - TLDs

The integrated gamma-ray background is measured at the six air sampling locations (K-1f, K-2, K-7, K-8, K-31 and K-41), at four milk sampling locations (K-3, K-5, K-25 and K-39), and four additional sites (K-15, located 9.25 miles northwest of the plant; K-17, located 4.25 miles west of the plant; K-27, located 1.5 miles northwest of the plant and K-30, located 1.0 miles north of the plant) by thermoluminescent dosimetry (TLDs). Two TLD cards, each having four main readout areas containing $CaSO_4$:Dy phosphor, are placed at each location (eight TLDs at each location). One card is exchanged quarterly, the other card is exchanged annually and read only on an emergency basis.

Precipitation

Monthly composites of precipitation samples collected at K-11 are analyzed for tritium activity and counted using a liquid scintillation method.

3.1.2 The Terrestrial Program

Milk

Milk is collected semimonthly from May through October, and monthly during the rest of the year from five herds that graze within four miles of the reactor site (K-5, K-25, K-34, K-38 and K-39), from one herd grazing between four and ten miles from the reactor site (K-3), and from a dairy store in Green Bay (K-28). The samples are analyzed for iodine-131, strontium-89 and strontium-90, cesium-137, barium-lanthanum-140, potassium-40, calcium and stable potassium.

Well Water

One gallon of water is collected quarterly from the four off-site well locations K-10, K-11, K-13 and K-25 and from two on-site wells located at K-1g and K-1h.

Gamma spectroscopic analyses, tritium and gross beta on the total residue are performed for each water sample. The concentration of potassium-40 is calculated from the total potassium, on all samples.

Additionally, samples of water from two on-site wells (K-1g and K-1h) are analyzed for gross alpha. Water from the on-site well (K-1g) is analyzed for strontium-89 and strontium-90.

Domestic Meat

Domestic meat samples are obtained annually (in the third quarter) at locations K-24, K-29 and K-32 and if available at locations K-20, K-27 and K-34. The flesh is separated from the bone and analyzed for gross alpha, gross beta and gamma emitting isotopes.

Eggs

Eggs are collected quarterly from locations K-24, K-27 (if available) and K-32. Samples are analyzed for gross beta, strontium-89, strontium-90 and gamma-emitting isotopes.

Vegetables

Vegetable samples (6 varieties) are collected at locations K-17 (if available) and K-26, and two varieties of grain, if available, from location K-23. The samples are analyzed for gross beta, strontium-89, strontium-90 and gamma emitting isotopes.

Grass and Cattle Feed

Grass is collected during the second, third and fourth quarters from two on-site locations (K-1b and K-1f) and from the dairy farm locations. Cattle feed is collected during the first quarter from the same farms. The samples are analyzed for gross beta, strontium-89 and -90, and gamma emitting isotopes.

Soil

Soil samples are collected twice a year on-site at K-1f and from the dairy farm locations (K-3, K-5, K-25, K-34, K-38 and K-39). The samples are analyzed for gross alpha, gross beta, strontium-89, strontium-90 and gamma emitting isotopes.

3.1.3 The Aquatic Program

Surface Water

One-gallon water samples are taken monthly from three locations on Lake Michigan: 1) at the point where the condenser water is discharged into Lake Michigan (K-1d); 2) Two Creeks Park (K-14) located 2.5 miles south of the reactor site; and 3) at the main pumping station located approximately equidistant from Kewaunee and Green Bay, which pumps water from the Rostok water intake (K-9) located 11.5 miles north of the reactor site. Both raw and tap water are collected at K-9. One-gallon water samples are taken monthly from three creeks that pass through the site (K-1a, K-1b, and K-1e). Samples from North and Middle Creeks (K-1a, K-1b) are collected near the mouth of each creek. Samples from the South Creek (K-1e) are collected about ten feet downstream from the point where the outflow from the two drain pipes meet. Additionally, the drainage pond (K-1k), located approximately 0.6 miles southwest of the plant, is included in the sampling program. Water samples at K-14 are collected and analyzed in duplicate.

The water is analyzed for gamma emitting isotopes, gross beta activity in total residue, dissolved solids and suspended solids, and potassium-40. The concentration of potassium-40 is calculated from the total potassium concentration. In addition, quarterly composites of the monthly grab samples are analyzed for tritium, strontium-89 and strontium-90.

Fish

Fish samples are collected during the second, third and fourth quarters at location K-1d. The flesh is separated from the bones, gamma scanned and analyzed for gross beta activity. Ashed bone samples are analyzed for gross beta, strontium-89 and strontium-90 activities.

Slime

Slime samples are collected during the second and third quarters from three Lake Michigan locations (K-1d, K-9 and K-14), from three creek locations (K-1a, K-1b and K-1e) and from the drainage pond (K-1k), if available. The samples are analyzed for gross beta activity. If the quantity is sufficient, analyses for gamma-emitting isotopes and strontium-89 and strontium-90 activities are performed.

Bottom Sediment

Bottom sediments are collected in May and November from five locations (K-1c, K-1d, K-1j, K-9 and K-14). The samples are analyzed for gross beta, strontium-89, strontium-90 and gamma emitting isotopes. Measured radioactivity per unit mass of sediment increases with decreasing particle size, and the sampling procedure is designed to assure collection of fine particles.

3.1.4 Program Execution

Program execution is summarized in Table 4.4. The program was executed for the year 2008 as described in the preceding sections, with the following exceptions:

(1) Airborne iodine samples for locations K-1f, K-2, K-7, K-8, K-31, K-41 were missed for the week ending 01/15/2008. CR # 029323

(2) A partial airborne particulate / airborne iodine sample (~78 hours run-time) was collected from location K-7 for the week ending June 16, 2008. A breaker was found tripped, possibly due to storm activity in the area. CR # 101593.

3.1.4 Program Execution (continued)

(3) A partial airborne particulate / airborne iodine sample (~112 hours run-time) was collected from location K-7 for the week ending October 28, 2008. Power was interrupted due to a tripped breaker. CR # 116348.

(4) Grass from location K-25 was missed for the May 1, 2008 collection. The location was discontinued in April, 2008. CR # 097171

(5) Soil from location K-25 was missed for the May 1, 2008 collection. The location was discontinued in April, 2008. CR # 097171

(6) Milk samples from location K-35 were missed for the September 16, 2008 collection. The location was initiated in September, 2008 and the collection routine was not firmly established.

(7) Milk samples from location K-35 were missed for the November 3, 2008 collection. The milk samples were not available to the collector.

(8) Vegetable samples are not available at the indicator location K-17, Jansky's Farm. The garden has been discontinued. Additional vegetable samples were collected at locations K-29 and K-38.

(9) The surface water from location K-1k could not be sampled in January, February or March of 2008. The pond was frozen.

3.1.5 Program Modifications

Location K-25 (Wotacheck Farm) discontinued dairy operations in April, 2008. Affected sampling included milk, ground water, grass, cattle feed and soil. CR # 097171

Ground water collections were initiated at K-38, Sinkula Farm.

A new location (K-35, Ducat Farm) was added to the program in late August, 2008. Sampling includes milk, grass, cattle feed and soil.

Several sampling location discrepancies were identified. CR # 104172

Rev. 13, 02/21/2008, to the Radiological Environmental Monitoring Manual (REMM) includes the following changes:

An emergency preparedness map was added to coordinate zones with sampling locations.
A map detailing locations of on-site monitoring wells was added in 2008.
A provision for the analysis of "hard to detect" isotopes in ground water.

A copy of the revision is included as Appendix D.

Addendum to the 2007 Report:

Documented changes to the REMM were made in Rev. 12, 02/22/2007, but not included with the 2007 Annual Report. A copy of the revision is provided in Appendix E.

3.2 Results and Discussion

The results for the reporting period January to December 2008 are presented in summary form in Table 4.5. For each type of analysis, of each sampled medium, the table shows the annual mean and range for all indicator and control locations. The location with the highest annual mean and the results for this location are also given.

The discussion of the results has been divided into three broad categories: the air, terrestrial, and aquatic environments. Within each category, samples will be discussed in the order listed in Table 4.4. Any discussion of previous environmental data for the Kewaunee Power Station refers to data collected by Environmental Inc., Midwest Laboratory.

The tabulated results of all measurements made in 2008 are not included in this section, although references to these results will be made in the discussion. A complete tabulation of results is contained in Part II of the 2008 annual report on the Radiological Monitoring Program for the Kewaunee Power Station.

3.2.1 Atmospheric Nuclear Detonations and Nuclear Accidents

There were no atmospheric nuclear tests or accidents reported in 2008. The last reported test was conducted by the People's Republic of China on October 16, 1980.

3.2.2 The Air Environment

Airborne Particulates

The annual gross beta concentration in air particulates averaged 0.022 pCi/m^3 at both the indicator and control locations. These averages were similar to the means observed from 1997 (and prior to) through 2007. Results are tabulated below.

Year	Average of Indicators	Average of Controls
	Concentration (pCi/m^3)	
1997	0.019	0.019
1998	0.019	0.019
1999	0.022	0.023
2000	0.022	0.021
2001	0.024	0.023
2002	0.023	0.023
2003	0.022	0.022
2004	0.019	0.020
2005	0.023	0.023
2006	0.021	0.021
2007	0.022	0.021
2008	0.022	0.022

Average annual gross beta concentrations in airborne particulates.

Airborne Particulates (continued)

Gamma spectroscopic analysis of quarterly composites of air particulate filters yielded similar results for indicator and control locations. Beryllium-7, which is produced continuously in the upper atmosphere by cosmic radiation (Arnold and Al-Salih, 1955) was detected in all samples, with an average activity of 0.069 pCi/m^3 for all locations. All other gamma-emitting isotopes were below their respective LLD limits.

Airborne Iodine

Bi-monthly levels of airborne iodine-131 were below the lower limit of detection (LLD) of 0.030 pCi/m^3 at all locations. There is no indication of an effect of plant operation on the local air environment.

Ambient Gamma Radiation - TLDs

Ambient gamma radiation was monitored by TLDs at fourteen locations: eight indicator and six control.

Quarterly TLDs at indicator locations measured a mean dose equivalent of (15.6 mR/91 days), in agreement with the mean at the control locations (14.2 mR/91 days). The readings were similar to the averages obtained from 1997 (and prior to) through 2007. The averages are tabulated below. No plant effect on ambient gamma radiation was indicated These values are slightly lower than the United States average value of 19.5 mR/91 days due to natural background radiation (National Council on Radiation Protection and Measurements, 1975). The highest annual mean was 18.1 mR/91 days, measured at indicator location K-7.

Year	Average (Indicators)	Average (Controls)
	Dose rate (mR/91 days)	
1997	16.0	15.1
1998	16.1	15.5
1999	17.4	16.9
2000	18.7	18.2
2001	18.6	18.3
2002	16.1	15.1
2003	14.1	13.7
2004	14.8	14.0
2005	15.7	14.3
2006	16.4	15.0
2007	16.2	15.2
2008	15.6	14.2

Ambient gamma radiation as measured by thermoluminescent dosimetry.
Average quarterly dose rates.

Precipitation

Precipitation was monitored for tritium at indicator location, K-11. The concentration was below the LLD level of 177 pCi/L in all samples.

3.2.3 The Terrestrial Environment

Milk

Of 116 analyses for iodine-131 in milk, all were below the LLD level of 0.5 pCi/L.

Strontium-89 concentrations measured below an LLD level of 1.5 pCi/L in all samples. Low levels of strontium-90 were found in seventy-seven of the seventy-nine samples tested. Mean values were identical for indicator and control locations (1.0 pCi/L, respectively) and are similar to or less than averages seen from 1990 through 2007.

Barium-lanthanum-140 concentrations were below 15 pCi/L and cesium-134 and cesium-137 concentrations were below 10 pCi/L in all samples. Potassium-40 results were almost identical at both the indicator and control locations (1371 and 1359 pCi/L, respectively), and are comparable to levels observed from 1990 through 2007. There was no indication of any effect due to the operation of the Kewaunee Power Station.

Due to the chemical similarities between strontium and calcium, and cesium and potassium, organisms tend to deposit cesium-137 in the soft tissue and muscle and strontium-89 and strontium-90 in the bone. Consequently, ratios of strontium-90 activity to the weight of calcium in milk and cesium-137 activity to the weight of potassium in milk were monitored in order to detect potential environmental accumulation of these radionuclides. The measured concentrations of stable potassium and calcium are in agreement with previously determined values of 1.60 and 1.20 g/L, respectively (National Center for Radiological Health, 1968).

Well Water

Three of eight samples for gross alpha analysis, from two on-site wells (K-1g and K-1h), tested above an LLD value of 2.6 pCi/L. Measurements ranged from 2.6 to 3.6 pCi/L. Gross beta activity, above an LLD of 1.4 pCi/L was detected in eleven of twenty indicator samples tested. Concentrations ranged from 2.1 to 7.2 pCi/L. and averaged 3.8 pCi/L.

Levels of strontium-89 and strontium-90 were measured for the on-site well (K-1g). The concentrations measured below the LLD value of 1.0 and 0.6 pCi/L, respectively.

All samples were tested for tritium and gamma emitting isotopes. Tritium concentrations measured below the LLD of 177 pCi/L. Gamma-emitting isotopes measured below respective LLDs.

Potassium-40 averages are generally in proportion to gross beta measurements and were in agreement with previously measured values. No plant effect was indicated.

Domestic Meat

In domestic meat samples, gross alpha concentration measured below the lower limit of detection for both indicator and control locations. Gross beta concentration averaged 3.43 pCi/g wet for indicator locations and 2.86 pCi/g wet for the control location. The differences are not significant. Gamma-spectroscopic analyses showed that almost all beta activity was due to naturally occurring potassium-40 (2.98 pCi/g wet and 2.41 pCi/g wet respectively). All other gamma-emitting isotopes were below their respective LLD limits.

Eggs

In egg samples, gross beta concentrations averaged 1.83 pCi/g wet for the indicator location and 1.68 pCi/g wet for the control, similar to concentrations of naturally-occurring potassium-40 observed in the samples (1.21 and 1.35 pCi/g wet respectively). Other gamma-emitting isotopes were below their respective LLDs. Levels of strontium-89 measured below the LLD of 0.016 pCi/g wet in all samples, strontium-90 measured below the LLD level of 0.005 pCi/g wet.

Vegetables and Grain

In vegetables, gross beta concentrations averaged 3.17 pCi/g wet at the control location K-26, due primarily to potassium-40 activity. All other gamma emitting isotopes measured below respective LLDs. Strontium-89 measured below the LLD level of 0.007 pCi/g wet. Strontium-90 measured below the LLD level of 0.004 pCi/g wet.

In two samples (clover and oats) from location K-23, gross beta concentrations averaged 7.82 pCi/g wet, due primarily to potassium-40 and beryllium-7 activity (4.60and 0.83 pCi/g wet, respectively). Strontium-89 measured below the LLD level of 0.020 pCi/g wet, strontium-90 measured below the LLD level of 0.011 pCi/g wet.

Grass and Cattle Feed

In grass, mean gross beta concentrations measured 8.45 and 10.31 pCi/g wet at indicator and control locations, respectively, and in all cases was predominantly due to naturally occurring potassium-40 and beryllium-7. All other gamma-emitting isotopes were below their respective LLDs. Strontium-89 measured below the LLD levels of 0.035. Trace levels of strontium-90 was detected in two of the twenty-three samples collected, from control and indicator locations, and averaged 0.016 pCi/g wet.

In cattlefeed, the mean gross beta concentration was lower at the control locations (5.97 pCi/g wet) than at indicator locations (13.18 pCi/g wet), and reflected the potassium-40 / beryllium-7 levels observed in the samples (7.46 and 11.49 pCi/gwet, respectively.). This pattern is similar to that observed since 1978. Strontium-89 levels were below the LLD level of 0.041 pCi/g wet in all samples. Strontium-90 activity , above the LLD value of 0.028 pCi/g wet, was detected in one of twelve samples collected at a concentration of 0.029 pCi/g wet, similar or lower than levels observed in 1996 through 2007. The presence of radiostrontium in the environment can still be attributed to fallout from nuclear testing in previous decades.

With the exception of naturally-occurring beryllium and potassium, gamma-emitting isotopes were below their respective LLD levels.

Soil

Gross alpha concentrations in soil samples averaged 6.93 pCi/g dry at the indicator locations and 6.59 pCi/g dry at the control location. Mean gross beta levels measured at the indicator and control locations averaged 30.36 and 31.50 pCi/g dry, respectively, primarily due to the potassium-40 activity. Strontium-89 was below the LLD level of 0.11 pCi/g dry in all samples. Low levels of strontium-90 activity were detected in twelve of the fourteen samples tested and averaged 0.055 pCi/g dry.

Trace levels of cesium-137 were detected in thirteen of fourteen soil samples, similar at both indicator and control locations (0.12 and 0.15 pCi/g dry, respectively). Potassium-40 was detected in all samples and averaged 19.69 and 18.04 pCi/g dry at indicator and control locations, respectively. All other gamma-emitting isotopes were below their respective LLD's. These levels of detected activities are similar to those observed from 1990 through 2007. The data suggests no evidence of a plant effect on soil measurements.

3.2.4 The Aquatic Environment

Surface Water

In all surface water samples tested, gross beta activity in suspended solids measured below the LLD level of 1.3 pCi/L. Mean gross beta concentration in dissolved solids was higher at the indicator locations (5.7 pCi/L) as compared to the control locations (1.8 pCi/L). The pattern is similar to activity distribution observed from 1978 through 2006.

Year	Average (Indicators)	Average (Controls)
	Gross Beta (pCi/L)	
1997	6.3	2.4
1998	5.9	2.1
1999	5.6	2.2
2000	7.0	2.4
2001	5.9	2.2
2002	5.7	2.2
2003	7.3	2.4
2004	6.2	2.3
2005	5.2	1.7
2006	5.5	1.8
2007	5.7	1.8
2008	4.7	1.5

Average annual gross beta concentrations in surface water (DS).

The difference in levels are due in part to the indicator location (K-1k), a pond formed by drainage of surrounding fields to the southwest. The control sample is Lake Michigan water, which varies very little in gross beta concentration during the year, while indicator samples include the two creek locations (K-1a and K-1e) which are much higher in gross beta concentration and exhibit large month-to-month variations. The K-1a creek draws its water from the surrounding fields which are heavily fertilized; and the K-1e creek draws its water mainly from the Sewage Treatment Plant. In general, gross beta concentrations were high when potassium-40 levels were high and low when potassium-40 levels were low, indicating that the fluctuations in beta concentration were due to variations in potassium-40 concentrations and not to plant operations. The fact that similar fluctuations at these locations were observed in the pre-operational studies conducted prior to 1974 supports this assessment.

In seven of twenty-seven indicator samples tested, (quarterly composites of monthly samples), measurable tritium activity was detected. Six of the samples tested only slightly higher than the LLD level of 172 pCi/L, at an average concentration of 243 pCi/L.sample. The fourth quarter composite sample from discharge point K-1d, measured 4347 pCi/L. Analysis of the separate monthly samples determined that the activity in the composite occurred in December, 2008, most likely collected during a time of release. All other samples measured below LLD. The activities detected are less than the reporting limit in surface water and within regulatory requirements. CR# 319712

Strontium-89 concentrations were below the LLD of 1.5 pCi/L. Strontium-90 measured below the LLD level of 0.8 pCi/L in all thirty-five indicator and control samples.

Gamma-emitting isotopes measured below their respective LLDs in all samples.

Fish

In fish, gross beta concentration averaged 3.36 pCi/g wet in muscle and 1.71 pCi/g wet in bone fractions. In muscle, the gross beta concentration was primarily due to potassium-40 activity.

Cesium-137 concentration in muscle was detected in two of four samples tested at a level of 0.055 pCi/g wet, lower than levels observed between 1979 and 1991 (average of 0.12 pCi/g wet), and similar to levels seen from 1992 through 2007, averaging 0.060 pCi/gwet.

The strontium-89 concentration in bones was below the LLD of 0.24 pCi/g wet in all samples. Strontium-90 was detected in all samples and averaged 0.13 pCi/g wet.

Periphyton (Slime) or Aquatic Vegetation

In periphyton (slime) and aquatic vegetation samples, mean gross beta concentrations were similar at indicator and control locations (5.61 and 5.43 pCi/g wet, respectively), due primarily to combined potassium-40 and beryllium-7 activity (4.05 and 3.55 pCi/g wet, respectively).

In one of two samples collected from location K-14 (Two Creeks Park), a trace level of cobalt-58 (0.022 pCi/gwet) was detected. Low levels of cesium-137 were observed in four of twelve samples collected from varying indicator locations, at a level of 0.023 pCi/g wet. Other gamma-emitting isotopes, with the exception of naturally-occurring beryllium-7 and potassium-40, were below their respective LLDs.

The strontium-89 concentration was below the LLD of 0.44 pCi/g wet in all samples. Two samples showed slight strontium-90 activity at an average of 0.069 pCi/gwet. All other samples tested below the LLD value of 0.034 pCi/gwet.

Bottom Sediments

In bottom sediment samples, the mean gross beta concentrations measured 10.41 pCi/g dry at the indicator locations and 30.48 pCi/g dry at the control location.

Cs-134 measured below the LLD level of 0.029 pCi/g dry in all samples. A low level of cesium-137 was observed in both indicator and control samples and averaged 0.029 and 0.084 pCi/g dry, respectively. On average, cesium-137 measurements are lower than or similar to levels observed from 1979 through 2007. Other gamma-emitting isotopes, with the exception of naturally-occurring potassium-40, were below their respective LLDs.

Levels of strontium-89 measured below the detection limits of 0.12 pCi/g dry. One of the two control samples tested showed a slight strontium-90 activity (0.096 pCi/gdry). All other samples tested below the LLD value of 0.047 pCi/gdry.

3.3 Land Use Census

The Land Use Census satisfies the requirements of the KPS Radiological Environmental Monitoring Manual. Section 2.2.2 states:

> "A land use census shall be conducted and shall identify within a distance of 8 km (5 mi.) the location, in each of the 10 meteorological sectors, of the nearest milk animal, the nearest residence and the nearest garden of greater than 50m^2 (500 ft^2) producing broad leaf vegetation."

The 2008 Land Use Census was completed to identify the presence of the nearest milk animals, gardens and farm crops of the Kewaunee Power Station.

The Land Use Census was completed on September 4, 2008. The census is conducted annually during the growing season per Health Physics Procedure HP 1.14.

Results of the 2008 census are summarized in Table 4.6. Changes from the 2007 census are listed by sector.

In summary, the highest D/Q locations for nearest garden, nearest residence and nearest milk animal did not change from the 2007 census.

3.4 Laboratory Procedures

Analytical Procedures used by Environmental, Inc. are on file and are available for inspection. Procedures are based on those prescribed by the Health and Safety Laboratory of the U.S. Dep't of Energy, Edition 28, 1997, U.S. Environmental Protection Agency for Measurement of Radioactivity in Drinking Water, 1980, and the U.S. Environmental Protection Agency, EERF, Radiochemical Procedures Manual, 1984.

Environmental, Inc., Midwest Laboratory has a comprehensive quality control/quality assurance program designed to assure the reliability of data obtained. Details of the QA Program are presented elsewhere (Environmental, Inc., Midwest Laboratory, 2003). The QA Program includes participation in Interlaboratory Comparison (crosscheck) Programs. Results obtained in crosscheck programs are presented in Appendix A.

4.0 FIGURES AND TABLES

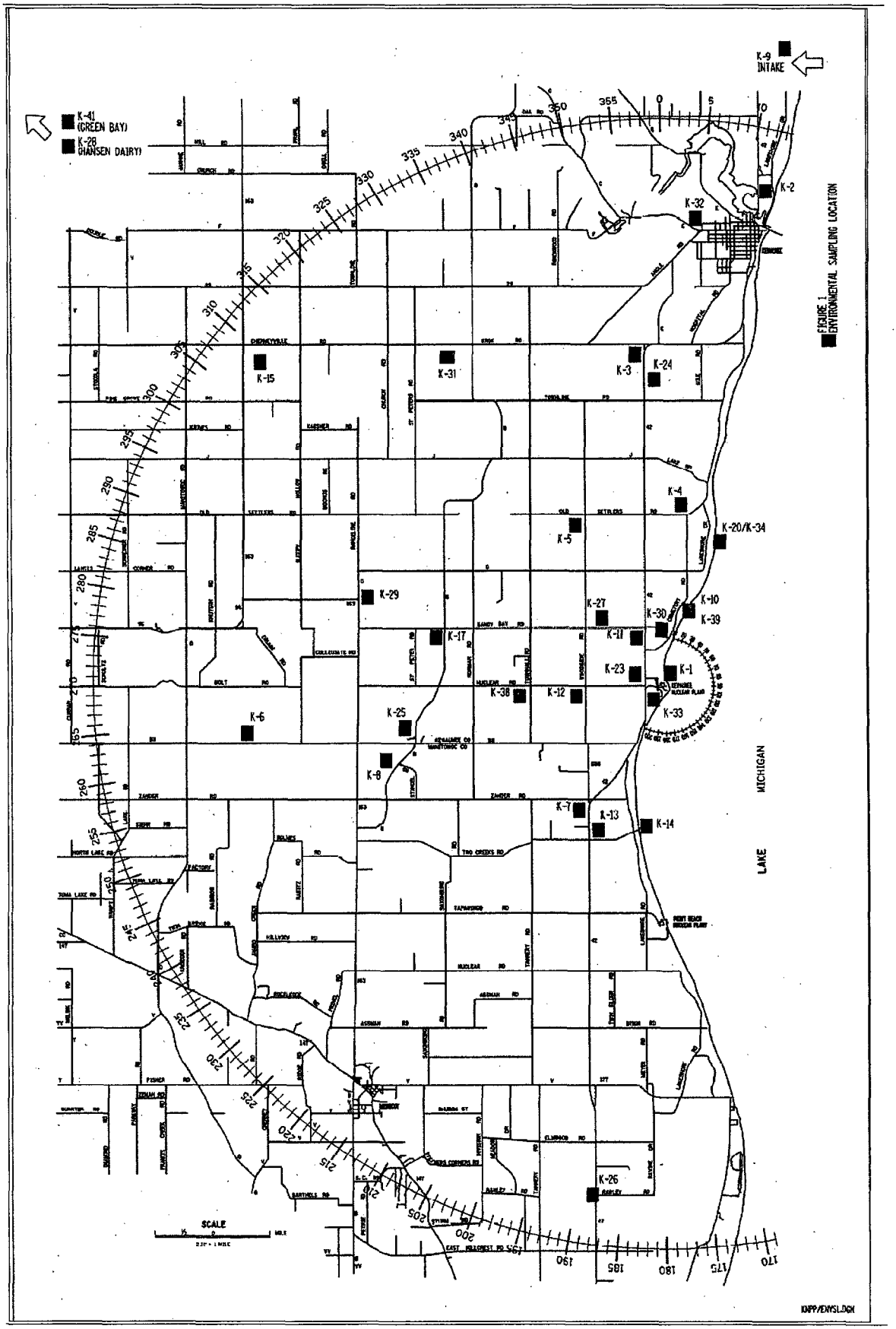

Figure 4-1. Sampling locations, Kewaunee Power Station

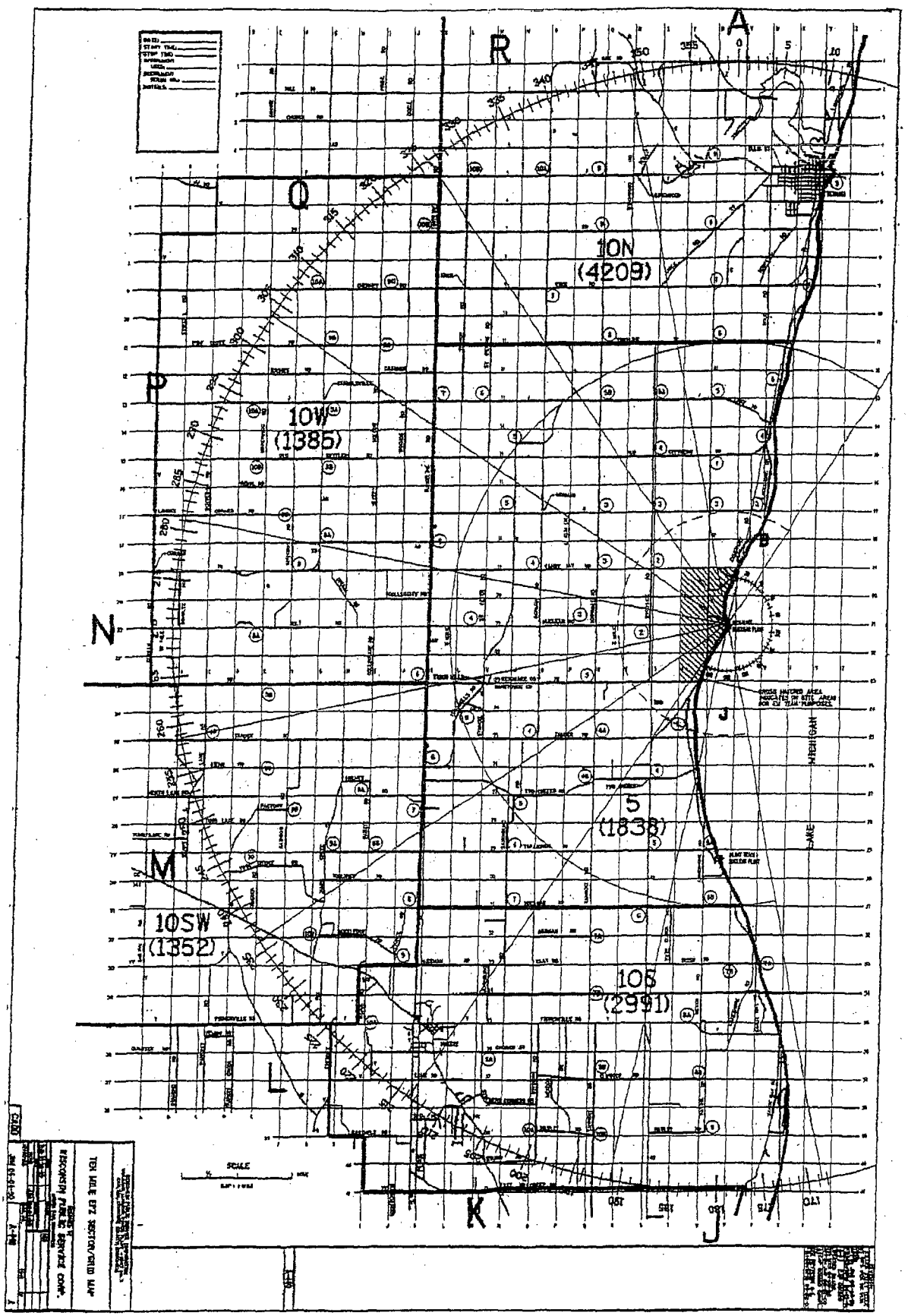

Figure 4-2. Emergency Plan Zone Map, Kewaunee Power Station

Table 1. Sampling locations, Kewaunee Power Station.

Code	Type[a]	Distance (miles)[b] and Sector	Location
K-1			Onsite
K-1a	I	0.62 N	North Creek
K-1b	I	0.12 N	Middle Creek
K-1c	I	0.10 N	500' north of condenser discharge
K-1d	I	0.10 E	Condenser discharge
K-1e	I	0.12 S	South Creek
K-1f	I	0.12 S	Meteorological Tower
K-1g	I	0.06 W	South Well
K-1h	I	0.12 NW	North Well
K-1j	I	0.10 S	500' south of condenser discharge
K-1k	I	0.60 SW	Drainage Pond, south of plant
K-2	C	9.5 NNE	WPS Operations Building in Kewaunee
K-3	C	6.0 N	Lyle and John Siegmund Farm, N2815 Hy 12, Kewaunee
K-5	I	3.5 NNW	Ed Paplham Farm, E4160 Old Settlers Rd, Kewaunee
K-7	I	2.75 SSW	Ron Zimmerman Farm, 17620 Nero Road, Two Rivers
K-8	C	5.0 WSW	Saint Isidore the Farmer Church, Tisch Mills
K-9	C	11.5 NNE	Rostok Water Intake for Green Bay, Wisconsin, two miles north of Kewaunee
K-10	I	1.5 NNE	Turner Farm, Kewaunee site
K-11	I	1.0 NW	Harlan Ihlenfeld Farm, N879 Hy 42, Kewaunee
K-13	C	3.0 SSW	Rand's General Store
K-14	I	2.5 S	Two Creeks Park, 2.5 miles south of site
K-15	C	9.25 NW	Gas Substation, 1.5 miles north of Stangelville
K-17	I	4.25 W	Jansky's Farm, N885 Tk B, Kewaunee
K-20	I	2.5 N	Carl Struck Farm, Lakeshore Dr, Kewaunee
K-23	I	0.5 W	0.5 miles west of plant, Kewaunee site
K-24	I	5.45 N	Fectum Farm, N2653 Hy 42, Kewaunee
K-25[c]	I	2.75 SW	Wotachek Farm, 3968 E. Cty Tk BB, Two Rivers
K-26	C	10.7 SSW	Bertler's Fruit Stand (8.0 miles south of "BB")
K-27	I	1.5 NW	Schlies Farm, E4298 Sandy Bay Rd, Kewaunee
K-28	C	26 NW	Hansen's Dairy Store, Green Bay, Wisconsin
K-29	I	5.75 W	Kunesh Farm, Route 1, Kewaunee
K-30	I	1.00N	End of site boundary
K-31	C	6.25NNW	E. Krok Substation
K-32	C	11.50 N	Piggly Wiggly, 931 Marquette Dr., Kewaunee
K-34	I	2.5 N	Leon and Vicki Struck, N1549 Lakeshore Dr., Kewaunee
K-35[d]	C	6.0 mi. WNW	Ducat, N1215 Sleepy Hollow Rd., Kewaunee
K-38	I	3.8 mi. WNW	Dave Sinkula Farm, N890 Town Hall Road, Kewaunee
K-39	I	4.0 mi. N	Francis and Sue Wojta, N1859 Lakeshore Dr., Kewaunee
K-41	C	22 NW	KPS, EOF3060 Voyager Dr. , Green Bay

[a] I = indicator; C = control.

[b] Distances are measured from reactor stack.

[c] Farm out of dairy business, April, 2008.

[d] Location reinstated as of August, 2008.

Table 4.2. Type and frequency of collection.

Location	Weekly	Biweekly	Monthly	Quarterly	Semiannually	Annually
K-1a			SW		SL	
K-1b			SW	GR[a]	SL	
K-1c					BS[b]	
K-1d			SW	FI[a]	BS[b], SL	
K-1e			SW		SL	
K-1f	AP	AI		GR[a], TLD	SO	
K-1g				WW		
K-1h				WW		
K-1j					BS[b]	
K-1k			SW		SL	
K-2	AP	AI		TLD		
K-3			MI[c]	GR[a], TLD, CF[d]	SO	
K-5			MI[c]	GR[a], TLD, CF[d]	SO	
K-7	AP	AI		TLD		
K-8	AP	AI		TLD		
K-9			SW		BS[b], SL	
K-10				WW		
K-11			PR	WW		
K-13				WW		
K-14			SW		BS[b], SL	
K-15				TLD		
K-17				TLD		VE
K-20						DM
K-23						GRN
K-24				EG		DM
K-25			MI[c]	GR[a], TLD, CF[d], WW	SO	
K-26						VE
K-27				TLD, EG		DM
K-28			MI[c]			
K-29						DM
K-30				TLD		
K-31	AP	AI		TLD		
K-32				EG		DM
K-34			MI[c]	GR[a], CF[d]	SO	DM
K-35			MI[c]	GR[a], CF[d]	SO	
K-38			MI[c]	GR[a], CF[d]	SO	
K-39			MI[c]	GR[a], TLD, CF[d]	SO	
K-41	AP	AI		TLD		

[a] Three times a year, second, third and fourth quarters.

[b] To be collected in May and November.

[c] Monthly from November through April; semimonthly May through October.

[d] First quarter (January, February, March) only.

Table 3. Sample Codes:

AP	Airborne particulates	MI	Milk
AI	Airborne Iodine	PR	Precipitation
BS	Bottom sediments	SL	Slime
CF	Cattlefeed	SO	Soil
DM	Domestic Meat	SW	Surface water
EG	Eggs	TLD	Thermoluminescent Dosimeter
FI	Fish	VE	Vegetables
GRN	Grain	WW	Well water
GR	Grass		

Table 4.4. Sampling Summary, January - December 2008.

Sample Type	Collection Type and Frequency[a]	Number of Locations	Number of Samples Collected	Number of Samples Missed
Air Environment				
Airborne particulates	C/W	6	312	0
Airborne Iodine	C/BW	6	150	6
TLD's	C/Q	14	56	0
Precipitation	C/M	1	12	0
Terrestrial Environment				
Milk (May-Oct)	G/SM	7	75	1
(Nov-Apr)	G/M	7	41	1
Well water	G/Q	6	24	0
Domestic meat	G/A	3	3	0
Eggs	G/Q	2	8	0
Vegetables - 5 varieties	G/A	1	6	0
Grain - oats	G/A	1	1	0
- clover	G/A	1	2	0
Grass	G/TA	8	24	1
Cattle feed	G/A	6	12	0
Soil	G/SA	7	14	0
Aquatic Environment				
Surface water	G/M	7	105	3
Fish	G/TA	1	4	0
Slime	G/SA	7	14	0
Bottom sediments	G/SA	5	10	0

[a] Type of collection is coded as follows: C = continuous; G = grab.
Frequency is coded as follows: W = weekly; BW = bi-weekly; SM = semimonthly; M = monthly; Q = quarterly; SA = semiannually; TA = three times per year; A = annually.

Table 4.5 Environmental Radiation Monitoring Program Summary.

Name of Facility: Kewaunee Nuclear Power Plant — Docket No. 50-305
Location of Facility: Kewaunee County, Wisconsin (County, State) — Reporting Period January-December, 2008

Sample Type (Units)	Type and Number of Analyses[a]	LLD[b]	Indicator Locations Mean (F)[c] Range[c]	Location with Highest Annual Mean: Location[d]	Location with Highest Annual Mean: Mean (F)[c] Range[c]	Control Locations Mean (F)[c] Range[c]	Number Non-Routine Results[e]
TLDs (Quarterly) (mR/91days)	Gamma 56	3.0	15.6 (32/32) (11.0-20.3)	K-7, Zimmerman Farm 2.75 mi. SSW	18.1 (4/4) (15.9-20.3)	14.2 (24/24) (10.6-18.7)	0
Airborne Particulates (pCi/m^3)	GB 312	0.002	0.022 (104/104) (0.005-0.051)	K-41, KPS Div. Off. 22 mi. NW	0.023 (52/52) (0.007-0.046)	0.022 (208/208) (0.005-0.050)	0
	GS 24						
	Be-7	0.020	0.068 (8/8) (0.054-0.097)	K-31, E. Krok Sub-station, 6.25 mi. NNW	0.071 (4/4) (0.056-0.094)	0.069 (16/16) (0.052-0.094)	0
	Nb-95	0.0013	< LLD	-	-	< LLD	0
	Zr-Nb-95	0.0022	< LLD	-	-	< LLD	0
	Ru-103	0.0012	< LLD	-	-	< LLD	0
	Ru-106	0.0080	< LLD	-	-	< LLD	0
	Cs-134	0.0010	< LLD	-	-	< LLD	0
	Cs-137	0.0008	< LLD	-	-	< LLD	0
	Ce-141	0.0018	< LLD	-	-	< LLD	0
	Ce-144	0.0047	< LLD	-	-	< LLD	0
Airborne Iodine (pCi/m^3)	I-131 150	0.03	< LLD	-	-	< LLD	0
Precipitation (pCi/L)	H-3 12	177	< LLD	-	-	None	0
Milk (pCi/L)	I-131 116	0.5	< LLD	-	-	< LLD	0
	Sr-89 79	1.5	< LLD	-	-	< LLD	0
	Sr-90 79	0.5	1.0 (50/52) (0.5-1.7)	K-38, Sinkula Farm 3.8 mi. WNW	1.3 (12/12) (0.9-1.7)	1.0 (27/27) (0.5-1.8)	0
	GS 116						
	K-40	50	1371 (76/76) (1245-1549)	K-34, Struck Farm 2.5 mi. N	1413 (18/18) (1254-1549)	1359 (40/40) (1227-1478)	0
	Cs-134	10	< LLD	-	-	< LLD	0
	Cs-137	10	< LLD	-	-	< LLD	0
	Ba-La-140	15	< LLD	-	-	< LLD	0
(g/L)	K-stable 79	1.0	1.60 (52/52) (1.45-1.76)	K-34, Struck Farm 2.5 mi. N	1.64 (12/12) (1.53-1.76)	1.60 (27/27) (1.42-1.70)	0
(g/L)	Ca 79	0.4	1.16 (52/52) (0.95-1.42)	K-3, Siegmund Farm 6.0 mi. N	1.19 (12/12) (1.03-1.36)	1.15 (27/27) (0.91-1.36)	0

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Sample Type (Units)	Type and Number of Analyses[a]	LLD[b]	Indicator Locations Mean (F)[c] Range[c]	Location with Highest Annual Mean Location[d]	Location with Highest Annual Mean Mean (F)[c] Range[c]	Control Locations Mean (F)[c] Range[c]	Number Non-Routine Results[e]
Well Water (pCi/L)	GA 8	2.6	3.2 (3/8) (2.6-3.6)	K-1g, South Well 0.06 mi. W	3.5 (2/4) (3.3-3.6)	None	0
	GB 24	1.4	3.8 (11/20) (2.1-7.2)	K-10, Turner Farm 1.5 mi. NNE	4.5 (3/4) (2.5-7.2)	3.7 (1/4)	0
	H-3 24	177	< LLD	-	-	None	0
	K-40(fp) 24	0.50	1.86 (20/20) (0.52-5.02)	K-10, Turner Farm 1.5 mi. NNE	2.99 (4/4) (1.21-5.02)	0.96 (4/4) (0.91-1.04)	0
	Sr-89 4	1.0	< LLD	-	-	None	0
	Sr-90 4	0.6	< LLD	-	-	None	0
	GS 24						
	Mn-54	15	< LLD	-	-	< LLD	0
	Fe-59	30	< LLD	-	-	< LLD	0
	Co-58	15	< LLD	-	-	< LLD	0
	Co-60	15	< LLD	-	-	< LLD	0
	Zn-65	30	< LLD	-	-	< LLD	0
	Zr-Nb-95	15	< LLD	-	-	< LLD	0
	Cs-134	15	< LLD	-	-	< LLD	0
	Cs-137	18	< LLD	-	-	< LLD	0
	Ba-La-140	15	< LLD	-	-	< LLD	0
Domestic Meat (pCi/gwet)	GA 3	0.052	< LLD	-	-	< LLD	0
	GB 3	0.030	3.43 (2/2) (3.17-3.69)	K-24, Fectum Farm 5.45 mi. N	3.69 (1/1) -	2.86 (1/1) -	0
	GS 3						
	Be-7	0.50	< LLD	-	-	< LLD	0
	K-40	0.50	2.98 (2/2) (2.76-3.20)	K-24, Fectum Farm 5.45 mi. N	3.20 (1/1)	2.44 (1/1) -	0
	Nb-95	0.11	< LLD	-	-	< LLD	0
	Zr-95	0.094	< LLD	-	-	< LLD	0
	Ru-103	0.078	< LLD	-	-	< LLD	0
	Ru-106	0.21	< LLD	-	-	< LLD	0
	Cs-134	0.017	< LLD	-	-	< LLD	0
	Cs-137	0.026	< LLD	-	-	< LLD	0
	Ce-141	0.19	< LLD	-	-	< LLD	0
	Ce-144	0.16	< LLD	-	-	< LLD	0
Eggs (pCi/gwet)	GB 8	0.010	1.83 (4/4) (1.52-2.18)	K-24, Fectum Farm 5.45 mi. N	1.83 (4/4) (1.52-2.18)	1.68 (4/4) (1.50-1.88)	0
	Sr-89 8	0.016	< LLD	-	-	< LLD	0
	Sr-90 8	0.005	< LLD	-	-	< LLD	0
	GS 8						
	Be-7	0.069	< LLD	-	-	< LLD	0
	K-40	0.50	1.21 (4/4) (1.05-1.30)	K-32, Grocery 11.5 mi. N	1.35 (4/4) (1.13-1.55)	1.35 (4/4) (1.13-1.55)	0
	Nb-95	0.010	< LLD	-	-	< LLD	0
	Zr-95	0.019	< LLD	-	-	< LLD	0
	Ru-103	0.012	< LLD	-	-	< LLD	0
	Ru-106	0.088	< LLD	-	-	< LLD	0
	Cs-134	0.011	< LLD	-	-	< LLD	0
	Cs-137	0.010	< LLD	-	-	< LLD	0
	Ce-141	0.030	< LLD	-	-	< LLD	0
	Ce-144	0.077	< LLD	-	-	< LLD	0

Table 4.5 Environmental Radiation Monitoring Program Summary.

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Sample Type (Units)	Type and Number of Analyses[a]	LLD[b]	Indicator Locations Mean (F)[c] Range[c]	Location with Highest Annual Mean: Location[d]	Location with Highest Annual Mean: Mean (F)[c] Range[c]	Control Locations Mean (F)[c] Range[c]	Number Non-Routine Results[e]
Vegetables (pCi/gwet)	GB 6	0.010	None	K-26, Bertler's 10.7 mi. SSW	3.17 (6/6) (1.80-4.40)	3.17 (6/6) (1.8-4.40)	0
	Sr-89 6	0.007	None	-	-	< LLD	0
	Sr-90 6	0.004	None	-	-	<LLD	0
							0
	GS 6						
	Be-7	0.076	None	-	-	< LLD	0
				-			
	K-40	0.50	None	K-26, Bertler's 10.7 mi. SSW	2.06 (6/6) (1.06-2.80)	2.06 (6/6) (1.06-2.80)	0
	Nb-95	0.011	None	-	-	< LLD	0
	Zr-95	0.012	None	-	-	< LLD	0
	Ru-103	0.008	None	-	-	< LLD	0
	Ru-106	0.082	None	-	-	< LLD	0
	Cs-134	0.009	None	-	-	< LLD	0
	Cs-137	0.010	None	-	-	< LLD	0
	Ce-141	0.024	None	-	-	< LLD	0
	Ce-144	0.075	None	-	-	< LLD	0
Grain - Oats & Clover (pCi/gwet)	GB 3	0.010	7.82 (3/3) (5.87-8.81)	K-23, Kewaunee Site, 0.5 mi. W	7.82 (3/3) (5.87-8.81)	None	0
	Sr-89 3	0.020	< LLD	-	-	None	0
	Sr-90 3	0.011	< LLD	-	-	None	0
	GS 3						
	Be-7	0.50	0.83 (3/3) (0.77-0.94)	K-23, Kewaunee Site, 0.5 mi. W	0.83 (3/3) (0.77-0.94)	None	0
	K-40	0.50	4.60 (3/3) (3.98-4.65)	K-23, Kewaunee Site, 0.5 mi. W	4.60 (3/3) (3.98-4.65)	None	0
	Nb-95	0.021	< LLD	-	-	None	0
	Zr-95	0.034	< LLD	-	-	None	0
	Ru-103	0.022	< LLD	-	-	None	0
	Ru-106	0.14	< LLD	-	-	None	0
	Cs-134	0.012	< LLD	-	-	None	0
	Cs-137	0.024	< LLD	-	-	None	0
	Ce-141	0.038	< LLD	-	-	None	0
	Ce-144	0.19	< LLD	-	-	None	0
Cattlefeed (pCi/gwet)	GB 12	0.10	12.79 (10/10) (4.37-34.54)	K-38, Sinkula Farm 3.8 mi. WNW	19.62 (2/2) (4.70-34.54)	11.25 (2/2) (5.27-17.23)	0
	Sr-89 12	0.059	< LLD	-	-	< LLD	0
	Sr-90 12	0.028	0.029 (1/10)	K-39, Wojta Farm 3.0 mi. N	0.029 (1/2)	<LLD	0
	GS 12						
	Be-7	0.44	0.52 (1/10)	K-34, Struck Farm 2.5 mi. N	0.52 (1/10)	< LLD	0
	K-40	0.10	8.11 (10/10) (2.56-15.61)	K-38, Sinkula Farm 3.8 mi. WNW	9.51 (2/2) (3.75-15.27)	6.88 (2/2) (3.15-10.60)	0

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Reporting Period: January-December, 2008

Sample Type (Units)	Type and Number of Analyses[a]	LLD[b]	Indicator Locations Mean (F)[c] Range[c]	Location with Highest Annual Mean Location[d]	Location with Highest Annual Mean Mean (F)[c] Range[c]	Control Locations Mean (F)[c] Range[c]	Number Non-Routine Results[e]
Cattlefeed (continued)	Nb-95	0.052	< LLD	-	-	< LLD	0
	Zr-95	0.080	< LLD	-	-	< LLD	0
	Ru-103	0.037	< LLD	-	-	< LLD	0
	Ru-106	0.31	< LLD	-	-	< LLD	0
	Cs-134	0.029	< LLD	-	-	< LLD	0
	Cs-137	0.028	< LLD	-	-	< LLD	0
	Ce-141	0.057	< LLD	-	-	< LLD	0
	Ce-144	0.35	< LLD	-	-	< LLD	0
Grass (pCi/gwet)	GB 23	0.10	8.45 (18/18) (5.58-11.26)	K-38, Sinkula Farm 3.8 mi. WNW	9.81 (3/3) (8.00-11.26)	10.31 (5/5) (8.07-12.74)	0
	Sr-89 23	0.035	< LLD	-	-	< LLD	0
	Sr-90 23	0.012	0.013 (1/18)	K-3, Siegmund Farm 6.0 mi. N	0.018 (1/3)	0.018 (1/5)	0
	GS 23						
	Be-7	0.50	1.36 (18/18) (0.61-4.98)	K-39, Wojta Farm 3.0 mi. N	2.18 (3/3) (0.61-4.98)	1.48 (5/5) (0.35-3.41)	0
	K-40	0.50	6.42 (18/18) (4.35-9.70)	K-39, Wojta Farm 3.0 mi. N	6.85 (3/3) (5.61-8.20)	7.40 (5/5) (5.10-9.23)	0
	Nb-95	0.024	< LLD	-	-	< LLD	0
	Zr-95	0.056	< LLD	-	-	< LLD	0
	Ru-103	0.030	< LLD		-	< LLD	0
	Ru-106	0.23	< LLD	-	-	< LLD	0
	Cs-134	0.026	< LLD	-	-	< LLD	0
	Cs-137	0.035	< LLD	-	-	< LLD	0
	Ce-141	0.057	< LLD	-	-	< LLD	0
	Ce-144	0.23	< LLD	-	-	< LLD	0
Soil (pCi/gdry)	GA 14	1.0	6.93 (10/10) (4.93-8.31)	K-38, Sinkula Farm 3.8 mi. WNW	7.91 (2/2) (7.80-8.02)	6.59 (4/4) (4.68-8.98)	0
	GB 14	2.0	30.36 (10/10) (22.76-36.62)	K-5, Paplham Farm 3.5 mi. NNW	34.54 (2/2) (32.46-36.62)	31.50 (4/4) (28.88-32.69)	0
	Sr-89 14	0.11	< LLD	-	-	< LLD	0
	Sr-90 14	0.030	0.072 (8/10) (0.035-0.122)	K-38, Sinkula Farm 3.8 mi. WNW	0.10 (2/2) (0.077-0.12)	0.049 (4/4) (0.036-0.066)	0
	GS 14						
	Be-7	0.34	< LLD	-	-	< LLD	0
	K-40	1.4	19.69 (10/10) (16.23-22.68)	K-5, Paplham Farm 3.5 mi. NNW	22.17 (2/2) (21.65-22.68)	18.04 (4/4) (16.34-19.37)	0
	Nb-95	0.038	< LLD	-	-	< LLD	0
	Zr-95	0.059	< LLD	-	-	< LLD	0
	Ru-103	0.038	< LLD		-	< LLD	0
	Ru-106	0.28	< LLD	-	-	< LLD	0
	Cs-134	0.033	< LLD	-	-	< LLD	0
	Cs-137	0.023	0.12 (9/10) (0.053-0.21)	K-38, Sinkula Farm 3.8 mi. WNW	0.17 (2/2) (0.15-0.18)	0.15 (4/4) (0.12-0.16)	0
	Ce-141	0.084	< LLD	-	-	< LLD	0
	Ce-144	0.17	< LLD	-	-	< LLD	0

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Surface Water	GB (SS) 105	1.5	< LLD	-	-	< LLD	0
(pCi/L)	GB (DS) 105	1.2	4.7 (81/81) (0.7-21.8)	K-1e, South Creek 0.12 mi. S	9.5 (12/12) (1.8-21.8)	1.5 (24/24) (0.7-2.7)	0
	GB (TR) 105	1.2	4.9 (81/81) (0.7-21.8)	K-1e, South Creek 0.12 mi. S	9.6 (12/12) (1.8-21.8)	1.5 (24/24) (0.7-2.7)	0
	GS 105						
	Mn-54	15	< LLD	-	-	< LLD	0
	Fe-59	30	< LLD	-	-	< LLD	0
	Co-58	15	< LLD	-	-	< LLD	0
	Co-60	15	< LLD	-	-	< LLD	0
	Zn-65	30	< LLD	-	-	< LLD	0
	Zr-Nb-95	15	< LLD	-	-	< LLD	0
	Cs-134	10	< LLD	-	-	< LLD	0
	Cs-137	10	< LLD	-	-	< LLD	0
	Ba-La-140	15	< LLD	-	-	< LLD	0
	H-3 35	172	829 (7/27) (203-4347)	K-1d, Cond. Discharge 0.10 mi. E	4347 (1/4)	< LLD	0
	Sr-89 35	1.5	< LLD	-	-	< LLD	0
	Sr-90 35	0.8	< LLD	-	-	< LLD	0
	K-40 105	0.87	3.9 (81/81) (0.6-24.6)	K-1e, South Creek 0.12 mi. S	9.0 (12/12) (2.0-24.6)	1.2 (24/24) (1.0-1.4)	0
Fish (Muscle) (pCi/gwet)	GB 4	0.5	3.36 (4/4) (2.08-4.53)	K-1d, Cond. Discharge 0.10 mi. E	3.36 (4/4) (2.08-4.53)	None	0
	GS 4						
	K-40	0.5	2.63 (4/4) (2.25-3.13)	K-1d, Cond. Discharge 0.10 mi. E	2.63 (4/4) (2.25-3.13)	None	0
	Mn-54	0.020	< LLD	-	-	None	0
	Fe-59	0.11	< LLD	-	-	None	0
	Co-58	0.043	< LLD	-	-	None	0
	Co-60	0.017	< LLD	-	-	None	0
	Cs-134	0.019	< LLD	-	-	None	0
	Cs-137	0.019	0.055 (2/4)	K-1d, Cond. Discharge 0.10 mi. E	0.055 (2/4)	None	0
Fish (Bones) (pCi/gwet)	GB 4	1.99	1.71 (4/4) (0.87-2.66)	K-1d, Cond. Discharge 0.10 mi. E	1.71 (4/4) (0.87-2.66)	None	0
	Sr-89 4	0.24	< LLD	-	-	None	0
	Sr-90 4	0.052	0.13 (4/4) (0.070-0.25)	K-1d, Cond. Discharge 0.10 mi. E	0.13 (4/4) (0.070-0.25)	None	0 0

Environmental Radiation Monitoring Program Summary.

Name of Facility: Kewaunee Nuclear Power Plant — Docket No. 50-305
Location of Facility: Kewaunee County, Wisconsin (County, State) — Reporting Period: January-December, 2008

Sample Type (Units)	Type and Number of Analyses[a]	LLD[b]	Indicator Locations Mean (F)[c] Range[c]	Location with Highest Annual Mean: Location[d]	Location with Highest Annual Mean: Mean (F)[c] Range[c]	Control Locations Mean (F)[c] Range[c]	Number Non-Routine Results[e]
Periphyton (Slime)	GB 14	0.1	5.61 (12/12) (2.28-7.97)	K-14, Two Creeks Park 2.5 mi. S	7.12 (2/2) (6.26-7.97)	5.43 (2/2) (5.39-5.46)	0
(pCi/gwet)	Sr-89 14	0.10	< LLD	-	-	< LLD	0
	Sr-90 14	0.034	0.069 (2/12) (0.042-0.096)	K-1d, Cond. Discharge 0.10 mi. E	0.096 (1/2)	< LLD	0
	GS 14						
	Be-7	0.11	0.71 (10/12) (0.36-1.24)	K-14, Two Creeks Park 2.5 mi. S	1.10 (2/2) (0.95-1.24)	< LLD	0
	K-40	0.5	3.34 (12/12) (1.56-5.06)	K-1a, North Creek 0.62 mi. N	4.56 (2/2) (4.47-4.65)	3.55 (2/2) (3.33-3.77)	0
	Mn-54	0.014	< LLD	-	-	< LLD	0
	Co-58	0.012	0.022 (1/12)	K-14, Two Creeks Park	0.022 (1/2)	< LLD	0
	Co-60	0.017	< LLD	-	-	< LLD	0
	Nb-95	0.018	< LLD	-	-	< LLD	0
	Zr-95	0.033	< LLD	-	-	< LLD	0
	Ru-103	0.015	< LLD	-	-	< LLD	0
	Ru-106	0.13	< LLD	-	-	< LLD	0
	Cs-134	0.011	< LLD	-	-	< LLD	0
	Cs-137	0.016	0.023 (4/12) (0.017-0.032)	K-1d, Cond. Discharge 0.10 mi. E	0.032 (1/2)	< LLD	0
	Ce-141	0.029	< LLD	-	-	< LLD	0
	Ce-144	0.11	< LLD	-	-	< LLD	0
Bottom Sediments	GB 10	1.0	10.41 (8/8) (9.17-14.06)	K-9, Rostok Intake 11.5 mi. NNE	30.48 (2/2) (30.35-30.60)	30.48 (2/2) (30.35-30.60)	0
(pCi/gdry)	Sr-89 10	0.12	< LLD	-	-	< LLD	0
	Sr-90 10	0.047	< LLD	K-9, Rostok Intake 11.5 mi. NNE	0.096 (1/2) -	0.096 (1/2) -	0
	GS 10						
	K-40	0.5	7.29 (8/8) (6.22-9.96)	K-14, Two Creeks Park 2.5 mi. S	9.38 (2/2) (8.79-9.96)	8.34 (2/2) (7.43-9.24)	0
	Co-58	0.033	< LLD	-	-	< LLD	0
	Co-60	0.033	< LLD	-	-	< LLD	0
	Cs-134	0.029	< LLD	-	-	< LLD	0
	Cs-137	0.023	0.029 (2/8) (0.028-0.029)	K-9, Rostok Intake 11.5 mi. NNE	0.084 (2/2) (0.074-0.094)	0.084 (2/2) (0.074-0.094)	0

[a] GA = gross alpha, GB = gross beta, GS = gamma spectroscopy, SS = suspended solids, DS = dissolved solids, TR = total residue.
[b] LLD = nominal lower limit of detection based on a 4.66 sigma counting error for background sample.
[c] Mean and range are based on detectable measurements only (i.e., >LLD) Fraction of detectable measurements at specified locations is indicated in parentheses (F).
[d] Locations are specified by station code (Table 4.1) and distance (miles) and direction relative to reactor site.
[e] Non-routine results are those which exceed ten times the control station value. If no control station value is available, the result is considered non-routine if it exceeds ten times the preoperational value for the location.

Table 4.6 Land Use Census

The following table lists an inventory of residence, gardens ≥ 500 ft^2 and milk animals found nearest to the plant in each of the 10 meteorological sectors within a five mile radius of the Kewaunee Power Station.

Sector	Township No.	Residence	Garden	Milk Animals	Distance From Plant (miles)	Location ID
A	12			X	3.23	
A	13		X		3.05	
A	24	X			1.81	
B	18			X	2.69	K-34
B	24	X			1.26	
B	24		X		1.47	K-19
R	23			X	2.21	
R	23		X		1.84	
R	26	X			1.05	K-11
Q	23	X	X		1.37	
Q	23			X	1.47	K-27
P	**22** [a]			**X**	**3.69** [a]	
P	26	X			1.42	
P	26		X		1.52	
N	26		X		1.16	
N	34			X	2.53	
N	35	X			1.05	
M	34		X		1.58	
M	**3** [a]			**X**	**2.55** [a]	
M	35	X			1.42	
L	35	X			1.05	
L	35		X	X	1.30	
K	15			X	3.43	
K	35	X	X		0.96	
J	11	X	X	(Note 1)	2.68	

Note 1. There were no milk animals located in Sector J within five miles of the Kewaunee Power Station.

[a] denotes a change from 2007 census data.

Land Use Census (continued)

The following is a sector by sector listing of those changes between the 2007 and 2008 census.

Sector A	No changes	
Sector B	No changes	
Sector R	Township 9.	B. Erichsen, no milking cows on site. Only beef cattle were observed.
Sector Q	Township 15.	J. Swagel, No milking cows observed.
Sector Q	Township 16.	C. Pekarak, No milking cows observed.
Sector Q	Township 22.	G. Kunesh, No milking cows observed.
Sector P	Township 22.	T. Schleis, Milk cows were observed. This location is now the nearest milk animal in this sector .
Sector N	Township 29.	New owner, Mr. Siebold.
Sector M	Township 4.	N. Michalski, Cows sold, No milking cows observed.
Sector M	Township 33	New owner, C. Wotachek.
Sector M	Township 34.	J. Wotachek, (K-25) Cows sold, No milking cows observed.
Sector K	Township 21.	M. Eslinger, Cows sold, No milking cows observed.
Sector K	Township 23.	S. Jaeger, Cows sold, No milking cows observed.
Sector J	No changes.	

5.0 REFERENCES

Arnold. J. R. and H. A. Al-Salih. 1955. Beryllium-7 Produced by Cosmic Rays. Science 121: 451-453.

Eisenbud, M. 1963. Environmental Radioactivity, McGraw-Hill, New York, New York, pp. 213, 275, and 276.

Gold, S., H. W. Barkhau, B. Shlein, and B. Kahn, 1964 Measurement of Naturally Occurring Radionuclides in Air, in the Natural Radiation Environment, University of Chicago Press, Chicago, Illinois, 369-382.

Environmental, Inc., Midwest Laboratory. 2009. Annual Report. Radiological Monitoring Program for the Kewaunee Power Station, Kewaunee, Wisconsin, Final Report, Part II, Data Tabulations and Analysis, January - December 2000 – 2008.

_____ 2003. Quality Assurance Program Manual, Rev. 1, 01 October 2003.

_____ 2000. Quality Control Procedures Manual, Rev. 0, 17 September 2005.

_____ 2003. Quality Control Program, Rev. 1, 21 August 2003.

Hazelton Environmental Sciences, 1979 through 1983. Annual Reports. Radiological Monitoring for the Kewaunee Power Station, Kewaunee, Wisconsin, Final Report - Part II, Data Tabulations and Analysis, January - December, 1978 through 1982.

Industrial BIO-TEST Laboratories, Inc. 1974. Annual Report. Pre-operational Radiological Monitoring Program for the Kewaunee Power Station. Kewaunee, Wisconsin. January - December 1973.

Industrial BIO-TEST Laboratories, Inc. 1975 Semi-annual Report. Radiological Monitoring Program for the Kewaunee Power Station, Kewaunee, Wisconsin. Jan. - June, 1975.

NALCO Environmental Sciences. 1977, 1978. Annual Report. Radiological Monitoring Program for the Kewaunee Power Station, Kewaunee, Wisconsin, Final Report - Part II, Data Tabulations and Analysis, January - December 1976, 1977.

National Center for Radiological Health. 1968. Section 1. Milk Surveillance. Radiological Health Data Rep., December 9: 730-746.

National Council on Radiation Protection and Measurements. 1975. Natural Radiation Background in the United States. NCRP Report No. 45.

Solon, L. R., W. M. Lowder, A. Shambron, and H. Blatz. 1960. Investigations of Natural Environmental Radiation. Science. 131: 903-906.

Teledyne Brown Engineering, Environmental Services, Midwest Laboratory. 1984 through 2000. Annual Reports. Radiological Monitoring Program for the Kewaunee Power Station, Kewaunee, Wisconsin, Final Report, Part II, Data Tabulations and Analysis, January - December 1983 through January - December 1999.

U.S. Environmental Protection Agency, 2007. RadNet, formerly Environmental Radiation Ambient Monitoring System, Gross Beta in Air (WI) 1981 – 2000.

Wilson, D.W., G. M. Ward, and J. E. Johnson, 1969. Environmental Contamination by Radioactive Materials. International Atomic Energy Agency, p. 125

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APPENDIX A

INTERLABORATORY COMPARISON PROGRAM RESULTS

NOTE: Environmental Inc., Midwest Laboratory participates in intercomparison studies administered by Environmental Resources Associates, and serves as a replacement for studies conducted previously by the U.S. EPA Environmental Monitoring Systems Laboratory, Las Vegas, Nevada. Results are reported in Appendix A. TLD Intercomparison results, in-house spikes, blanks, duplicates and mixed analyte performance evaluation program results are also reported. Appendix A is updated four times a year; the complete Appendix is included in March, June, September and December monthly progress reports only.

January, 2008 through December, 2008

Appendix A

Interlaboratory Comparison Program Results

Environmental, Inc., Midwest Laboratory has participated in interlaboratory comparison (crosscheck) programs since the formulation of it's quality control program in December 1971. These programs are operated by agencies which supply environmental type samples containing concentrations of radionuclides known to the issuing agency but not to participant laboratories. The purpose of such a program is to provide an independent check on a laboratory's analytical procedures and to alert it of any possible problems.

Participant laboratories measure the concentration of specified radionuclides and report them to the issuing agency. Several months later, the agency reports the known values to the participant laboratories and specifies control limits. Results consistently higher or lower than the known values or outside the control limits indicate a need to check the instruments or procedures used.

Results in Table A-1 were obtained through participation in the environmental sample crosscheck program administered by Environmental Resources Associates, serving as a replacement for studies conducted previously by the U.S. EPA Environmental Monitoring Systems Laboratory, Las Vegas, Nevada.

The results in Table A-2 list results for thermoluminescent dosimeters (TLDs), via International Intercomparison of Environmental Dosimeters, when available, and internal laboratory testing.

Table A-3 lists results of the analyses on in-house "spiked" samples for the past twelve months. All samples are prepared using NIST traceable sources. Data for previous years available upon request.

Table A-4 lists results of the analyses on in-house "blank" samples for the past twelve months. Data for previous years available upon request.

Table A-5 lists REMP specific analytical results from the in-house "duplicate" program for the past twelve months. Acceptance is based on the difference of the results being less than the sum of the errors. Complete analytical data for duplicate analyses is available upon request.

The results in Table A-6 were obtained through participation in the Mixed Analyte Performance Evaluation Program.

Results in Table A-7 were obtained through participation in the environmental sample crosscheck program administered by Environmental Resources Associates, serving as a replacement for studies conducted previously by the Environmental Measurement Laboratory Quality Assessment Program (EML).

Attachment A lists the laboratory precision at the 1 sigma level for various analyses. The acceptance criteria in Table A-3 is set at ± 2 sigma.

Out-of-limit results are explained directly below the result.

Attachment A

ACCEPTANCE CRITERIA FOR "SPIKED" SAMPLES

LABORATORY PRECISION: ONE STANDARD DEVIATION VALUES FOR VARIOUS ANALYSES[a]

Analysis	Level	One standard deviation for single determination
Gamma Emitters	5 to 100 pCi/liter or kg > 100 pCi/liter or kg	5.0 pCi/liter 5% of known value
Strontium-89[b]	5 to 50 pCi/liter or kg > 50 pCi/liter or kg	5.0 pCi/liter 10% of known value
Strontium-90[b]	2 to 30 pCi/liter or kg > 30 pCi/liter or kg	5.0 pCi/liter 10% of known value
Potassium-40	≥ 0.1 g/liter or kg	5% of known value
Gross alpha	≤ 20 pCi/liter > 20 pCi/liter	5.0 pCi/liter 25% of known value
Gross beta	≤ 100 pCi/liter > 100 pCi/liter	5.0 pCi/liter 5% of known value
Tritium	≤ 4,000 pCi/liter > 4,000 pCi/liter	$\pm 1\sigma = 169.85 \times (\text{known})^{0.0933}$ 10% of known value
Radium-226,-228	≥ 0.1 pCi/liter	15% of known value
Plutonium	≥ 0.1 pCi/liter, gram, or sample	10% of known value
Iodine-131, Iodine-129[b]	≤ 55 pCi/liter > 55 pCi/liter	6 pCi/liter 10% of known value
Uranium-238, Nickel-63[b] Technetium-99[b]	≤ 35 pCi/liter > 35 pCi/liter	6 pCi/liter 15% of known value
Iron-55[b]	50 to 100 pCi/liter > 100 pCi/liter	10 pCi/liter 10% of known value
Other Analyses [b]	---	20% of known value

[a] From EPA publication, "Environmental Radioactivity Laboratory Intercomparison Studies Program, Fiscal Year, 1981-1982, EPA-600/4-81-004.

[b] Laboratory limit.

TABLE A-1. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA)[a].

Lab Code	Date	Concentration (pCi/L)				
		Analysis	Laboratory Result[b]	ERA Result[c]	Control Limits	Acceptance
STW-1148	03/24/08	Sr-89	50.6 ± 2.4	60.4	48.6 - 68.2	Pass
STW-1148	03/24/08	Sr-90	42.4 ± 1.4	39.2	28.8 - 45.1	Pass
STW-1149	03/24/08	Ba-133	56.9 ± 5.4	58.3	48.3 - 64.3	Pass
STW-1149	03/24/08	Co-60	73.9 ± 1.6	76.6	68.9 - 86.7	Pass
STW-1149	03/24/08	Cs-134	50.2 ± 1.9	46.6	37.4 - 51.3	Pass
STW-1149	03/24/08	Cs-137	97.7 ± 2.2	102.0	91.8 - 115.0	Pass
STW-1149	03/24/08	Zn-65	109.9 ± 5.8	106.0	95.4 - 126.0	Pass
STW-1150	03/24/08	Gr. Alpha	43.7 ± 7.5	50.8	26.5 - 63.7	Pass
STW-1150	03/24/08	Gr. Beta	36.4 ± 1.8	51.4	35.0 - 58.4	Pass
STW-1151	03/24/08	I-131	29.3 ± 1.4	28.7	23.9 - 33.6	Pass
STW-1152	03/24/08	Ra-226	15.0 ± 1.1	15.3	11.4 - 17.6	Pass
STW-1152	03/24/08	Ra-228	18.4 ± 1.8	17.0	11.4 - 20.4	Pass
STW-1152	03/24/08	Uranium	23.4 ± 1.3	24.6	19.8 - 27.6	Pass
STW-1153	03/24/08	H-3	12551.0 ± 207.0	12000.0	10400.0 - 13200.0	Pass
STW-1154	07/07/08	Sr-89	24.9 ± 3.5	28.7	20.4 - 35.3	Pass
STW-1154	07/07/08	Sr-90	39.7 ± 0.5	40.0	29.4 - 46.0	Pass
STW-1155	07/07/08	Ba-133	45.0 ± 1.2	46.6	38.1 - 51.8	Pass
STW-1155	07/07/08	Co-60	24.9 ± 3.0	25.7	22.3 - 31.0	Pass
STW-1155	07/07/08	Cs-134	90.4 ± 5.3	93.2	76.6 - 102.0	Pass
STW-1155	07/07/08	Cs-137	57.1 ± 2.8	54.6	49.1 - 62.9	Pass
STW-1155	07/07/08	Zn-65	102.9 ± 7.3	98.8	88.9 - 118.0	Pass
STW-1156	07/07/08	Gr. Alpha	24.8 ± 1.6	30.7	15.7 - 40.0	Pass
STW-1156	07/07/08	Gr. Beta	23.9 ± 0.9	25.8	16.1 - 33.7	Pass
STW-1157	07/07/08	Ra-226	8.0 ± 0.6	8.1	6.1 - 9.5	Pass
STW-1157	07/07/08	Ra-228	7.7 ± 0.8	7.4	4.7 - 9.5	Pass
STW-1157	07/07/08	Uranium	11.2 ± 0.3	11.3	8.9 - 13.0	Pass
STW-1164	10/06/08	Sr-89	42.2 ± 3.2	48.7	38.2 - 56.1	Pass
STW-1164	10/06/08	Sr-90	35.4 ± 1.2	33.6	24.6 - 38.8	Pass
STW-1165	10/06/08	Ba-133	56.9 ± 1.0	63.5	52.8 - 69.9	Pass
STW-1165	10/06/08	Co-60	47.6 ± 1.3	49.1	44.2 - 56.6	Pass
STW-1165	10/06/08	Cs-134	26.4 ± 4.0	25.6	19.7 - 28.4	Pass
STW-1165	10/06/08	Cs-137	24.3 ± 0.7	25.6	21.6 - 31.2	Pass
STW-1165	10/06/08	Zn-65	72.0 ± 2.9	68.6	61.2 - 83.0	Pass
STW-1166	10/06/08	Gr. Alpha	24.2 ± 4.8	26.9	13.6 - 35.5	Pass
STW-1166	10/06/08	Gr. Beta	32.6 ± 1.0	38.0	25.1 - 45.5	Pass
STW-1167	10/06/08	I-131	29.0 ± 0.3	28.1	23.4 - 33.0	Pass
STW-1168	10/06/08	Ra-226	15.0 ± 1.0	16.1	12.0 - 18.4	Pass
STW-1168	10/06/08	Ra-228	16.0 ± 1.0	14.1	9.4 - 17.1	Pass
STW-1168	10/06/08	Uranium	47.8 ± 2.0	50.3	40.8 - 55.9	Pass
STW-1169	10/06/08	H-3	2357.0 ± 66.0	2220.0	1830.0 - 2460.0	Pass

[a] Results obtained by Environmental, Inc., Midwest Laboratory as a participant in the crosscheck program for proficiency testing in drinking water conducted by Environmental Resources Associates (ERA).

[b] Unless otherwise indicated, the laboratory result is given as the mean ± standard deviation for three determinations.

[c] Results are presented as the known values, expected laboratory precision (1 sigma, 1 determination) and control limits as provided by ERA.

TABLE A-2. Crosscheck program results; Thermoluminescent Dosimetry, (TLD, $CaSO_4$: Dy Cards).

Lab Code	Date	Description	Known Value (mR)	Lab Result ± 2 sigma (mR)	Control Limits (mR)	Acceptance
Environmental, Inc.						
2008-1	6/16/2008	40 cm.	30.23	33.87 ± 1.17	21.16 - 39.30	Pass
2008-1	6/16/2008	50 cm.	19.35	23.13 ± 0.57	13.55 - 25.16	Pass
2008-1	6/16/2008	60 cm.	13.44	16.25 ± 1.10	9.41 - 17.47	Pass
2008-1	6/16/2008	70 cm.	9.87	10.39 ± 0.52	6.91 - 12.83	Pass
2008-1	6/16/2008	80 cm.	7.56	7.44 ± 0.51	5.29 - 9.83	Pass
2008-1	6/16/2008	90 cm.	5.97	5.80 ± 1.04	4.18 - 7.76	Pass
2008-1	6/16/2008	100 cm.	4.84	4.32 ± 0.43	3.39 - 6.29	Pass
2008-1	6/16/2008	120 cm.	3.36	2.69 ± 0.15	2.35 - 4.37	Pass
2008-1	6/16/2008	150 cm.	2.15	2.05 ± 0.69	1.51 - 2.80	Pass
2008-1	6/16/2008	180 cm.	1.49	1.23 ± 0.80	1.04 - 1.94	Pass
Environmental, Inc.						
2008-2	11/17/2008	30 cm.	63.05	73.10 ± 1.84	44.14 - 81.97	Pass
2008-2	11/17/2008	40 cm.	35.46	40.80 ± 2.30	24.82 - 46.10	Pass
2008-2	11/17/2008	50 cm.	22.7	24.10 ± 0.58	15.89 - 29.51	Pass
2008-2	11/17/2008	60 cm.	15.76	15.98 ± 0.55	11.03 - 20.49	Pass
2008-2	11/17/2008	60 cm.	15.76	19.49 ± 0.93	11.03 - 20.49	Pass
2008-2	11/17/2008	70 cm.	11.58	11.97 ± 0.54	8.11 - 15.05	Pass
2008-2	11/17/2008	75 cm.	10.09	9.45 ± 0.28	7.06 - 13.12	Pass
2008-2	11/17/2008	80 cm.	8.87	9.30 ± 0.18	6.21 - 11.53	Pass
2008-2	11/17/2008	90 cm.	7.01	7.19 ± 0.43	4.91 - 9.11	Pass
2008-2	11/17/2008	90 cm.	7.01	6.84 ± 0.42	4.91 - 9.11	Pass
2008-2	11/17/2008	100 cm.	5.67	5.47 ± 0.19	3.97 - 7.37	Pass
2008-2	11/17/2008	110 cm.	4.69	3.98 ± 0.27	3.28 - 6.10	Pass
2008-2	11/17/2008	120 cm.	3.94	3.09 ± 0.21	2.76 - 5.12	Pass
2008-2	11/17/2008	120 cm.	3.94	3.12 ± 0.34	2.76 - 5.12	Pass
2008-2	11/17/2008	150 cm.	2.52	2.55 ± 0.12	1.76 - 3.28	Pass
2008-2	11/17/2008	150 cm.	2.52	2.24 ± 0.08	1.76 - 3.28	Pass
2008-2	11/17/2008	180 cm.	1.75	1.36 ± 0.08	1.23 - 2.28	Pass

TABLE A-3. In-House "Spike" Samples

Lab Code [b]	Date	Concentration (pCi/L)[a] Analysis	Laboratory results 2s, n=1 [c]	Known Activity	Control Limits [d]	Acceptance
SPW-111	1/14/2008	Tc-99	32.20 ± 0.85	32.34	20.34 - 44.34	Pass
SPW-298	1/31/2008	Ni-63	213.55 ± 3.07	212.58	148.81 - 276.35	Pass
W-11708	1/17/2008	Ra-226	11.34 ± 0.43	12.69	8.88 - 16.50	Pass
SPW-711	2/25/2008	U-238	33.56 ± 1.74	41.70	29.19 - 54.21	Pass
SPAP-881	3/11/2008	Cs-134	19.29 ± 1.53	20.09	10.09 - 30.09	Pass
SPAP-881	3/11/2008	Cs-137	114.04 ± 3.03	113.90	102.51 - 125.29	Pass
SPAP-883	3/11/2008	Gr. Beta [e]	54.56 ± 0.12	51.64	30.98 - 72.30	Pass
SPMI-885	3/11/2008	Sr-90	45.93 ± 1.60	45.13	36.10 - 54.16	Pass
SPW-887	3/11/2008	Sr-90	38.82 ± 1.60	45.13	36.10 - 54.16	Pass
SPW-889	3/11/2008	H-3	67325.00 ± 725.00	67384.00	53907.20 - 80860.80	Pass
W-31808	3/18/2008	Gr. Alpha	19.51 ± 0.40	20.08	10.04 - 30.12	Pass
W-31808	3/18/2008	Gr. Beta	47.20 ± 0.42	45.67	35.67 - 55.67	Pass
SPMI-885	3/24/2008	Cs-134	40.93 ± 1.55	39.69	29.69 - 49.69	Pass
SPMI-885	3/24/2008	Cs-137	61.36 ± 2.82	56.91	46.91 - 66.91	Pass
SPW-887	3/24/2008	Cs-134	40.68 ± 1.44	39.69	29.69 - 49.69	Pass
SPW-887	3/24/2008	Cs-137	58.52 ± 2.93	56.91	46.91 - 66.91	Pass
SPW-1282	4/2/2008	U-238	41.30 ± 1.78	41.70	29.19 - 54.21	Pass
W-40308	4/3/2008	Ra-226	15.17 ± 0.50	12.69	8.88 - 16.50	Pass
SPW-5580	4/7/2008	H-3	211.02 ± 7.71	240.00	0.00 - 806.46	Pass
SPW-1562	4/8/2008	Ra-228	28.93 ± 2.09	30.51	21.36 - 39.66	Pass
SPW-1560	4/10/2008	Tc-99	29.74 ± 0.84	32.34	20.34 - 44.34	Pass
SPW-1621	4/16/2008	Fe-55	27205.80 ± 982.90	28370.00	22696.00 - 34044.00	Pass
W-51508	5/15/2008	Gr. Alpha	24.01 ± 0.41	20.08	10.04 - 30.12	Pass
W-51508	5/15/2008	Gr. Beta	47.97 ± 0.41	45.68	35.68 - 55.68	Pass
SPAP-2673	6/2/2008	Cs-134	17.39 ± 1.32	18.60	8.60 - 28.60	Pass
SPAP-2673	6/2/2008	Cs-137	106.82 ± 3.42	113.30	101.97 - 124.63	Pass
SPAP-2674	6/2/2008	Gr. Beta [e]	53.57 ± 0.13	51.40	30.84 - 71.96	Pass
SPF-2745	6/2/2008	Cs-134	0.34 ± 0.02	0.37	0.22 - 0.52	Pass
SPF-2745	6/2/2008	Cs-137	2.06 ± 0.04	2.27	1.36 - 3.18	Pass
SPMI-2677	6/3/2008	Cs-137	53.99 ± 6.15	56.66	46.66 - 66.66	Pass
SPMI-2677A	6/3/2008	I-131	26.64 ± 0.59	28.58	16.58 - 40.58	Pass
SPW-2677	6/3/2008	Cs-134	40.30 ± 3.35	37.21	27.21 - 47.21	Pass
SPW-2677	6/3/2008	I-131(G)	25.92 ± 4.48	28.58	18.58 - 38.58	Pass
SPMI-2679	6/3/2008	Cs-134	35.02 ± 2.93	37.21	27.21 - 47.21	Pass
SPMI-2679	6/3/2008	Cs-137	58.49 ± 6.05	56.66	46.66 - 66.66	Pass
SPMI-2679	6/3/2008	I-131(G)	25.30 ± 4.97	28.58	18.58 - 38.58	Pass
SPMI-2679A	6/3/2008	I-131	30.37 ± 0.50	28.58	16.58 - 40.58	Pass
SPVE-2681	6/3/2008	I-131(G)	1.11 ± 0.06	0.95	0.57 - 1.33	Pass
SPW-2683	6/2/2008	Ni-63	2151.70 ± 10.22	2119.30	1483.51 - 2755.09	Pass
SPW-2685	6/2/2008	H-3	64927.20 ± 704.80	66540.80	53232.64 - 79848.96	Pass
SPW-2689	6/2/2008	C-14	4405.40 ± 15.21	4742.00	2845.20 - 6638.80	Pass

TABLE A-3. In-House "Spike" Samples

Lab Code [b]	Date	Concentration (pCi/L)[a] Analysis	Laboratory results 2s, n=1	Known Activity	Control Limits[c]	Acceptance
W-81408	8/14/2008	Ra-226	12.98 ± 0.35	12.69	8.88 - 16.50	Pass
SPW-1562	8/14/2008	Ra-228	29.09 ± 2.46	30.51	21.36 - 39.66	Pass
SPW-81808	8/18/2008	U-238	42.59 ± 1.96	41.70	29.19 - 54.21	Pass
W-81808	8/18/2008	Gr. Alpha	21.36 ± 0.42	20.08	10.04 - 30.12	Pass
W-81808	8/18/2008	Gr. Beta	49.33 ± 1.01	45.68	35.68 - 55.68	Pass
W-112008	11/20/2008	Gr. Alpha	20.13 ± 0.40	20.08	10.04 - 30.12	Pass
W-112008	11/20/2008	Gr. Beta	48.28 ± 0.42	45.60	35.60 - 55.60	Pass
SPAP-6839	12/5/2008	Cs-134	15.39 ± 2.72	15.68	5.68 - 25.68	Pass
SPAP-6839	12/5/2008	Cs-137	111.45 ± 9.85	112.00	100.80 - 123.20	Pass
SPAP-6841	12/5/2008	Gr. Beta [e]	49.26 ± 0.12	50.72	30.43 - 71.01	Pass
SPW-6843	12/5/2008	C-14	19377.50 ± 55.27	23708.00	14224.80 - 33191.20	Pass
SPW-6845	12/5/2008	Fe-55	7068.30 ± 692.30	6028.00	4822.40 - 7233.60	Pass
SPW-6847	12/5/2008	Tc-99	37.71 ± 1.33	32.34	20.34 - 44.34	Pass
SPW-6849	12/5/2008	Ni-63	232.56 ± 3.26	211.34	147.94 - 274.74	Pass
SPW-6851	12/5/2008	H-3	63664.00 ± 8745.00	64674.00	51739.20 - 77608.80	Pass
SPF-6859	12/5/2008	Cs-134	0.63 ± 0.02	0.63	0.38 - 0.88	Pass
SPF-6859	12/5/2008	Cs-137	2.35 ± 0.01	2.24	1.34 - 3.14	Pass
SPW-7059	12/19/2008	Sr-90	49.19 ± 2.62	44.33	35.46 - 53.20	Pass
SPMI-7061	12/19/2008	Sr-90	39.39 ± 2.19	44.33	35.46 - 53.20	Pass

[a] Liquid sample results are reported in pCi/Liter, air filters(pCi/filter), charcoal (pCi/m^3), and solid samples (pCi/g).

[b] Laboratory codes as follows: W (water), MI (milk), AP (air filter), SO (soil), VE (vegetation), CH (charcoal canister), F (fish).

[c] Results are based on single determinations.

[d] Control limits are established from the precision values listed in Attachment A of this report, adjusted to ± 2σ.

[e] Control limits based on the laboratory limit, Attachment A ("Other Analyses").

NOTE: For fish, Jello is used for the Spike matrix. For Vegetation, cabbage is used for the Spike matrix.

TABLE A-4. In-House "Blank" Samples

Lab Code	Sample Type	Date	Analysis[b]	Concentration (pCi/L)[a]		
				Laboratory results (4.66σ)		Acceptance
				LLD	Activity[c]	Criteria (4.66 σ)
SPW-17	Water	1/3/2008	U-238	0.09	0.01 ± 0.07	1
SPW-112	Water	1/14/2008	Tc-99	4.70	-0.06 ± 2.85	10
W-11408	Water	1/14/2008	Ra-226	0.05	0.05 ± 0.04	1
SPAP-880	Air Filter	3/11/2008	Cs-134	0.91	-	100
SPAP-880	Air Filter	3/11/2008	Cs-137	1.13	-	100
SPW-888	Water	3/11/2008	H-3	159.99	-78.90 ± 80.40	200
W-31808	Water	3/18/2008	Gr. Alpha	0.42	-0.05 ± 0.29	1
W-31808	Water	3/18/2008	Gr. Beta	0.72	0.09 ± 0.51	3.2
SPMI-884	Milk	3/24/2008	Cs-134	2.79	-	10
SPMI-884	Milk	3/24/2008	Cs-137	3.36	-	10
W-40308	Water	4/3/2008	Ra-226	0.04	0.05 ± 0.03	1
SPW-1563	Water	4/8/2008	Ra-228	0.57	0.31 ± 0.30	2
SPW-1561	Water	4/10/2008	Tc-99	4.77	-3.42 ± 2.85	10
SPW-1621	Water	4/16/2008	Fe-55	668.50	-170.70 ± 397.20	1000
SPW-2451	Water	5/22/2008	U-238	0.21	0.35 ± 0.24	1
SPW-2676	Water	6/2/2008	Cs-134	2.03	-	10
SPW-2676	Water	6/2/2008	Cs-134	3.60	-	10
SPW-2676	Water	6/2/2008	Cs-137	2.38	-	10
SPW-2677	Water	6/2/2008	Cs-134	2.78	-	10
SPW-2677	Water	6/2/2008	I-131(G)	3.49	-	20
SPW-2677	Water	6/2/2008	I-131(G)	5.25	-	20
SPF-2744	Fish	6/2/2008	Cs-134	5.48	-	100
SPF-2744	Fish	6/2/2008	Cs-137	4.83	-	100
SPW-2676	Water	6/3/2008	I-131	0.18	0.01 ± 0.11	0.5
SPMI-2678	Milk	6/3/2008	I-131	0.22	0.12 ± 0.15	0.5
SPVE-2680	Vegetation	6/3/2008	I-131(G)	0.01	-	20
SPW-3581	Water	7/14/2008	U-238	0.10	0.13 ± 0.12	1
W-80708	Water	8/7/2008	Gr. Alpha	0.63	-0.02 ± 0.44	1
W-80708	Water	8/7/2008	Gr. Beta	1.43	-0.47 ± 0.99	3.2
W-81408	Water	8/14/2008	Ra-226	0.06	0.14 ± 0.04	1
SPW-1563	Water	8/14/2008	Ra-228	0.79	0.89 ± 0.47	2
SPW-81808	Water	8/18/2008	U-238	0.18	0.04 ± 0.13	1

TABLE A-4. In-House "Blank" Samples

Lab Code	Sample Type	Date	Analysis[b]	Concentration (pCi/L)[a]		
				Laboratory results (4.66σ)		Acceptance
				LLD	Activity[c]	Criteria (4.66 σ)
W-112008	Water	11/20/2008	Gr. Alpha	0.40	0.02 ± 0.28	1
W-112008	Water	11/20/2008	Gr. Beta	0.75	-0.16 ± 0.52	3.2
SPAP-6838	Air Filter	12/5/2008	Cs-134	1.01	-	100
SPAP-6838	Air Filter	12/5/2008	Cs-137	0.95	-	100
SPAP-6840	Air Filter	12/5/2008	Gr. Beta	0.96	2.69 ± 0.64	3.2
SPW-6842	Water	12/5/2008	C-14	7.79	-3.04 ± 4.05	200
SPW-6844	Water	12/5/2008	Fe-55	715.10	21.70 ± 435.10	1000
SPW-6846	Water	12/5/2008	Tc-99	1.36	-0.47 ± 0.82	10
SPW-6848	Water	12/5/2008	Ni-63	1.94	3.08 ± 1.23	20
SPF-6858	Fish	12/5/2008	Cs-134	1.53	-	100
SPF-6858	Fish	12/5/2008	Cs-137	3.92	-	100
SPW-7058	Water	12/19/2008	Cs-134	2.62	-	10
SPW-7058	Water	12/19/2008	Cs-137	2.39	-	10
SPW-7058	Water	12/19/2008	Sr-90	0.65	-0.28 ± 0.26	1
SPMI-7060	Milk	12/19/2008	Cs-134	2.18	-	10
SPMI-7060	Milk	12/19/2008	Cs-137	3.87	-	10
SPMI-7060	Milk	12/19/2008	I-131(G)	2.80	-	20
SPMI-7060 [d]	Milk	12/19/2008	Sr-90	0.53	0.76 ± 0.34	1

[a] Liquid sample results are reported in pCi/Liter, air filters(pCi/filter), charcoal (pCi/charcoal canister), and solid samples (pCi/kg).

[b] I-131(G); iodine-131 as analyzed by gamma spectroscopy.

[c] Activity reported is a net activity result. For gamma spectroscopic analysis, activity detected below the LLD value is not reported.

[d] Low levels of Sr-90 are still detected in the environment. A concentration of (1-5 pCi/L) in milk is not unusual.

TABLE A-5. In-House "Duplicate" Samples

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
AP-8809, 8810	1/2/2008	Be-7	0.06 ± 0.02	0.06 ± 0.01	0.06 ± 0.01	Pass
CF-42, 43	1/2/2008	Gr. Beta	8.88 ± 0.19	8.99 ± 0.19	8.94 ± 0.13	Pass
CF-42, 43	1/2/2008	K-40	5.08 ± 0.29	5.19 ± 0.30	5.14 ± 0.21	Pass
DW-80020, 80021	1/7/2008	Gr. Alpha	2.28 ± 0.84	1.98 ± 0.86	2.13 ± 0.60	Pass
U-169, 170	1/10/2008	Beta-K40	7.50 ± 5.50	11.70 ± 5.10	9.60 ± 3.75	Pass
SO-8836, 8837	1/14/2008	Cs-137	0.80 ± 0.05	0.75 ± 0.05	0.77 ± 0.03	Pass
SO-8836, 8837	1/14/2008	Gr. Alpha	13.30 ± 4.31	15.58 ± 4.10	14.44 ± 2.98	Pass
SO-8836, 8837	1/14/2008	Gr. Alpha	33.68 ± 3.73	29.21 ± 3.10	31.45 ± 2.43	Pass
SO-8836, 8837	1/14/2008	K-40	12.31 ± 0.74	12.96 ± 0.73	12.64 ± 0.52	Pass
DW-80045, 80046	1/15/2008	Gr. Alpha	2.94 ± 1.13	3.41 ± 1.04	3.17 ± 0.77	Pass
DW-80045, 80046	1/15/2008	Gr. Beta	1.86 ± 0.66	1.36 ± 0.63	1.61 ± 0.45	Pass
MI-138, 139	1/15/2008	K-40	1262.40 ± 81.70	1396.20 ± 154.20	1329.30 ± 87.25	Pass
LW-190, 191	1/16/2008	Gr. Beta	2.85 ± 1.07	1.64 ± 1.02	2.24 ± 0.74	Pass
DW-8008, 8009	1/16/2008	Ra-226	2.77 ± 0.20	3.11 ± 0.22	2.94 ± 0.15	Pass
DW-8008, 8009	1/16/2008	Ra-228	3.95 ± 0.74	3.96 ± 0.77	3.96 ± 0.53	Pass
DW-80057, 80058	1/21/2008	Gr. Alpha	6.77 ± 0.66	7.91 ± 1.73	7.34 ± 0.92	Pass
DW-80057, 80058	1/21/2008	Gr. Beta	13.83 ± 0.97	14.78 ± 1.01	14.31 ± 0.70	Pass
SWU-479, 480	1/29/2008	Gr. Beta	4.49 ± 1.13	3.13 ± 1.14	3.81 ± 0.80	Pass
W-920, 921	2/4/2008	Gr. Beta	4.20 ± 1.30	3.30 ± 1.30	3.75 ± 0.92	Pass
SW-540, 541	2/12/2008	Gr. Alpha	2.75 ± 1.16	4.01 ± 1.18	3.38 ± 0.83	Pass
SW-540, 541	2/12/2008	Gr. Beta	6.46 ± 1.11	6.71 ± 1.03	6.59 ± 0.76	Pass
DW-80155, 80156	2/12/2008	Ra-226	2.55 ± 0.22	2.01 ± 0.16	2.28 ± 0.14	Fail
DW-80155, 80156	2/12/2008	Ra-228	1.86 ± 0.70	1.53 ± 0.67	1.70 ± 0.48	Pass
DW-80165, 80166	2/20/2008	Gr. Alpha	1.51 ± 0.90	0.80 ± 1.05	1.16 ± 0.69	Pass
DW-80166, 80167	2/20/2008	Ra-226	0.40 ± 0.09	0.46 ± 0.09	0.43 ± 0.06	Pass
DW-80166, 80167	2/20/2008	Ra-228	1.44 ± 0.52	1.42 ± 0.57	1.43 ± 0.39	Pass
DW-80166, 80167	2/20/2008	Uranium	0.69 ± 0.25	0.69 ± 0.26	0.69 ± 0.18	Pass
W-1413, 1414	3/3/2008	Gr. Beta	7.50 ± 3.00	3.70 ± 2.60	5.60 ± 1.98	Pass
DW-80189, 80190	3/11/2008	Ra-226	4.41 ± 0.30	4.09 ± 0.25	4.25 ± 0.20	Pass
DW-80189, 80190	3/11/2008	Ra-228	1.99 ± 0.65	2.17 ± 0.66	2.08 ± 0.46	Pass
MI-1006, 1007	3/12/2008	K-40	1451.90 ± 112.80	1409.50 ± 111.40	1430.70 ± 79.27	Pass
MI-1006, 1007	3/12/2008	Sr-90	0.48 ± 0.31	0.97 ± 0.38	0.72 ± 0.24	Pass
DW-80205, 80206	3/14/2008	Gr. Alpha	3.64 ± 0.80	3.39 ± 0.82	3.52 ± 0.57	Pass
DW-80202, 80203	3/14/2008	Ra-226	3.16 ± 0.21	3.00 ± 0.19	3.08 ± 0.14	Pass
DW-80202, 80203	3/14/2008	Ra-228	2.40 ± 1.00	2.07 ± 0.69	2.24 ± 0.61	Pass
DW-80208, 80209	3/14/2008	U-233/4	1.32 ± 0.25	1.29 ± 0.36	1.31 ± 0.22	Pass
SG-1080, 1081	3/18/2008	Pb-214	3.99 ± 0.30	4.15 ± 0.29	4.07 ± 0.21	Pass
SO-1195, 1196	3/18/2008	U-233/4	0.14 ± 0.02	0.14 ± 0.02	0.14 ± 0.01	Pass
SO-1195, 1196	3/18/2008	U-238	0.13 ± 0.02	0.13 ± 0.02	0.13 ± 0.01	Pass
WW-1242, 1243	3/24/2008	Gr. Beta	10.36 ± 1.63	9.06 ± 1.55	9.71 ± 1.13	Pass
AP-1519, 1520	4/2/2008	Be-7	0.07 ± 0.01	0.08 ± 0.01	0.08 ± 0.01	Pass
W-1565, 1566	4/2/2008	Gr. Alpha	0.82 ± 0.64	1.58 ± 0.72	1.20 ± 0.48	Pass
W-1565, 1566	4/2/2008	Gr. Beta	3.73 ± 0.86	5.51 ± 1.09	4.62 ± 0.69	Pass

TABLE A-5. In-House "Duplicate" Samples

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
DW-80255, 80256	4/8/2008	Ra-226	0.19 ± 0.08	0.28 ± 0.11	0.24 ± 0.07	Pass
DW-80255, 80256	4/8/2008	Ra-228	1.79 ± 0.57	1.32 ± 0.55	1.56 ± 0.40	Pass
DW-80259, 80260	4/8/2008	Gr. Alpha	3.39 ± 0.82	3.62 ± 0.82	3.51 ± 0.58	Pass
DW-80301, 80302	4/11/2008	Ra-226	0.47 ± 0.09	0.47 ± 0.09	0.47 ± 0.06	Pass
DW-80301, 80302	4/11/2008	Ra-228	1.02 ± 0.42	0.82 ± 0.45	0.92 ± 0.31	Pass
SO-1913, 1914	4/15/2008	K-40	12.79 ± 0.73	13.88 ± 0.85	13.34 ± 0.56	Pass
DW-80313, 80314	4/16/2008	Ra-226	3.39 ± 0.22	3.28 ± 0.21	3.34 ± 0.15	Pass
DW-80313, 80314	4/16/2008	Ra-228	4.27 ± 0.72	5.14 ± 0.77	4.71 ± 0.53	Pass
SWU-2087, 2088	4/29/2008	Gr. Beta	2.20 ± 0.60	3.50 ± 0.90	2.85 ± 0.54	Pass
LW-2297, 2298	4/30/2008	Gr. Beta	1.41 ± 0.43	1.02 ± 0.40	1.22 ± 0.30	Pass
LW-2321, 2322	4/30/2008	Gr. Beta	1.33 ± 0.54	1.23 ± 0.54	1.28 ± 0.38	Pass
BS-2063, 2064	5/1/2008	Gr. Beta	13.71 ± 2.06	17.60 ± 2.49	15.66 ± 1.62	Pass
SG-2229, 2230	5/5/2008	Ac-228	26.25 ± 2.70	24.90 ± 2.55	25.58 ± 1.86	Pass
W-2792, 2793	5/5/2008	Gr. Beta	7.20 ± 2.30	7.00 ± 2.50	7.10 ± 1.70	Pass
SG-2229, 2230	5/5/2008	Pb-214	23.28 ± 0.30	23.54 ± 0.33	23.41 ± 0.22	Pass
F-2850, 2851	5/7/2008	Cs-137	3.37 ± 0.21	3.16 ± 0.19	3.27 ± 0.14	Pass
DW-80376, 80377	5/9/2008	Ra-226	0.94 ± 0.13	1.07 ± 0.13	1.01 ± 0.09	Pass
DW-80376, 80377	5/9/2008	Ra-228	2.05 ± 0.57	1.40 ± 0.51	1.73 ± 0.38	Pass
MI-2363, 2364	5/14/2008	K-40	1335.40 ± 111.20	1510.70 ± 124.30	1423.05 ± 83.39	Pass
SG-2752, 2753	5/14/2008	Be-7	264.60 ± 83.90	222.80 ± 93.10	243.70 ± 62.66	Pass
SG-2752, 2753	5/14/2008	Cs-137	64.80 ± 6.00	68.90 ± 5.80	66.85 ± 4.17	Pass
SG-2752, 2753	5/14/2008	Gr. Alpha	19.35 ± 3.48	22.88 ± 4.04	21.12 ± 2.67	Pass
SG-2752, 2753	5/14/2008	Gr. Beta	30.53 ± 2.40	33.31 ± 2.71	31.92 ± 1.81	Pass
SG-2752, 2753	5/14/2008	K-40	9121.90 ± 191.80	9183.70 ± 194.20	9152.80 ± 136.47	Pass
DW-80389, 80390	5/14/2008	Ra-226	2.99 ± 0.36	2.58 ± 0.31	2.79 ± 0.24	Pass
DW-80389, 80390	5/14/2008	Ra-228	2.87 ± 0.68	1.73 ± 0.57	2.30 ± 0.44	Pass
DW-80392, 80393	5/14/2008	Gr. Alpha	19.94 ± 1.30	17.89 ± 1.26	18.92 ± 0.91	Pass
DW-80394, 80395	5/14/2008	U-233/4	2.03 ± 0.27	2.54 ± 0.39	2.29 ± 0.24	Pass
BS-2490, 2491	5/16/2008	Cs-137	6.81 ± 1.20	6.76 ± 1.23	6.78 ± 0.86	Pass
WW-2462, 2463	5/19/2008	H-3	158.61 ± 80.90	205.63 ± 83.06	182.12 ± 57.97	Pass
W-2826, 2827	5/27/2008	Gr. Alpha	3.47 ± 2.23	4.22 ± 2.20	3.84 ± 1.57	Pass
W-2826, 2827	5/27/2008	Gr. Beta	10.67 ± 1.92	9.43 ± 1.76	10.05 ± 1.30	Pass
SG-3378, 3379	6/2/2008	Gr. Alpha	6.51 ± 1.15	7.83 ± 1.32	7.17 ± 0.88	Pass
SG-3378, 3379	6/2/2008	Gr. Beta	16.23 ± 0.95	15.76 ± 1.06	16.00 ± 0.71	Pass
SG-3393, 3394	6/4/2008	Be-7	0.82 ± 0.23	0.66 ± 0.33	0.74 ± 0.20	Pass
SG-3393, 3394	6/4/2008	Cs-137	0.07 ± 0.01	0.07 ± 0.01	0.07 ± 0.01	Pass
SG-3393, 3394	6/4/2008	Gr. Alpha	18.96 ± 3.49	16.96 ± 3.34	17.96 ± 2.42	Pass
SG-3393, 3394	6/4/2008	Gr. Beta	30.01 ± 2.49	30.17 ± 2.56	30.09 ± 1.79	Pass
SG-3393, 3394	6/4/2008	K-40	9.78 ± 0.30	10.00 ± 0.28	9.89 ± 0.21	Pass
LW-2939, 2940	6/12/2008	Gr. Beta	1.46 ± 0.59	1.74 ± 0.59	1.60 ± 0.42	Pass
WW-3053, 3054	6/17/2008	Gr. Beta	4.28 ± 0.83	5.27 ± 0.91	4.77 ± 0.61	Pass
SW-3154, 3155	6/24/2008	Gr. Beta	2.15 ± 1.01	2.79 ± 0.97	2.47 ± 0.70	Pass

TABLE A-5. In-House "Duplicate" Samples

			Concentration (pCi/L)[a]			
Lab Code	Date	Analysis	First Result	Second Result	Averaged Result	Acceptance
BS-3245, 3246	6/27/2008	Co-60	108.84 ± 44.14	91.10 ± 22.32	99.97 ± 24.73	Pass
BS-3245, 3246	6/27/2008	Cs-137	952.18 ± 52.78	941.56 ± 13.61	946.87 ± 27.25	Pass
XW-1080, 1081	6/30/2008	Fe-55	2.96 ± 0.32	2.71 ± 0.30	2.84 ± 0.22	Pass
XW-3786, 3787	6/30/2008	Fe-55	2.96 ± 0.32	2.71 ± 0.30	2.84 ± 0.22	Pass
G-3274, 3275	7/1/2008	Gr. Beta	7.65 ± 0.24	7.44 ± 0.24	7.55 ± 0.17	Pass
SL-3295, 3296	7/1/2008	Gr. Beta	3.76 ± 0.24	3.64 ± 0.24	3.70 ± 0.17	Pass
AP-3531, 3532	7/1/2008	Be-7	0.10 ± 0.01	0.08 ± 0.01	0.09 ± 0.01	Pass
AP-3663, 3664	7/2/2008	Be-7	0.08 ± 0.01	0.08 ± 0.02	0.08 ± 0.01	Pass
AP-3690, 3691	7/2/2008	Be-7	0.07 ± 0.01	0.07 ± 0.01	0.07 ± 0.01	Pass
W-4333, 4334	7/7/2008	Gr. Beta	7.20 ± 1.90	7.70 ± 1.70	7.45 ± 1.27	Pass
W-4840, 4841	7/7/2008	Gr. Beta	6.70 ± 1.60	6.70 ± 1.80	6.70 ± 1.20	Pass
DW-80415, 80416	7/7/2008	Ra-226	2.81 ± 0.47	2.00 ± 0.34	2.41 ± 0.29	Pass
SG-3964, 3965	7/9/2008	Be-7	1.35 ± 0.23	1.51 ± 0.22	1.43 ± 0.16	Pass
SG-3964, 3965	7/9/2008	Cs-137	0.04 ± 0.01	0.04 ± 0.01	0.04 ± 0.00	Pass
SG-3964, 3965	7/9/2008	Gr. Alpha	23.17 ± 3.39	18.76 ± 3.24	20.97 ± 2.34	Pass
SG-3964, 3965	7/9/2008	Gr. Beta	28.99 ± 2.12	29.25 ± 2.31	29.12 ± 1.57	Pass
SG-3964, 3965	7/9/2008	K-40	6.86 ± 0.19	6.84 ± 0.17	6.85 ± 0.13	Pass
DW-80427, 80428	7/9/2008	Ra-226	3.25 ± 0.24	3.27 ± 0.20	3.26 ± 0.16	Pass
DW-80427, 80428	7/9/2008	Ra-228	2.65 ± 0.67	3.25 ± 0.72	2.95 ± 0.49	Pass
DW-80451, 80452	7/15/2008	Ra-226	1.02 ± 0.10	0.96 ± 0.12	0.99 ± 0.08	Pass
DW-80451, 80452	7/15/2008	Ra-228	1.09 ± 0.62	1.14 ± 0.60	1.12 ± 0.43	Pass
DW-80481, 80482	7/16/2008	Ra-226	1.20 ± 0.13	1.40 ± 0.14	1.30 ± 0.10	Pass
DW-80481, 80482	7/16/2008	Ra-228	1.69 ± 0.68	1.65 ± 0.77	1.67 ± 0.51	Pass
MI-3842, 3843	7/21/2008	K-40	1282.60 ± 108.30	1379.00 ± 111.40	1330.80 ± 77.68	Pass
MI-3892, 3893	7/28/2008	K-40	1371.50 ± 102.90	1501.20 ± 111.80	1436.35 ± 75.97	Pass
DW-4067, 4068	7/29/2008	Gr. Beta	10.46 ± 2.37	14.25 ± 2.78	12.36 ± 1.83	Pass
SWT-4158, 4159	7/29/2008	Gr. Beta	1.58 ± 0.45	1.80 ± 0.47	1.69 ± 0.33	Pass
LW-4221, 4222	7/31/2008	Gr. Beta	1.35 ± 0.56	0.91 ± 0.52	1.13 ± 0.38	Pass
LW-4242, 4243	7/31/2008	Gr. Beta	1.36 ± 0.56	1.18 ± 0.53	1.27 ± 0.38	Pass
VE-4046, 4047	8/4/2008	Be-7	0.77 ± 0.13	0.82 ± 0.19	0.80 ± 0.12	Pass
VE-4046, 4047	8/4/2008	Gr. Beta	8.81 ± 0.36	8.34 ± 0.31	8.58 ± 0.24	Pass
VE-4046, 4047	8/4/2008	K-40	5.17 ± 0.34	5.33 ± 0.42	5.25 ± 0.27	Pass
W-4821, 4822	8/4/2008	Gr. Alpha	1.70 ± 0.80	1.70 ± 0.90	1.70 ± 0.60	Pass
W-4821, 4822	8/4/2008	Gr. Beta	3.90 ± 0.80	3.70 ± 0.90	3.80 ± 0.60	Pass
W-4801, 4802	8/5/2008	Gr. Alpha	4.40 ± 2.40	4.80 ± 2.30	4.60 ± 1.66	Pass
W-4801, 4802	8/5/2008	Gr. Beta	13.20 ± 1.30	14.50 ± 1.40	13.85 ± 0.96	Pass
DW-80522, 80523	8/5/2008	Ra-226	0.50 ± 0.12	0.28 ± 0.12	0.39 ± 0.08	Pass
DW-80522, 80523	8/5/2008	Ra-228	1.23 ± 0.60	1.09 ± 0.57	1.16 ± 0.41	Pass

TABLE A-5. In-House "Duplicate" Samples

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
DW-80531, 80532	8/5/2008	Gr. Alpha	18.90 ± 1.86	17.80 ± 1.96	18.35 ± 1.35	Pass
DW-80534, 80535	8/5/2008	Ra-226	3.01 ± 0.18	3.33 ± 0.18	3.17 ± 0.13	Pass
DW-80534, 80535	8/5/2008	Ra-228	2.24 ± 0.59	2.12 ± 0.59	2.18 ± 0.42	Pass
SG-4584, 4585	8/6/2008	Be-7	7.11 ± 0.20	7.44 ± 0.37	7.27 ± 0.21	Pass
SG-4584, 4585	8/6/2008	Cs-137	0.05 ± 0.01	0.04 ± 0.01	0.04 ± 0.00	Pass
SG-4584, 4585	8/6/2008	K-40	7.88 ± 10.18	8.02 ± 0.21	7.95 ± 5.09	Pass
SG-4584, 4585	8/6/2008	Ra-226	3.94 ± 0.18	3.74 ± 0.22	3.84 ± 0.14	Pass
SG-4573, 4574	8/13/2008	Gr. Alpha	240.72 ± 8.74	251.53 ± 9.56	246.13 ± 6.48	Pass
SG-4573, 4574	8/13/2008	Gr. Beta	201.60 ± 4.28	206.88 ± 4.71	204.24 ± 3.18	Pass
SG-4584, 4585	8/13/2008	Gr. Alpha	14.07 ± 3.10	12.97 ± 3.04	13.52 ± 2.17	Pass
SG-4584, 4585	8/13/2008	Gr. Beta	22.08 ± 2.36	23.02 ± 2.34	22.55 ± 1.66	Pass
DW-80547, 80548	8/13/2008	Gr. Alpha	3.33 ± 1.11	3.88 ± 1.07	3.61 ± 0.77	Pass
DW-80551, 80552	8/13/2008	U-233/4	2.57 ± 0.48	2.13 ± 0.46	2.35 ± 0.33	Pass
DW-80553, 80554	8/13/2008	Ra-226	0.92 ± 0.14	1.21 ± 0.17	1.07 ± 0.11	Pass
DW-80553, 80554	8/13/2008	Ra-228	2.20 ± 0.61	1.64 ± 0.56	1.92 ± 0.41	Pass
DW-80566, 80567	8/20/2008	Ra-226	1.10 ± 0.11	1.10 ± 0.10	1.10 ± 0.07	Pass
DW-80566, 80567	8/20/2008	Ra-228	2.01 ± 0.58	1.74 ± 0.58	1.88 ± 0.41	Pass
VE-4647, 4648	8/27/2008	K-40	1.97 ± 0.17	2.00 ± 0.21	1.99 ± 0.14	Pass
SL-4690, 4691	9/2/2008	Gr. Beta	2.28 ± 0.25	2.35 ± 0.24	2.32 ± 0.17	Pass
ME-4732, 4733	9/2/2008	Gr. Beta	2.86 ± 0.09	2.70 ± 0.09	2.78 ± 0.06	Pass
ME-4732, 4733	9/2/2008	K-40	2.44 ± 0.37	2.82 ± 0.51	2.63 ± 0.32	Pass
SG-5180, 5181	9/3/2008	Be-7	15.50 ± 0.43	15.54 ± 0.38	15.52 ± 0.29	Pass
SG-5180, 5181	9/3/2008	Cs-137	0.07 ± 0.01	0.07 ± 0.01	0.07 ± 0.01	Pass
SG-5180, 5181	9/3/2008	Gr. Alpha	18.74 ± 3.33	17.61 ± 3.15	18.18 ± 2.29	Pass
SG-5180, 5181	9/3/2008	Gr. Beta	29.19 ± 2.10	28.49 ± 2.15	28.84 ± 1.50	Pass
SG-5180, 5181	9/3/2008	K-40	8.55 ± 0.32	8.11 ± 0.27	8.33 ± 0.21	Pass
SG-5187, 5188	9/3/2008	Be-7	6.18 ± 0.54	5.90 ± 0.77	6.04 ± 0.47	Pass
SG-5187, 5188	9/3/2008	K-40	7.16 ± 0.60	7.29 ± 0.60	7.23 ± 0.42	Pass
SG-5193, 5194	9/3/2008	Gr. Alpha	5.80 ± 1.30	7.00 ± 1.50	6.40 ± 0.99	Pass
SG-5193, 5194	9/3/2008	Gr. Beta	15.60 ± 1.10	15.60 ± 1.10	15.60 ± 0.78	Pass
DW-4871, 4872	9/5/2008	I-131	1.15 ± 0.27	1.16 ± 0.31	1.16 ± 0.21	Pass
VE-5022, 5023	9/10/2008	K-40	1.27 ± 0.14	1.11 ± 0.06	1.19 ± 0.08	Pass
DW-5337, 5338	9/10/2008	Gr. Beta	3.00 ± 1.07	2.19 ± 1.05	2.60 ± 0.75	Pass
WW-4977, 4978	9/17/2008	Gr. Beta	3.71 ± 1.10	2.32 ± 1.11	3.01 ± 0.78	Pass
BS-5088, 5089	9/19/2008	K-40	10493 ± 607	10299 ± 470	10396 ± 384	Pass
DW-80584, 80585	9/19/2008	U-233/4	3.01 ± 0.52	2.44 ± 0.47	2.73 ± 0.35	Pass
DW-80584, 80585	9/19/2008	U-238	0.70 ± 0.25	0.27 ± 0.18	0.49 ± 0.15	Pass
DW-80579, 80580	9/25/2008	Gr. Alpha	10.69 ± 1.31	12.84 ± 1.51	11.77 ± 1.00	Pass
DW-80579, 80580	9/25/2008	Ra-226	3.13 ± 0.22	2.89 ± 0.21	3.01 ± 0.15	Pass
DW-80579, 80580	9/25/2008	Ra-228	3.03 ± 0.73	1.98 ± 0.69	2.51 ± 0.50	Pass
G-5389, 5390	10/1/2008	Be-7	1.49 ± 0.32	1.36 ± 0.28	1.43 ± 0.21	Pass
G-5389, 5390	10/1/2008	Gr. Beta	10.86 ± 0.24	11.18 ± 0.25	11.02 ± 0.17	Pass
G-5389, 5390	10/1/2008	K-40	7.42 ± 0.67	8.06 ± 0.63	7.74 ± 0.46	Pass

TABLE A-5. In-House "Duplicate" Samples

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
AP-5814, 5815	10/1/2008	Be-7	0.08 ± 0.01	0.08 ± 0.01	0.08 ± 0.01	Pass
SG-6111, 6112	10/6/2008	Gr. Alpha	9.34 ± 1.82	8.95 ± 1.67	9.15 ± 1.24	Pass
SG-6111, 6112	10/6/2008	Gr. Beta	17.46 ± 1.46	18.86 ± 1.35	18.16 ± 0.99	Pass
DW-80592, 80593	10/7/2008	Gr. Alpha	2.30 ± 1.14	1.57 ± 0.88	1.94 ± 0.72	Pass
DW-80594, 80595	10/7/2008	Ra-228	1.41 ± 0.55	1.22 ± 0.50	1.32 ± 0.37	Pass
DW-80650, 80651	10/8/2008	Gr. Alpha	1.30 ± 0.86	0.12 ± 0.79	0.71 ± 0.58	Pass
DW-80650, 80651	10/8/2008	Gr. Beta	2.92 ± 0.69	3.03 ± 0.64	2.98 ± 0.47	Pass
DW-80629, 80630	10/13/2008	Ra-226	3.12 ± 0.18	2.87 ± 0.17	3.00 ± 0.12	Pass
DW-80629, 80630	10/13/2008	Ra-228	2.71 ± 0.80	3.28 ± 0.81	3.00 ± 0.57	Pass
DW-80663, 80664	10/13/2008	Gr. Alpha	5.91 ± 1.70	3.14 ± 1.44	4.53 ± 1.11	Pass
MI-5572, 5573	10/14/2008	K-40	1391.00 ± 97.39	1443.90 ± 110.60	1417.45 ± 73.68	Pass
MI-5603, 5604	10/14/2008	K-40	1412.80 ± 109.30	1413.80 ± 110.50	1413.30 ± 77.71	Pass
DW-80676, 80677	10/20/2008	Gr. Alpha	12.20 ± 1.48	11.87 ± 1.54	12.04 ± 1.07	Pass
DW-80676, 80677	10/20/2008	Ra-226	5.04 ± 0.25	5.10 ± 0.25	5.07 ± 0.18	Pass
DW-80676, 80677	10/20/2008	Ra-228	5.87 ± 0.86	6.98 ± 0.95	6.43 ± 0.64	Pass
SW-80687, 80688	10/22/2008	Gr. Alpha	3.42 ± 1.03	2.98 ± 1.01	3.20 ± 0.72	Pass
DW-80729, 80730	10/30/2008	Gr. Alpha	8.40 ± 1.45	7.76 ± 2.00	8.08 ± 1.24	Pass
DW-80729, 80730	10/30/2008	Gr. Beta	16.94 ± 1.45	15.41 ± 1.37	16.18 ± 1.00	Pass
DW-80738, 80739	10/31/2008	U-233/4	2.94 ± 0.50	3.06 ± 0.63	3.00 ± 0.40	Pass
DW-80747, 80748	10/31/2008	Ra-226	0.60 ± 0.09	0.50 ± 0.08	0.55 ± 0.06	Pass
DW-80747, 80748	10/31/2008	Ra-228	1.33 ± 0.59	1.38 ± 0.60	1.36 ± 0.42	Pass
BS-6271, 6272	11/3/2008	Gr. Beta	12.26 ± 1.69	13.78 ± 1.84	13.02 ± 1.25	Pass
SS-6593, 6594	11/19/2008	K-40	12.35 ± 0.57	13.10 ± 0.76	12.73 ± 0.48	Pass
MI-7046, 7047	12/16/2008	K-40	1380.10 ± 109.80	1477.30 ± 98.32	1428.70 ± 73.69	Pass
DW-80698, 80699	12/23/2008	Ra-226	3.13 ± 0.22	3.21 ± 0.23	3.17 ± 0.16	Pass
DW-80698, 80699	12/23/2008	Ra-228	5.48 ± 0.91	5.86 ± 0.93	5.67 ± 0.65	Pass
SW-7281, 7282	12/30/2008	Gr. Beta	0.87 ± 0.54	1.35 ± 0.54	1.11 ± 0.38	Pass

Note: Duplicate analyses are performed on every twentieth sample received in-house. Results are not listed for those analyses with activities that measure below the LLD.

[a] Results are reported in units of pCi/L, except for air filters (pCi/Filter), food products, vegetation, soil, sediment (pCi/g).

TABLE A-6. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP)[a].

Lab Code[c]	Date	Analysis	Concentration [b] Laboratory result	Known Activity	Control Limits [d]	Acceptance
STW-1137	01/01/08	Am-241	1.27 ± 0.06	1.23	0.86 - 1.60	Pass
STW-1137	01/01/08	Co-57	23.80 ± 0.60	22.80	16.00 - 29.60	Pass
STW-1137	01/01/08	Co-60	8.60 ± 0.50	8.40	5.88 - 10.92	Pass
STW-1137	01/01/08	Cs-134	-0.02 ± 0.10	0.00	-1.00 - 1.00	Pass
STW-1137	01/01/08	Cs-137	0.00 ± 0.10	0.00	-1.00 - 1.00	Pass
STW-1137	01/01/08	Fe-55	32.60 ± 11.60	36.50	25.60 - 47.50	Pass
STW-1137	01/01/08	H-3	515.10 ± 12.70	472.00	330.00 - 614.00	Pass
STW-1137	01/01/08	Mn-54	12.90 ± 0.80	12.10	8.50 - 15.70	Pass
STW-1137	01/01/08	Ni-63	29.50 ± 2.30	30.70	21.50 - 39.90	Pass
STW-1137	01/01/08	Pu-238	0.60 ± 0.06	0.73	0.51 - 0.95	Pass
STW-1137	01/01/08	Pu-239/40	0.019 ± 0.015	0.01	0.00 - 1.00	Pass
STW-1137	01/01/08	Sr-90	12.00 ± 1.50	11.40	7.98 - 14.82	Pass
STW-1137	01/01/08	Tc-99	9.40 ± 1.70	11.20	7.80 - 14.60	Pass
STW-1137	01/01/08	U-233/4	3.37 ± 0.20	3.63	2.54 - 4.72	Pass
STW-1137	01/01/08	U-238	3.63 ± 0.21	3.74	2.62 - 4.86	Pass
STW-1137	01/01/08	Zn-65	16.90 ± 1.40	16.30	11.40 - 21.20	Pass
STW-1138	01/01/08	Gr. Alpha	0.96 ± 0.14	1.40	0.00 - 2.80	Pass
STW-1138	01/01/08	Gr. Beta	2.30 ± 0.15	2.43	1.22 - 3.65	Pass
STAP-1139	01/01/08	Co-57	3.90 ± 0.07	3.55	2.49 - 4.62	Pass
STAP-1139	01/01/08	Co-60	1.43 ± 0.07	1.31	0.92 - 1.70	Pass
STAP-1139	01/01/08	Cs-134	2.59 ± 0.16	2.52	1.76 - 3.28	Pass
STAP-1139	01/01/08	Cs-137	3.05 ± 0.12	2.70	1.89 - 3.51	Pass
STAP-1139	01/01/08	Mn-54	0.43 ± 0.58	0.00	0.00 - 1.00	Pass
STAP-1139	01/01/08	Pu-238	0.080 ± 0.016	0.11	0.07 - 0.14	Pass
STAP-1139	01/01/08	Pu-239/40	0.12 ± 0.02	0.11	0.08 - 0.15	Pass
STAP-1139	01/01/08	Sr-90	1.30 ± 0.27	1.55	1.08 - 2.01	Pass
STAP-1139[e]	01/01/08	U-233/4	0.43 ± 0.03	0.22	0.15 - 0.28	Fail
STAP-1139[e]	01/01/08	U-238	0.44 ± 0.03	0.23	0.16 - 0.29	Fail
STAP-1139	01/01/08	Zn-65	2.36 ± 0.18	2.04	1.43 - 2.65	Pass
STAP-1140	01/01/08	Gr. Alpha	0.11 ± 0.03	0.35	0.00 - 0.70	Pass
STAP-1140	01/01/08	Gr. Beta	0.34 ± 0.04	0.29	0.14 - 0.43	Pass
STVE-1141	01/01/08	Co-57	8.30 ± 0.18	6.89	4.82 - 8.96	Pass
STVE-1141	01/01/08	Co-60	3.03 ± 0.13	2.77	1.94 - 3.60	Pass
STVE-1141	01/01/08	Cs-134	6.53 ± 0.29	6.28	4.40 - 8.16	Pass
STVE-1141	01/01/08	Cs-137	3.90 ± 0.19	3.41	2.39 - 4.43	Pass
STVE-1141	01/01/08	Mn-54	5.43 ± 0.21	4.74	3.32 - 6.16	Pass
STVE-1141	01/01/08	Zn-65	0.033 ± 0.10	0.00	0.00 - 1.00	Pass

TABLE A-6. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP)[a].

Lab Code[c]	Date	Concentration [b] Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STSO-1142	01/01/08	Co-57	483.00 ± 3.00	421.00	295.00 - 547.00	Pass
STSO-1142	01/01/08	Co-60	3.00 ± 0.80	2.90	0.00 - 5.00	Pass
STSO-1142	01/01/08	Cs-134	896.50 ± 7.40	854.00	598.00 - 1110.00	Pass
STSO-1142	01/01/08	Cs-137	624.40 ± 4.10	545.00	382.00 - 709.00	Pass
STSO-1142	01/01/08	Mn-54	667.20 ± 3.80	570.00	399.00 - 741.00	Pass
STSO-1142	01/01/08	Ni-63	536.00 ± 15.50	640.00	448.00 - 832.00	Pass
STSO-1142	01/01/08	Pu-238	78.60 ± 4.80	72.80	51.00 - 94.60	Pass
STSO-1142	01/01/08	Pu-239/40	89.10 ± 4.50	90.10	63.10 - 117.10	Pass
STSO-1142	01/01/08	U-233/4	134.41 ± 5.40	142.00	99.00 - 185.00	Pass
STSO-1142	01/01/08	U-238	139.00 ± 5.50	148.00	104.00 - 192.00	Pass
STSO-1142	01/01/08	Zn-65	0.093 ± 0.91	0.00	0.00 - 1.00	Pass
STSO-1158	08/01/08	Am-241	57.73 ± 4.78	69.10	48.40 - 89.80	Pass
STSO-1158	08/01/08	Co-57	353.02 ± 2.01	333.00	233.00 - 433.00	Pass
STSO-1158	08/01/08	Co-60	151.99 ± 1.58	145.00	102.00 - 189.00	Pass
STSO-1158	08/01/08	Cs-134	499.72 ± 2.65	581.00	407.00 - 755.00	Pass
STSO-1158	08/01/08	Cs-137	2.54 ± 0.25	2.80	0.00 - 5.00	Pass
STSO-1158	08/01/08	K-40	643.94 ± 15.50	570.00	399.00 - 741.00	Pass
STSO-1158	08/01/08	Mn-54	452.14 ± 2.96	415.00	291.00 - 540.00	Pass
STSO-1158	08/01/08	Ni-63	803.09 ± 17.01	760.00	532.00 - 988.00	Pass
STSO-1158	08/01/08	Pu-238	0.12 ± 0.54	0.00	0.00 - 5.00	Pass
STSO-1158	08/01/08	Pu-239/40	60.88 ± 5.89	55.60	38.90 - 72.30	Pass
STSO-1158	08/01/08	Sr-90	1.95 ± 2.04	0.00	0.00 - 5.00	Pass
STSO-1158 [f]	08/01/08	Tc-99	337.00 ± 17.30	335.00	235.00 - 436.00	Pass
STSO-1158	08/01/08	U-238	315.67 ± 11.29	303.00	212.00 - 394.00	Pass
STSO-1158	08/01/08	Zn-65	0.10 ± 2.04	0.00	0.00 - 5.00	Pass
STVE-1159	08/01/08	Co-57	8.52 ± 0.23	7.10	5.00 - 9.20	Pass
STVE-1159	08/01/08	Co-60	5.08 ± 0.19	4.70	3.30 - 6.10	Pass
STVE-1159	08/01/08	Cs-134	5.26 ± 0.18	5.50	3.90 - 7.20	Pass
STVE-1159	08/01/08	Cs-137	0.01 ± 0.14	0.00	0.00 - 1.00	Pass
STVE-1159	08/01/08	Mn-54	6.39 ± 0.28	5.80	4.10 - 7.50	Pass
STVE-1159	08/01/08	Zn-65	7.73 ± 0.45	6.90	4.80 - 9.00	Pass

TABLE A-6. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP)[a].

		Concentration [b]				
Lab Code[c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STW-1162 [g]	08/01/08	Am-241	0.20 ± 0.06	0.00	0.00 - 0.10	Fail
STW-1162	08/01/08	Co-57	0.03 ± 0.16	0.00	0.00 - 5.00	Pass
STW-1162	08/01/08	Co-60	11.27 ± 0.23	11.60	8.10 - 15.10	Pass
STW-1162	08/01/08	Cs-134	17.93 ± 0.52	19.50	13.70 - 25.40	Pass
STW-1162	08/01/08	Cs-137	23.72 ± 0.43	23.60	16.50 - 30.70	Pass
STW-1162	08/01/08	Fe-55	43.36 ± 16.81	46.20	32.30 - 60.10	Pass
STW-1162	08/01/08	H-3	385.15 ± 8.93	341.00	239.00 - 443.00	Pass
STW-1162	08/01/08	Mn-54	13.87 ± 0.37	13.70	9.60 - 17.80	Pass
STW-1162 [h]	08/01/08	Ni-63	10.77 ± 2.01	0.00	0.00 - 5.00	Fail
STW-1162 [i]	08/01/08	Pu-238	0.33 ± 0.06	0.50	0.40 - 0.70	Fail
STW-1162	08/01/08	Pu-239/40	0.14 ± 0.15	0.00	0.00 - 0.20	Pass
STW-1162	08/01/08	Sr-90	6.49 ± 1.12	6.45	4.52 - 8.39	Pass
STW-1162 [j]	08/01/08	Tc-99	1.80 ± 0.62	3.76	2.63 - 4.89	Fail
STW-1162	08/01/08	U-233/4	3.33 ± 0.18	3.44	2.41 - 4.47	Pass
STW-1162	08/01/08	U-238	3.38 ± 0.18	3.55	2.49 - 4.62	Pass
STW-1162	08/01/08	Zn-65	17.64 ± 0.61	17.10	12.00 - 22.20	Pass
STW-1163	08/01/08	Gr. Alpha	0.08 ± 0.04	0.00	0.00 - 0.56	Pass
STW-1163	08/01/08	Gr. Beta	0.12 ± 0.05	0.00	0.00 - 1.85	Pass

[a] Results obtained by Environmental, Inc., Midwest Laboratory as a participant in the Department of Energy's Mixed Analyte Performance Evaluation Program, Idaho Operations office, Idaho Falls, Idaho

[b] Results are reported in units of Bq/kg (soil), Bq/L (water) or Bq/total sample (filters, vegetation).

[c] Laboratory codes as follows: STW (water), STAP (air filter), STSO (soil), STVE (vegetation).

[d] MAPEP results are presented as the known values and expected laboratory precision (1 sigma, 1 determination) and control limits as defined by the MAPEP.

[e] The results of a repeat analysis were still unacceptable. A spiked air filter was prepared (known activity 4.17 pCi/filter) to verify the methodology; results of the spike analysis were acceptable, 4.64 pCi/filter.

[f] Corrected result. An error in calculation was found.

[g] Included in the testing series as a "false positive". Result of reanalysis, 0.04 ± 0.01 Bq/L.

[h] Included in the testing series as a "false positive". Result of reanalysis, 3.78 ± 2.03 Bq/L.

[i] The reason for the deviation is unknown. Result of the original sample recount: 0.47 ± 0.07 Bq/L. The analysis was then repeated from the beginning. Result of reanalysis: 0.51 ± 0.07 Bq/L.

[j] The lower result was due to a higher than average background count used in the calculation. Average background result:, 4.11 ± 0.6

TABLE A-7. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA)[a].

Lab Code [b]	Date	Analysis	Concentration (pCi/L) Laboratory Result [c]	ERA Result [d]	Control Limits	Acceptance
STAP-1143	03/24/08	Am-241	60.48 ± 3.52	50.1	29.3 - 68.7	Pass
STAP-1143	03/24/08	Co-60	650.72 ± 3.00	730.0	565.0 - 912.0	Pass
STAP-1143	03/24/08	Cs-134	467.50 ± 5.53	523.0	341.0 - 647.0	Pass
STAP-1143	03/24/08	Cs-137	1375.90 ± 25.41	1450.0	1090.0 - 1900.0	Pass
STAP-1143	03/24/08	Fe-55	145.60 ± 28.94	241.0	106.0 - 375.0	Pass
STAP-1143 [e]	03/24/08	Mn-54	0.00 ± 0.00	0.0	0.0 - 10.0	Pass
STAP-1143	03/24/08	Pu-238	53.65 ± 1.54	46.8	32.1 - 61.5	Pass
STAP-1143	03/24/08	Pu-239/40	70.44 ± 3.11	64.1	46.5 - 83.0	Pass
STAP-1143	03/24/08	Sr-90	157.60 ± 7.70	152.0	66.9 - 236.0	Pass
STAP-1143	03/24/08	U-233/4	62.15 ± 3.41	66.7	42.0 - 98.8	Pass
STAP-1143	03/24/08	U-238	64.11 ± 3.29	66.2	42.4 - 94.0	Pass
STAP-1143	03/24/08	Uranium	128.40 ± 3.29	136.0	69.5 - 216.0	Pass
STAP-1143	03/24/08	Zn-65	889.90 ± 15.90	872.0	604.0 - 1210.0	Pass
STAP-1144	03/24/08	Gr. Alpha	13.08 ± 1.09	8.8	4.56 - 13.2	Pass
STAP-1144	03/24/08	Gr. Beta	99.90 ± 3.09	92.2	56.80 - 135.0	Pass
STSO-1145	03/24/08	Ac-228	1269.02 ± 36.81	1180.0	757.0 - 1660.0	Pass
STSO-1145	03/24/08	Am-241	1268.50 ± 85.80	1230.0	735.0 - 1580.0	Pass
STSO-1145	03/24/08	Bi-212	1407.10 ± 56.64	1360.0	357.0 - 2030.0	Pass
STSO-1145	03/24/08	Bi-214	2145.50 ± 305.63	1790.0	1100.0 - 2570.0	Pass
STSO-1145	03/24/08	Co-60	5219.70 ± 90.30	5130.0	3730.0 - 6890.0	Pass
STSO-1145	03/24/08	Cs-134	5427.30 ± 102.94	5640.0	3630.0 - 6790.0	Pass
STSO-1145	03/24/08	Cs-137	6346.60 ± 201.80	6010.0	4600.0 - 7810.0	Pass
STSO-1145	03/24/08	K-40	11052.70 ± 181.80	11000.0	7980.0 - 14900.0	Pass
STSO-1145 [e]	03/24/08	Mn-54	0.00 ± 0.00	0.0	0.0 - 10.0	Pass
STSO-1145	03/24/08	Pb-212	1198.20 ± 96.58	1080.0	697.0 - 1520.0	Pass
STSO-1145	03/24/08	Pb-214	2253.30 ± 291.60	2020.0	1210.0 - 3010.0	Pass
STSO-1145	03/24/08	Sr-90	6407.00 ± 277.00	5360.0	1940.0 - 8750.0	Pass
STSO-1145	03/24/08	Th-234	2421.80 ± 321.00	2030.0	644.0 - 3870.0	Pass
STSO-1145 [f]	03/24/08	U-233/4	1227.93 ± 91.52	2050.0	1240.0 - 2580.0	Fail
STSO-1145	03/24/08	U-238	1319.90 ± 48.81	2030.0	1240.0 - 2580.0	Pass
STSO-1145	03/24/08	Uranium	2592.00 ± 140.50	4180.0	2380.0 - 5640.0	Pass
STSO-1145	03/24/08	Zn-65	2936.20 ± 73.50	2660.0	2110.0 - 3570.0	Pass

TABLE A-7. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA)[a].

Lab Code [b]	Date	Analysis	Concentration (pCi/L) Laboratory Result [c]	ERA Result [d]	Control Limits	Acceptance
STVE-1146	03/24/08	Am-241	1261.50 ± 73.90	1260.0	718.0 - 1730.0	Pass
STVE-1146	03/24/08	Cm-244	1152.50 ± 57.44	1200.0	591.0 - 1870.0	Pass
STVE-1146	03/24/08	Co-60	912.41 ± 13.59	888.0	600.0 - 1280.0	Pass
STVE-1146	03/24/08	Cs-134	1547.70 ± 38.81	1540.0	882.0 - 2130.0	Pass
STVE-1146	03/24/08	Cs-137	1163.80 ± 20.62	1100.0	807.0 - 1530.0	Pass
STVE-1146	03/24/08	K-40	22186.00 ± 339.40	24600.0	17700.0 - 34800.0	Pass
STVE-1146 [e]	03/24/08	Mn-54	0.00 ± 0.00	0.0	0.0 - 10.0	Pass
STVE-1146	03/24/08	Sr-90	3825.90 ± 140.66	4130.0	2310.0 - 5480.0	Pass
STVE-1146	03/24/08	U-233/4	2753.30 ± 227.90	3070.0	2110.0 - 4070.0	Pass
STVE-1146	03/24/08	U-238	2697.10 ± 143.20	3050.0	2140.0 - 3850.0	Pass
STVE-1146	03/24/08	Uranium	5586.10 ± 455.20	6260.0	4300.0 - 8080.0	Pass
STVE-1146	03/24/08	Zn-65	1676.80 ± 43.00	1430.0	1030.0 - 1960.0	Pass
STW-1147	03/24/08	Am-241	97.56 ± 1.02	90.9	62.0 - 124.0	Pass
STW-1147	03/24/08	Co-60	1430.00 ± 33.33	1420.0	1240.0 - 1680.0	Pass
STW-1147	03/24/08	Cs-134	730.18 ± 33.39	751.0	555.0 - 862.0	Pass
STW-1147	03/24/08	Cs-137	1947.80 ± 13.80	1990.0	1690.0 - 2380.0	Pass
STW-1147	03/24/08	Fe-55	1422.70 ± 172.16	2080.0	1210.0 - 2780.0	Pass
STW-1147 [e]	03/24/08	Mn-54	0.00 ± 0.00	0.0	0.0 - 10.0	Pass
STW-1147	03/24/08	Pu-238	144.16 ± 4.54	135.0	102.0 - 168.0	Pass
STW-1147	03/24/08	Pu-239/40	82.16 ± 2.50	80.7	62.4 - 99.8	Pass
STW-1147	03/24/08	Sr-90	512.03 ± 43.37	512.0	325.0 - 684.0	Pass
STW-1147	03/24/08	U-233/4	74.40 ± 1.20	81.0	61.0 - 104.0	Pass
STW-1147	03/24/08	U-238	75.10 ± 1.35	80.3	61.3 - 99.5	Pass
STW-1147	03/24/08	Uranium	152.10 ± 2.55	165.0	119.0 - 220.0	Pass
STW-1147	03/24/08	Zn-65	708.90 ± 29.00	694.0	588.0 - 865.0	Pass
STW-1120	03/19/07	Uranium	339.60 ± 10.66	391.0	282.0 - 521.0	Pass
STW-1120	03/19/07	Zn-65	2009.00 ± 36.40	1910.0	1600.0 - 2410.0	Pass

[a] Results obtained by Environmental, Inc., Midwest Laboratory as a participant in the crosscheck program for proficiency testing administered by Environmental Resources Associates, serving as a replacement for studies conducted previously by the Environmental Measurements Laboratory Quality Assessment Program (EML).

[b] Laboratory codes as follows: STW (water), STAP (air filter), STSO (soil), STVE (vegetation).

[c] Unless otherwise indicated, the laboratory result is given as the mean ± standard deviation for three determinations.

[d] Results are presented as the known values, expected laboratory precision (1 sigma, 1 determination) and control limits as provided by ERA.

[e] Included in the testing series as a "false positive". No activity expected.

[f] The analysis was repeated by leaching and total dissolution methods. Total dissolution yielded results within expected range. Results of the reanalysis: U-233,4, 1655 ± 95 pCi/kg. U-238 1805 ± 97 pCi/kg.

APPENDIX B

DATA REPORTING CONVENTIONS

Data Reporting Conventions

1.0. All activities, except gross alpha and gross beta, are decay corrected to collection time or the end of the collection period.

2.0. Single Measurements

Each single measurement is reported as follows: $x \pm s$

where: x = value of the measurement;

s = 2σ counting uncertainty (corresponding to the 95% confidence level).

In cases where the activity is less than the lower limit of detection L, it is reported as: < L,

where L = the lower limit of detection based on 4.66σ uncertainty for a background sample.

3.0. Duplicate analyses

3.1 Individual results: For two analysis results; $x_1 \pm s_1$ and $x_2 \pm s_2$

Reported result: $x \pm s$; where $x = (1/2)(x_1 + x_2)$ and $s = (1/2)\sqrt{s_1^2 + s_2^2}$

3.2. Individual results: $< L_1$, $< L_2$ Reported result: < L, where L = lower of L_1 and L_2

3.3. Individual results: $x \pm s$, < L Reported result: $x \pm s$ if $x \geq L$; < L otherwise.

4.0. Computation of Averages and Standard Deviations

4.1 Averages and standard deviations listed in the tables are computed from all of the individual measurements over the period averaged; for example, an annual standard deviation would not be the average of quarterly standard deviations. The average $\bar{x}$ and standard deviation s of a set of n numbers $x_1, x_2 \ldots x_n$ are defined as follows:

$$\bar{x} = \frac{1}{n} \sum x \qquad s = \sqrt{\frac{\sum (x - \bar{x})^2}{n-1}}$$

4.2 Values below the highest lower limit of detection are not included in the average.

4.3 If all values in the averaging group are less than the highest LLD, the highest LLD is reported.

4.4 If all but one of the values are less than the highest LLD, the single value x and associated two sigma error is reported.

4.5 In rounding off, the following rules are followed:

4.5.1. If the number following those to be retained is less than 5, the number is dropped, and the retained number s are kept unchanged. As an example, 11.443 is rounded off to 11.44.

4.5.2. If the number following those to be retained is equal to or greater than 5, the number is dropped and the last retained number is raised by 1. As an example, 11.445 is rounded off to 11.45.

APPENDIX C

Maximum Permissible Concentrations

of Radioactivity in Air and Water

Above Background in Unrestricted Areas

Table C-1. Maximum permissible concentrations of radioactivity in air and water above natural background in unrestricted areas[a].

	Air (pCi/m^3)		Water (pCi/L)
Gross alpha	1×10^{-3}	Strontium-89	8,000
Gross beta	1	Strontium-90	500
Iodine-131[b]	2.8×10^{-1}	Cesium-137	1,000
		Barium-140	8,000
		Iodine-131	1,000
		Potassium-40[c]	4,000
		Gross alpha	2
		Gross beta	10
		Tritium	1×10^6

[a] Taken from Table 2 of Appendix B to Code of Federal Regulations Title 10, Part 20, and appropriate footnotes. Concentrations may be averaged over a period not greater than one year.

[b] Value adjusted by a factor of 700 to reduce the dose resulting from the air-grass-cow-milk-child pathway.

[c] A natural radionuclide.

APPENDIX D

RADIOLOGICAL ENVIRONMENTAL MONITORING MANUAL (REMM)

KEWAUNEE
POWER STATION

Kewaunee Power Station

Radiological Environmental Monitoring Manual (REMM)

Revision 13
02/21/2008

Reviewed by:	Tom Webb Plant Operations Review Committee	Date:	02-12-2008
Approved by:	Mike Hale Manager, Radiological Protection and Chemistry	Date:	02-18-2008
Approved by:	Tom Breene Manager, Regulatory Affairs	Date:	02-13-2008

Table of Contents

Tables & Figures

1.0 Introduction

1.1 Purpose

The purpose of this document is to define the Radiological Environmental Monitoring Program (REMP) for the Kewaunee Power Station (KPS). The REMP is required by KPS Technical Specification (TS) 6.16.b.2, "Radiological Environmental Monitoring Program."

This document is known as the Radiological Environmental Monitoring Manual (REMM) and is intended to serve as a tool for program administration and as a guidance document for contractors which implement the monitoring program.

1.2 Scope

This program defines the sampling and analysis schedule which was developed to provide representative measurements of radiation and of radioactive materials in those exposure pathways and for those radionuclides that lead to the high potential radiation exposures of MEMBERS OF THE PUBLIC resulting from plant operation. This monitoring program implements Section IV.B.2 of Appendix I to 10CFR Part 50 and thereby verifies that the measurable concentrations of radioactivity and levels of radiation are not higher than expected on the basis of the effluent measurements and the modeling of the environmental exposure pathways. Guidance for the development of this monitoring program is provided by the Radiological Assessment Branch Technical Position on Environmental Monitoring. This program has been developed in accordance with NUREG 0472.

The program will provide field and analytical data on the air, aquatic, and terrestrial radioecology of the area near the Kewaunee Power Station so as to:

1. Determine the effects of the operation of the Kewaunee Power Station on the environment;
2. Serve as a gauge of the operating effectiveness of in-plant control of waste discharges; and
3. Provide data on the radiation dose to the public by direct or indirect pathways of exposure.

1.3 Implementation

This document is considered, by reference, to be part of the Offsite Dose Calculation Manual. This is as required by KPS TS 6.16.b.2. The REMM is controlled as a separate document for ease of revision, use in the field and use by contractors. This format was approved by the NRC as part of TS Amendment No. 64, which provided Radiological Effluent Technical Specifications (RETS) for KPS.

The REMP is setup to be implemented by a vendor and controlled by KPS in accordance with Nuclear Administrative Directive NAD-1.20, "Radiological Environmental Monitoring Program." Monthly reviews of the vendor's progress report are checked and approved by KPS in accordance with Surveillance Procedure SP-63-276. Annual reviews and submittals of the vendor's report and raw data are checked and approved by KPS in accordance with Surveillance Procedure SP-63-280. All sample collection, preparation, and analysis are performed by the vendor except where noted. Surveillance Procedure SP-63-164 outlines the environmental sample collection

performed by KPS. Current vendor Quality Control Program Manuals and implementing procedures shall be kept on file at KPS.

Periodic reviews of monitoring data and an annual land use census will be used to develop modifications to the existing monitoring program. Upon approval, these modifications will be incorporated into this document so that it will accurately reflect the current radiological environmental monitoring program in effect for KPS.

The remainder of this document is divided into two sections. The first section, 2.0 REMP Requirements, describes the different TS and REMM requirements associated with the REMP. The second section, 3.0 REMP Implementation, describes the specific requirements used to implement the REMP.

2.0 *REMP Requirements*

KPS TS Amendment No. 104 implemented the guidance provided in Generic Letter 89-01, "Implementation of Programmatic Controls for Radiological Effluent Technical Specifications (RETS)." These changes included:

1. Incorporation of *programmatic controls* in the Administrative Controls section of the TS to satisfy existing regulatory requirements for RETS, and

2. Relocation of the *procedural details* on radioactive effluents monitoring, radiological environmental monitoring, reporting details, and other related specifications from the TS to the ODCM.

Relocating the procedural details to the ODCM allows for revising these requirements using the 10CFR50.59 process instead of requiring prior NRC approval using the TS Amendment process.

The RETS requirements were incorporated verbatim into the ODCM, Revision 6. Several of these requirements pertain only to the environmental monitoring program and therefore have been relocated into this document (REMM, Revision 3 and 4) and are identified as REMM requirements.

2.1 *Technical Specification Requirements*

Technical Specification 6.16.b.2 provides the programmatic control, which requires a program to monitor the radiation and radionuclides in the environs of the plant. This is the reason for the existence of the REMP. TS 6.16.b.2 also provides the programmatic control which requires:

a. The program to perform the monitoring, sampling, analysis, and reporting in accordance with the methodology and parameters in the ODCM,

b. A land use census to be performed, and

c. Participation in an Interlaboratory Comparison Program.

The details of each requirement are described in the REMM requirements stated below.

Technical Specification 6.9.b.1 requires an "Annual Radiological Environmental Monitoring Report" be submitted to the NRC each year. The specific contents of this report are detailed in REMM 2.4.1. Additional specific reporting requirements are listed in the other REMM requirements.

2.2 *REMM Requirements*

The following REMM requirements include the procedural details that were originally located in the KPS RETS section and then relocated into Revision 6 of the ODCM, as discussed above. These requirements are specific to the radiological environmental monitoring program and have been relocated into this document for ease of use and completeness.

The REMM requirements for the Monitoring Program, Land Use Census, and the Interlaboratory Comparison Program include a detailed specification (numbered 2.2.1, 2.2.2, and 2.2.3 respectively) and an associated surveillance requirement (numbered 2.3.1, 2.3.2, and 2.3.3 respectively), along with the basis for the requirement. Reporting requirements are listed in specification REMM 2.4.1.

General requirements also apply to all ODCM and REMM requirements (specifications 3.01, 3.02, 3.03, 4.01, 4.02, and 4.03). The requirements are located in the ODCM and are repeated here for convenience.

GENERAL SPECIFICATIONS

3.0.1 Compliance with the specifications contained in the succeeding text is required during the conditions specified therein; except that upon failure to meet the specifications, the associated ACTION requirements shall be met.

3.0.2 Noncompliance with a Specification shall exist when its requirements and associated ACTION requirements are not met within the specified time intervals. If the Specification is restored prior to expiration of the specified time intervals, completion of the Action requirements is not required.

3.0.3 When a Specification is not met, except as provided in the associated ACTION requirements, reporting pursuant to TS 6.9.b and REMM 2.4.1 will be initiated.

SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements shall be met during the conditions specified for individual Specifications unless otherwise stated in an individual Surveillance Requirement.

4.0.2 Each Surveillance Requirement shall be performed within the specified time interval with a maximum allowable extension not to exceed 25% of the surveillance interval.

4.0.3 Failure to perform a Surveillance Requirement within the specified time interval shall constitute a failure to meet the OPERABILITY requirements for a Specification. Exceptions to these requirements are stated in the individual Specification. Surveillance Requirements do not have to be performed on inoperable equipment.

REMM 2.2.1/2.3.1 Monitoring Program

SPECIFICATION

2.2.1 The radiological environmental monitoring program shall be conducted as specified in Table 2.2.1-A.

APPLICABILITY

At all times.

ACTION

a. With the radiological environmental monitoring program not being conducted as specified in Table 2.2.1-A, in lieu of a Licensee Event Report, prepare and submit to the Commission, in the Annual Radiological Environmental Monitoring Report required by TS 6.9.b.1 and REMM 2.4.1, a description of the reasons for not conducting the program as required and the plans for preventing a recurrence.

b. With the level of radioactivity as the result of plant effluents in an environmental sampling medium at a specified location exceeding the reporting levels of Table 2.2.1-D when averaged over any calendar quarter in lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days, pursuant to TS 6.9.b.3, a Special Report that identifies the cause(s) for exceeding the limit(s) and defines the corrective actions to be taken to reduce radioactive effluents so that the potential annual dose[1] to A MEMBER OF THE PUBLIC is less than the calendar year limits of specifications ODCM 3.3.2, 3.4.2, and 3.4.3. When more than one of the radionuclides in Table 2.2.1-D are detected in the sampling medium, this report shall be submitted if:

$$\frac{concentration\,(1)}{reporting\,level\,(1)} + \frac{concentration\,(2)}{reporting\,level\,(2)} + \ldots \geq 1.0$$

When radionuclides other than those in Table 2.2.1-D are detected and are the result of plant effluents, this report shall be submitted if the potential annual dose[1] to a MEMBER OF THE PUBLIC is equal to or greater than the calendar year limits of specifications ODCM 3.3.2, 3.4.2, and 3.4.3. This report is not required if the measured level of radioactivity was not the result of plant effluents; however, in such an event the condition shall be reported and described in the Annual Radiological Environmental Monitoring Report.

[1]The methodology and parameters used to estimate the potential annual dose to a member of the public shall be indicated in this report.

c. With milk or fresh leafy vegetable samples unavailable from one or more of the sample locations required by Table 2.2.1-A, a sample from an alternative location will be substituted, noting the reason for the unavailability in the Annual Radiological Environmental Monitoring Report. When changes in sampling locations are permanent, the sampling schedule in the RADIOLOGICAL ENVIRONMENTAL MONITORING MANUAL (REMM) will be updated to reflect the new routine and alternative sampling locations and this revision will be described in the Annual Radiological Environmental Monitoring Report.

SURVEILLANCE REQUIREMENT

2.3.1 The radiological environmental monitoring samples shall be collected pursuant to Table 2.2.1-A from the specific locations given in the table and figure(s) in the REMM, and shall be analyzed pursuant to the requirements of Table 2.2.1-A and the detection capabilities required by Table 2.3.1-A.

BASIS

The radiological environmental monitoring program required by this specification provides representative measurements of radiation and of radioactive materials in those exposure pathways and for those radionuclides that lead to the highest potential radiation exposures of MEMBERS OF THE PUBLIC resulting from the station operation. This monitoring program implements Section IV.B.2 of Appendix I to 10CFR Part 50 and thereby supplements the radiological effluent monitoring program by verifying that the measurable concentrations of radioactive materials and levels of radiation are not higher than expected on the basis of the effluent measurements and the modeling of the environmental exposure pathways. Guidance for this monitoring program is provided by the Radiological Assessment Branch Technical Position on Environmental Monitoring. Program changes may be initiated based on operational experience.

The required detection capabilities for environmental sample analyses are tabulated in terms of the lower limits of detection (LLDs). The LLDs required by Table 2.3.1-A are considered optimum for routine environmental measurements in industrial laboratories. It should be recognized that the LLD is defined as a priori (before the fact) limit representing the capability of a measurement system and not as an a posteriori (after the fact) limit for a particular measurement.

Detailed discussion of the LLD, and other detection limits, can be found in HASL Procedures Manual, HASL-300 (revised annually), Currie, L.A., "Limits for Qualitative Detection and Quantitative Determination - Application to Radiochemistry," Anal. Chem. 40, 586-93 (1968), and Hartwell, J.K., "Detection Limits for Radioanalytical Counting Techniques," Atlantic Richfield Hanford Company Report ARH-SA-215 (June 1975).

Discussion

KPS TS 6.16.b.2(A) requires that the monitoring, sampling, analysis, and reporting of radiation and radionuclides in the environment be done in accordance with the methodology and parameters in the ODCM.

REMM 2.2.2/2.3.2 Land Use Census

SPECIFICATION

2.2.2 A land use census shall be conducted and shall identify within a distance of 8 km (5 miles) the location in each of the 10 meteorological sectors of the nearest milk animal, the nearest residence and the nearest garden[2] of greater than 50 m^2 (500 ft^2) producing broad leaf vegetation.

APPLICABILITY

At all times.

ACTION

a. With a land use census identifying a location(s) that yields a calculated dose or dose commitment greater than the values currently being calculated in ODCM Surveillance Requirement 4.4.3, in lieu of a Licensee Event Report, identify the new location(s) in the next Annual Radiological Environmental Monitoring Report pursuant to TS 6.9.b.1 and REMM 2.4.1.

b. With a land use census identifying a location(s) that yields a calculated dose or dose commitment (via the same exposure pathway) 20% greater than at a location from which samples are currently being obtained in accordance with specification REMM 2.2.1, add the new location(s) to the radiological environmental monitoring program within 30 days. The sampling location(s), excluding the control station location, having a lower calculated dose or dose commitment(s), via the same exposure pathway, may be deleted from this monitoring program. In lieu of a Licensee Event Report, identify the new location(s) in the next Annual Radiological Environmental Monitoring Report pursuant to TS 6.9.b.1 and REMM 2.4.1 and also include in the report a revised figure(s) and table for the REMM reflecting the new location(s).

SURVEILLANCE REQUIREMENT

2.3.2 The land use census shall be conducted during the growing season once per 12 months using reasonable survey methods, such as by a door-to-door survey, aerial survey, or by consulting local agriculture authorities. The results of the land use census shall be included in the Annual Radiological Environmental Monitoring Report pursuant to TS 6.9.b.1 and REMM 2.4.1.

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[2]Sampling of leaf vegetation may be performed at the site boundary in each of two different direction sectors with the highest predicted D/Qs in lieu of the garden census. Specifications for broad leaf vegetation sampling in Table 2.2.1-A item 4c shall be followed, including analysis of control samples.

BASIS

This specification is provided to ensure that changes in the use of areas at and beyond the SITE BOUNDARY are identified and that modifications to the radiological environmental monitoring program are made if required by the door-to-door survey, from aerial survey or from consulting with local agricultural authorities. This census satisfies the requirements of Section IV.B.3 of Appendix I to 10CFR Part 50. Restricting the census to gardens of greater than 50 m^2 provides assurance that significant exposure pathways via leafy vegetables will be identified and monitored since a garden of this size is the minimum required to produce the quantity (26 kg/yr) of leafy vegetables assumed in Regulatory Guide 1.109 for consumption by a child. To determine this minimum garden size, the following assumptions were made:

1. 20% of the garden was used for growing leafy vegetation (i.e., similar to lettuce and cabbage), and
2. A vegetation yield of 2 kg/m^2.

Discussion

KPS TS 6.16.b.2(b) requires that a land use census be performed to ensure that changes in the use of areas at and beyond site boundary are identified and that modifications to the radiological environmental monitoring program are made if required by the results of this census.

Figure 2, Emergency Plan Zone Map identifying sectors for cross-reference in Land Use Census Program.

REMM 2.2.3/2.3.3 Interlaboratory Comparison Program

SPECIFICATION

2.2.3 Analyses shall be performed on radioactive materials supplied as part of an Interlaboratory Comparison Program that has been approved by the Commission.

APPLICABILITY

At all times.

ACTION

a. With analyses not being performed as required above, report corrective actions taken to prevent a recurrence to the Commission in the Annual Radiological Environmental Monitoring Report pursuant to TS 6.9.b.1 and REMM 2.4.1.

SURVEILLANCE REQUIREMENT

2.3.3 The Interlaboratory Comparison Program shall be described in the REMM. A summary of the results obtained as part of the above required Interlaboratory Comparison Program shall be included in the Annual Radiological Environmental Monitoring Report pursuant to TS 6.9.b.1 and REMM 2.4.1.

BASIS

The requirement for participation in an approved Interlaboratory Comparison Program is provided to ensure that independent checks on the precision and accuracy of measurements of radioactive material in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring in order to demonstrate that the results are valid for the purposes of Section IV.B.2 of Appendix I to 10CFR Part 50.

Discussion

KPS TS 6.16.b.2(c) requires participation in an approved Interlaboratory Comparison Program to ensure that an independent check is performed of the precision and accuracy of radioactive materials measurements. This will demonstrate that the results are valid for the purposes of Section IV.B.2 of Appendix I to 10CFR Part 50.

REMM 2.4.1 Reporting Requirements

2.4.1 The Annual Radiological Environmental Monitoring Report shall include:

a. Summaries, interpretations, and an analysis of trends of the results of the radiological environmental surveillance activities for the report period, including a comparison with pre-operational studies, with operational controls as appropriate, and with previous environmental surveillance reports, and an assessment of the observed impacts of the plant operation on the environment. The reports shall also include the results of land use censuses required by specification REMM 2.2.2.

b. The results of analyses of radiological environmental samples and of environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the Radiological Environmental Monitoring Manual (REMM), as well as summarized and tabulated results of these analyses and measurements in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted as soon as possible in a supplementary report when applicable.

c. A summary description of the radiological environmental monitoring program; legible maps covering all sampling locations keyed to a table giving distances and directions from the centerline of one reactor; the results of licensee participation in the Interlaboratory Comparison Program, required by specification REMM 2.2.3; discussion of all deviations from the sampling schedule of Table 2.2.1-A; and discussion of all analyses in which the LLD required by Table 2.3.1-A was not achievable.

Discussion

KPS TS 6.9.b.1 provides the programmatic control, which requires that an Annual Radiological Environmental Monitoring Report be submitted to the NRC. It also states that this report shall include summaries, interpretations, and analysis of trends of the results of the REMP for the reporting period.

The procedural details of this report are included in this specification. Specifications REMM 2.2.1/2.3.1, 2.2.2/2.3.2, and 2.2.3/2.3.3 also include specific reporting requirements. These specifications reference this REMM specification, along with TS 6.9.b.1, as the method for reporting deviations from the current program during the reporting period, and require that this information be included in the Annual Radiological Environmental Monitoring Report.

3.0 REMP Implementation

The Radiological Environmental Monitoring Program for KPS is under the direction of a Contracted Vendor (CV). This section describes this program, as required by REMM 2.2.1 and the process the CV uses to perform it.

3.1 Sampling Requirements

Table 2.2.1-A identifies the various samples required by the REMP. Identified in the "available sample locations" column in Table 2.2.1-A are the sample locations selected, in conjunction with the vendor, to meet or exceed the REMP requirements. Table 2.2.1-B includes the same requirements as in Table 2.2.1-A but presents the information in a different format by identifying the type of samples required at each location and the collection frequency. Table 2.2.1-C identifies the location and description of each sample location. Figure 1 shows the physical location of each sample point on an area map.

3.2 Analysis Methodology

Analytical procedures and counting methods employed by the CV will follow those recommended by the U.S. Public Health Service publication, Radioassay Procedures for Environmental Samples, January 1967; and the U.S. Atomic Energy Commission Health and Safety Laboratory, HASL Procedures Manual (HASL-300), 1972. The manual is also available on-line at www.eml.doe.gov/publications/procman.

Updated copies will be maintained in KPS's vault.

3.3 Detection Capability (LLD) Requirements

The required detection capabilities for environmental sample and analysis are tabulated in terms of lower limits of detection (LLDs) in Table 2.3.1-A. The LLDs required by Table 2.3.1-A are considered optimum for routine environmental measurements in industrial laboratories. It should be recognized that the LLD is defined as a priori (before the fact) limit representing the capability of a measurement system and not as an a posteriori (after the fact) limit for a particular measurement.

Detailed discussion of the LLD, and other detection limits, can be found in HASL Procedures Manual, HASL-300 (revised annually), Currie, L.A., "Limits for Qualitative Detection and Quantitative Determination - Application to Radiochemistry," Anal. Chem. 40, 586-93 (1968), and Hartwell, J.K., "Detection Limits for Radioanalytical Counting Techniques," Atlantic Richfield Hanford Company Report ARH-SA-215 (June 1975).

3.4 Contracted Vendor Reporting Requirements

Monthly Progress Reports

Monthly progress reports will include a tabulation of completed analytical data on samples obtained during the previous 30 day period together with graphic representations where trends are evident, and the status of field collections. One copy of the reports will be submitted within 30 days of the reporting month.

Annual Reports

Annual reports will be submitted in two parts. Part I, to be submitted to the NRC, will be prepared in accordance with NRC Regulatory Guide 4.8. It will contain an introductory statement, a summary of results, description of the program, discussion of the results, and summary table. Part II of the annual report will include tables of analytical data for all samples collected during the reporting period, together with graphic presentation where trends are evident and statistical evaluation of the results. Gamma scan data will be complemented by figures of representative spectra. Draft copies of each annual report will be due 60 days after completion of the annual period. After final review of the draft document, one photoready copy of the revised annual report will be sent to KPS for printing.

Non-Routine Reports

If analyses of any samples collected show abnormally high levels of radioactivity, KPS will be notified by telephone immediately after data becomes available.

Action Limits

The CV will report any radioactive concentrations found in the environmental samples which exceed the reporting levels shown in Table 2.2.1-D, CV to KPS column. These levels are set below the NRC required reporting levels (KPS to NRC column) so actions can be initiated to prevent exceeding the NRC concentration limits.

3.5 Quality Control Program

To insure the validity of the data, the CV maintains a quality control (QC) program, which employs quality control checks, with documentation, of the analytical phase of its environmental monitoring studies. The program is defined in the CV's QC Program Manual, and procedures are presented in the CV QC Procedures Manual. The program shall be reviewed and meet the requirements of Regulatory Guide 4.15 and 10CFR21. All data related to quality control will be available for review by Dominion Energy Kewaunee upon reasonable prior notification. Proprietary information will be identified so that it may be treated accordingly.

Updated copies of the Quality Control Program Manual and the Quality Assurance Program Manual will be maintained in KPS's vault.

3.6 Sample Descriptions

A description of each of the samples required by this program follows:

Airborne Particulates

Airborne particulates are collected at six locations (K-1f, K-2, K-7, K-8, K-31, and K-41) on a continuous basis on a 47 mm diameter membrane filter of 0.8 micron porosity at a volumetric rate of approximately one cubic foot per minute (CFM). The filters are changed weekly, placed in glassine protective envelopes, and dispatched by U.S. Mail to the CV for Gamma Isotopic Analysis. Filter samples are analyzed weekly for gross beta activity after sufficient time (usually 3 to 5 days) has elapsed to allow decay of Radon and Thoron daughters. If gross beta concentration in air particulate samples are greater than ten (10) times the yearly mean of the control samples, gamma isotopic analysis shall be performed on the individual samples. Quarterly composites from each location receive Gamma Isotopic Analysis using a Germanium detector. All identifiable gamma-emitters are quantified. Reporting units are pCi/m^3.

Airborne Iodine

All air samplers are equipped with charcoal traps installed behind the particulate filters for collection of airborne I-131. The traps are changed once every two weeks. Iodine-131 is measured by Gamma Isotopic Analysis.

Periphyton (Slime) or Aquatic Vegetation

Periphyton (slime) or aquatic plant samples are collected at or near locations used for surface water sampling. They are collected twice during the year (2nd and 3rd quarter), if available. The samples are analyzed for gross beta activity and, if available in sufficient quantity, for Sr-89, Sr-90, and by Gamma Isotopic Analysis. Reporting units are pCi/g wet weight.

Fish

Fish are collected three times per year (second, third, and fourth quarters) near the discharge area (K-1d). Flesh is separated from the bones and analyzed for gross beta activity and by Gamma Isotopic Analysis. The bones are analyzed for gross beta activity and Sr-89 and Sr-90. Reporting units are pCi/g wet weight.

Domestic Meat

Domestic meat (chickens) may be collected once a year during the 3rd quarter, from six locations in the vicinity of the plant (K-20, K-24, K-27, K-29, K-34, and K-32). Samples may not be available every year at every location due to farmer preference. At least one control and one indicator should be collected. The flesh is analyzed for gross alpha, gross beta, and by Gamma Isotopic Analysis to identify and quantify gamma-emitting radionuclides. Reporting units are pCi/g wet weight.

Ambient Radiation

Two packets of thermoluminescent dosimeters ($CaSO_4$: Dy cards) are placed at forteen locations, six of which are air sampling locations (K-1f, K-2, K-7, K-8, K-31, and K-41) and four of which are milk sampling locations (K-3, K-5, K-25, and K-39); the remaining four locations are K -15, K-17, K-27, and K-30. One packet is changed quarterly and one annually. Annual TLDs will serve as an emergency set to be read when needed. They will be exchanged annually (without reading) if not read during the year. To insure the precision of the measurement, each packet will contain two cards with four dosimeters each (four sensitive areas each for a total of eight). For protection against moisture each set of cards is sealed in a plastic bag and placed in a plastic container.

Each card is individually calibrated for self-irradiation and light response. Fading is guaranteed by the manufacturer (Teledyne Isotopes) not to exceed 20% in one year. Minimum sensitivity for the multi-area dosimeter is 0.5 mR defined as 3 times the standard deviation of the background. Maximum Error (1 standard deviation) - ^{60}Co Gamma +/-0.2 mR or +/-3%, whichever is greater. The maximum spread between areas on the same dosimeter is 3.5% at 1 standard deviation.

Reporting units for TLDs are mR/91 days for quarterly TLDs and mR/exposure period for annual TLDs.

Tests for uniformity and reproducibility of TLDs as specified in ANSI N545-1981 and NRC Regulatory Guide 4.13, are performed annually.

Well Water

One gallon water samples are taken once every three months from four off-site wells, (K-10, K-11, K-13, and K-25) and two on-site wells (K-1h and K-1g). All samples are analyzed for gross beta in the total residue, K-40, tritium, and by Gamma Isotopic Analysis. Samples from one on-site well are analyzed for Sr-89, and Sr-90. Samples from K-1h and K-1g are also analyzed for gross alpha. Reporting units are pCi/l.

Precipitation

A monthly cumulative sample of precipitation is taken at Location K-11. This sample is analyzed for tritium. Reporting units are pCi/l.

Milk

Milk samples are collected from two herds that graze within three miles of the reactor site (K-25 and K-34); from four herds that graze between 3-7 miles of the reactor site (K-3, K-5, K-38, and K-39); and one from a dairy in Green Bay (K-28), 26 miles from the reactor site.

The samples are collected twice per month during the grazing period (May through October) and monthly for the rest of the year. To prevent spoilage the samples are treated with preservative. All samples are analyzed by Gamma Isotopic Analysis and for iodine -131 immediately after they are received at the laboratory. To achieve required minimum sensitivity of 0.5 pCi/l, iodine is separated on an ion exchange column, precipitated as palladium iodide and beta counted. Monthly samples and monthly composites of semimonthly samples are then analyzed for Sr-89 and Sr-90. Potassium and calcium are determined and the $^{137}Cs/gK$ and $^{90}Sr/gCa$ ratios are calculated. Reporting units are pCi/l except for stable potassium and calcium, which are reported in g/l.

If milk samples are not available, green leafy vegetables will be collected on a monthly basis (when available) from Locations K-10, K-11, and K-26.

Grass

Grass is collected three times per year (2nd, 3rd, and 4th quarters) from the six dairy farms (K-3, K-5, K-25, K-34, K-38, and K-39) and from two on-site locations (K-1b and K-1f). The samples are analyzed for gross beta activity, for Sr-89 and Sr-90, and Gamma Isotopic Analysis to identify and quantify gamma-emitting radionuclides. Reporting units are pCi/g wet weight.

Cattlefeed

Once per year, during the first quarter when grass is not available, cattlefeed (such as hay or silage) is collected from the six dairy farms. The analyses performed are the same as for grass. Reporting units are pCi/g wet weight.

Vegetables and Grain

Annually, during the 3rd quarter, samples of five varieties of vegetables grown and marketed for human consumption are collected from K-17 and/or K-26, depending upon the availability of samples. If samples are not available from these locations, samples may be obtained from any local source so there is some sample of record. The location will be documented. In addition, two varieties of grain, if available, are collected annually from the farmland owned by Dominion Energy Kewaunee (K-23) and rented to a private individual for growing crops. The analyses performed are the same as for grass. Reporting units are pCi/g wet weight.

Eggs

Quarterly samples of eggs can be taken from K-24, K-27, and K-32. At least one control and one indicator should be collected. The samples are analyzed for gross beta activity, for Sr-89 and Sr-90, and Gamma Isotopic Analysis to identify and quantify gamma-emitting radionuclides. Reporting units are pCi/g wet weight.

Soil

Twice during the growing season samples of the top two inches of soil are collected from the six dairy farms and from an on-site location (K-1f). The soil is analyzed for gross alpha and gross beta activities, for Sr-89 and Sr-90, and Gamma Isotopic Analysis to identify and quantify gamma-emitting manmade radionuclides. Reporting units are pCi/g dry weight.

Surface Water

Surface water is sampled monthly from Lake Michigan at the KPS discharge (K-1d), and at Two Creeks Park, 2.5 miles south of the reactor site (K-14). Samples are collected monthly at the Green Bay Municipal Pumping station between Kewaunee and Green Bay (K-9). Raw and treated water is collected. Monthly samples are also taken, when available, from each of the three creeks (K-1a, K-1b, K-1e) that pass through the reactor site and from the drainage pond (K-1k) south of the plant. The samples are taken at a point near the mouth of each creek and at the shore of the drainage pond. The water is analyzed for gross beta activity in:

a. The total residue,
b. The dissolved solids, and
c. The suspended solids.

The samples are also analyzed for K-40 and by Gamma Isotopic Analysis. Quarterly composites from all locations are analyzed for tritium, Sr-89 and Sr-90. Reporting units are pCi/l.

Bottom Sediments

Five samples of Lake Michigan bottom sediments, one at the discharge (K-1d), one from 500 feet north of the discharge (K-1c), one from 500 feet south of the discharge (K-1j), and one at the Two Creeks Park (K-14), one at the Green Bay Municipal Pumping Station (K-9) are collected semi-annually (May and November). The samples are collected at the beach in about 2-3 feet of water. All samples are analyzed for gross beta activity, for Sr-89 and Sr-90 and by Gamma isotopic Analysis. Since it is known that the specific activity of the sediments (i.e., the amount of radioactivity per unit mass of sediment) increases with decreasing particle size, the sampling procedure will assure collection of very fine particles. Reporting units are pCi/g dry weight.

Ground Monitoring Wells

Figure 3 shows the location of 14 installed groundwater monitoring wells. The wells and location are identified with a diamond shape in Figure 3. The wells are labeled MW (Monitoring Well) and AB (Auxiliary Building).

Table 2.2.1-A

Radiological Environmental Monitoring Program

Exposure Pathway And/Or Sample	Minimum Required Samples [a]	Available Sample Locations [b]	Sampling, Collection and Analysis Frequency	Type of Analysis
1. Direct Radiation[c]	5 Inner Ring locations	**K-5, K-25, K-27, K-7, K-1F, K-30**	See Table 2.2.1-B	Gamma dose
	6 Outer Ring locations	**K-2, K-3, K-15, K-17, K-8, K-31, K-39**		
	1 Control location	**K-41**		
	1 Population center	**K-7**		
	1 Special interest location	**K-8**		
	1 Nearby resident	**K-27**		
2. Airborne Radioiodine and Particulates	3 samples close to the site boundary in highest average X/Q	**K-1f, K-2, K-7, K-8, K-31**	See Table 2.2.1.B Continuous sampler operation Iodine; charcoal	Iodine (I-131) by Gamma Isotopic[f]
	1 sample from the closest community having the highest X/Q	**K-7**	Particulates See Table 2.2.1-B	Particulates; gross beta analysis[e] Gamma isotopic of composite (by location) [f]
	1 sample from a control location	**K-41[d]**	See Table 2.2.1-B	
3. Waterborne				
a. Surface[g]	1 Upstream sample 1 Downstream sample	**K-1a, K-9, K-1d K-1e, K-14, K-1k, K-1b**	Grab sample See Table 2.2.1-B	Gross Beta, Gamma isotopic [f] Composite of grab samples for tritium, and Sr 89/90
b. Ground	1-2 location likely to be affected [d]	**K-1g, K-1h[h]**	Grab sample See Table 2.2.1-B	Gamma isotopic [f], tritium analysis Gross Beta, Gross Alpha, Sr 89/90
c. Drinking	1-3 samples of nearest water supply	**K-10, K-11, K-13, K-25**	Grab sample See Table 2.2.1-B	Gross beta and gamma isotopic [f] analysis. Tritium analysis of the composite of monthly grab samples. [i]
d. Sediment from shoreline	1 sample from downstream area with potential for recreational value	**K-14, K-1c, K-1d, K-1j, K-9**	Grab sample See Table 2.2.1-B	Gamma isotopic [f] analysis Gross Beta, Sr 89/90

Table 2.2.1-A *Radiological Environmental Monitoring Program*				
Exposure Pathway And/Or Sample	Minimum Required Samples [a]	Available Sample Locations [b]	Sampling, Collection and Analysis Frequency	Type of Analysis
4. Ingestion				
a. Milk	Samples from milking animals in 3 locations within 5 km having the highest dose potential.	**K-5, K-25, K-34**	See Table 2.2.1-B	I-131 Gamma Isotopic [f] SR 89/90
	1 alternate location	**K-38, K-39**		
	1 control location	**K-3, K-28**		
b. Fish	3 random samplings of commercially and recreationally important species in the vicinity of the discharge.	**K-1d**	See Table 2.2.1-B	Gamma isotopic [f] and edible portions Gross Beta Sr 89/90 on bones
c. Food Products	Samples of leaf vegetables grown nearest each of two different offsite locations within 5 miles of the plant if milk sampling is not performed.	2 samples nearest. highest predicted annual average ground level D/Q. **K-10, K-11** 1 sample 15-30 km distant if milk sampling is not performed. **K-26**	See Table 2.2.1-B	Gamma isotopic [f] and I-131 Analysis.
5. Miscellaneous samples not identified in NUREG-0472				
a. Aquatic Slime	None required	K-1k K-1a, K-1b, K-1e K-14, K-1d K-9 (control)	See Table 2.2.1-B	Gross Beta activity and if available Sr-89, Sr-90 and Gamma Isotopic[f]
b. Soil	None required	K-1f, K-5, K-25, K-39 K-34, K-38 K-3, (control)	See Table 2.2.1-B	Gross Alpha/Beta Sr-89 and Sr-90 Gamma Isotopic[f]
c. Cattlefeed	None required	K-5, K-25, K-39 K-34, K-38 K-3,(control)	See Table 2.2.1-B	Gross Beta Sr-89 and Sr-90 Gamma Isotopic[f]

Table 2.2.1-A

Radiological Environmental Monitoring Program

Exposure Pathway And/Or Sample	Minimum Required Samples [a]	Available Sample Locations [b]	Sampling, Collection and Analysis Frequency	Type of Analysis
d. Grass	None required	K-1b, K-1f, K-25, K-39 K-5, K-34, K-38 K-3,(control)	See Table 2.2.1-B	Gross Beta Sr-89 and Sr-90 Gamma Isotopic[f]
e. Domestic Meat	None required	K-20, K-24, K-27, K-29 K-32 (control), K-34	See Table 2.2.1-B	Gross Alpha/Beta Gamma Isotopic[f]
f. Eggs	None required	K-27 K-32 K-24	See Table 2.2.1-B	Gross Beta Sr-89/90 Gamma Isotopic[f]
g. Precipitation	None required	K-11	See Table 2.2.1-B	Tritium
h. Vegetables/Grain	None required	K-17, K-23 K-26 (control)	See Table 2.2.1-B	Gross Beta Sr-89/90 Gamma Isotopic[f]

Table Notations

a. The samples listed in this column describe the minimum sampling required to meet REMP requirements.

b. Additional details of sample locations are provided in Table 2.2.1-C and Figure 1. The REMP requires that samples to be taken from each of the "available sample locations" listed (see section 3.1). Deviations from the required sampling schedule will occur if specimens are unobtainable due to hazardous conditions, seasonal unavailability, malfunction of automatic sampling equipment and other legitimate reasons. If specimens are unobtainable due to sampling equipment malfunction, reasonable efforts shall be made to complete corrective actions prior to the end of the next sampling period. All deviations from the sampling schedule shall be documented, as required by REMM 2.4.1.c, in the Annual Radiological Environmental Monitoring Report. It is recognized that, at times, it may not be possible or practicable to continue to obtain samples of the media of choice at the most desired location or time. In these instances suitable alternative media and locations may be chosen for the particular pathway in question and appropriate substitutions made within 30 days in the REMM. The cause of the unavailability of samples for that pathway and the new location(s) for obtaining replacement samples will be identified in the Annual Radiological Environmental Monitoring Report.

c. For the purposes of this table, each location will have 2 packets of thermoluminescent dosimeters (TLDs). The TLDs are CaSO4: Dy cards with 2 cards/packet and 4 dosimeters/card (four sensitive areas each for a total of eight dosimeters/packet). The NRC guidance of 40 stations is not an absolute number. The number of direct radiation monitoring stations has been reduced according to geographical limitations; e.g., Lake Michigan. The frequency of analysis or readout for TLD systems depends upon the characteristics of the specific system used and selection is made to obtain optimum dose information with minimal fading.

d. The purpose of this sample is to obtain background information. If it is not practical to establish control locations in accordance with the distance and wind direction criteria, other sites that provide valid background data may be substituted.

e. Airborne particulate sample filters shall be analyzed for gross beta radioactivity 24 hours or more after sampling to allow for radon and thoron daughter decay. If gross beta activity in air particulate samples is greater than ten times the yearly mean of control samples, gamma isotopic analysis shall be performed on the individual samples.

Table 2.2.1-A *Radiological Environmental Monitoring Program*				
Exposure Pathway And/Or Sample	Minimum Required Samples [a]	Available Sample Locations [b]	Sampling, Collection and Analysis Frequency	Type of Analysis
f. Gamma isotopic analysis means the identification and quantification of gamma-emitting radionuclides that may be attributable to the effluents from the facility.				
g. The "upstream sample" shall be taken at a distance beyond significant influence of the discharge. The "downstream" sample shall be taken in an area near the mixing zone.				
h. Ground water samples shall be taken when this source is tapped for drinking or irrigation purposes in areas where the hydraulic gradient or recharge properties are suitable for contamination.				
i. In the event elevated analysis are reported by CV for gamma isotopic or tritium, a review will be conducted with the option to retest additional analysis for hard to detect isotopes or alpha emitters. The additional test may include Fe-55, Ni-63, or alpha emitters anticipated on current plant conditions.				

Table 2.2.1-B

Type and Frequency of Collection

Location	Weekly	Biweekly	Monthly	Quarterly	Semi-Annually		Annually
K-1a			SW			SL[f]	
K-1b			SW	GR[a]		SL[f]	
K-1c					BS[b]		
K-1d			SW	FI[a]	BS[b]	SL[f]	
K-1e			SW			SL[f]	
K-1f	AP	AI		GR[a] TLD	SO		
K-1g				WW			
K-1h				WW			
K-1j					BS[b]		
K-1k			SW			SL[f]	
K-2	AP	AI		TLD			
K-3			MI[c]	GR[a] TLD CF[d]	SO		
K-5			MI[c]	GR[a] TLD CF[d]	SO		
K-7	AP	AI		TLD			
K-8	AP	AI		TLD			
K-9			SW		BS[b]	SL[f]	
K-10			GLV[e]	WW			
K-11			PR, GLV[e]	WW			
K-13				WW			
K-14			SW		BS[b]	SL[f]	
K-15				TLD			
K-17				TLD			VE
K-20							DM
K-23							GRN
K-24				EG			DM
K-25			MI[c]	GR[a] TLD CF[d] WW	SO		
K-26			GLV[e]				VE
K-27				EG TLD			DM
K-28			MI[c]				
K-29							DM
K-30				TLD			
K-31	AP	AI		TLD			
K-32				EG			DM
K-34			MI[c]	GR[a] CF[d]	SO		DM
K-38			MI[c]	GR[a] CF[d]	SO		

Table 2.2.1-B *Type and Frequency of Collection*							
Location	Weekly	Biweekly	Monthly	Quarterly		Semi-Annually	Annually
K-39			MI[c]	TLD GR[a] CF[d]		SO	
K-41	AP	AI		TLD			

a. Three times a year, second (April, May, June), third (July, August, September), and fourth (October, November, December) quarters
b. To be collected in May and November
c. Monthly from November through April; semimonthly from May through October
d. First (January, February, March) quarter only
e. Alternate if milk is not available
f. Second and third quarters

Code	Description	Code	Description	Code	Description
AI	Airborne Iodine	FI	Fish	SO	Soil
AP	Airborne Particulate	GR	Grass	SW	Surface Water
BS	Bottom Sediment	GRN	Grain	TLD	Thermoluminescent Dosimeter
CF	Cattlefeed	MI	Milk	VE	Vegetables
DM	Domestic Meat	PR	Precipitation	WW	Well Water
EG	Eggs	SL	Slime	GLV	Green Leafy Vegetables

Table 2.2.1-C *Sampling Locations, Kewaunee Power Station*			
Code	**Type[a]**	**Distance (Miles)[b] and Sector**	**Location**
K-1			Onsite
K-1a	I	0.62 N	North Creek
K-1b	I	0.12 N	Middle Creek
K-1c	I	0.10 N	500′ North of Condenser Discharge
K-1d	I	0.10 E	Condenser Discharge
K-1e	I	0.12 S	South Creek
K-1f	I	0.12 S	Meteorological Tower
K-1g	I	0.06 W	South Well
K-1h	I	0.12 NW	North Well
K-1j	I	0.10 S	500′ south of Condenser Discharge
K-1k	I	0.60 SW	Drainage Pond, south of plant
K-2	C	9.5 NNE	WPS Operations Building in Kewaunee
K-3	C	6.0 N	Lyle and John Siegmund Farm, N2815 Hy 42, Kewaunee
K-4(h)	I	3.0 N	Tom Stangel Farm, E4804 Old Settlers Rd, Kewaunee
K-5	I	3.5 NNW	Ed Paplham Farm, E4160 Old Settlers Rd, Kewaunee
K-6(e)	C	6.7 WSW	Novitsky Farm, E1870 Cty Tk BB, Denmark
K-7	I	2.75 SSW	Ron Zimmerman Farm, 17620 Nero Rd, Two Rivers
K-8	C	5.0 WSW	Saint Isadore the Farmer Church, 18424 Tisch Mills Rd, Tisch Mills
K-9	C	11.5 NNE	Green Bay Municipal Pumping Station, six miles east of Green Bay (sample source is Lake Michigan from Rostok Intake 2 miles north of Kewaunee)
K-10	I	1.5 NNE	Turner Farm, Kewaunee Site
K-11	I	1.0 NW	Harlan Ihlenfeld Farm, N879 Hy 42, Kewaunee
K-12(i)	I	1.5 WSW	LeCaptain Farm, N491 Woodside Rd, Kewaunee
K-13	C	3.0 SSW	Rand's General Store, Two Creeks
K-14	I	2.5 S	Two Creeks Park, 2.5 miles south of site
K-15	C	9.25 NW	Gas Substation, 1.5 miles north of Stangelville
K-17	I	4.25 W	Jansky's Farm, N885 Cty Tk B, Kewaunee
K-19(f)	I	1.75 NNE	Wayne Paral Farm, N1048 Lakeview Dr., Kewaunee
K-20	I	2.5 N	Carl Struck Farm, N1596 Lakeshore Dr., Kewaunee
K-23	I	0.5 W	0.5 miles west of plant, Kewaunee site

Table 2.2.1-C *Sampling Locations, Kewaunee Power Station*			
Code	**Type[a]**	**Distance (Miles)[b] and Sector**	**Location**
K-24	I	5.45 N	Fectum Farm, N2653 Hy 42, Kewaunee
K-25	I	2.75 SW	Wotachek Farm, E3968 Cty Tk BB, Two Rivers
K-26(d)	C	10.7 SSW	Bertler's Fruit Stand (8.0 miles south of "BB")
K-27	I	1.5 NW	Schlies Farm, E4298 Sandy Bay Rd
K-28	C	26 NW	Hansen Dairy, 1742 University Ave., Green Bay, Wisconsin
K-29	I	5.75 W	Kunesh Farm, E3873 Cty Tk G, Kewaunee
K-30	I	1.00 N	End of site boundary
K-31	I	6.25 NNW	E. Krok Substation, Krok Road
K-32	C	11.50 N	Piggly Wiggly, 931 Marquette Dr., Kewaunee
K-33(g)	I	4.25 W	Gary and Lynn Holly Farm, E2885 Holly Lane, Tisch Mills
K-34	I	2.5 N	Leon and Vicky Struck Farm, N1549 Lakeshore Drive, Kewaunee
K-35(j)	C	6.75 WNW	Jean Ducat Farm, N1215 Sleepy Hollow, Kewaunee
K-36(j)	I		Fiala's Fish Market, 216 Milwaukee, Kewaunee
K-37 (k)	I	4.00 N	Gary and Ann Hardtke Farm, E4282 Old Settlers Road, Kewaunee
K-38	I	3.8 WNW	Dave Sinkula Farm, N890 Town Hall Road, Kewaunee
K-39	I	4.00 N	Francis Wotja Farm, N1859 Lakeshore Road, Kewaunee
K-41 (l)	C	22 NW	KPS-EOF, 3060 Voyager Drive, Green Bay

a. I = indicator; C = control.
b. Distances are measured from reactor stack.
c. Deleted
d. Location K-18 was changed because Schmidt's Food Stand went out of business. It was replaced by Bertler's Fruit Stand (K-26).
e. Replaced by K-33 in summer of 2000. Retired from farming.
f. Replaced by K-34 in summer of 2000. Retired from farming.
g. Replaced by K-35 in fall of 2000.
h. Sold farm in summer of 2000, replaced by K-25
i. Retired from farming in summer of 2000
j. Removed from the program in Fall of 2001
k. Removed from the program in Fall of 2002
l. Location replaces K-16, January of 2007

Table 2.2.1-D

Reporting Levels for Radioactivity Concentrations in Environmental Samples

Medium	Radionuclide	Reporting Levels	
		CV to KPS[a]	KPS to NRC[b]
Airborne Particulate or Gases (pCi/m3)	Gross Beta	1	--
	I-131 (Charcoal)	0.1	0.9
	Cs-134	1	10
	Cs-137	1	20
Precipitation (pCi/l)	H-3	1,000	--
Water (pCi/l)	Gross Alpha	10	--
	Gross Beta	30	--
	H-3	10,000	20,000[c]
	Mn-54	100	1,000
	Fe-59	40	400
	Co-58	100	1,000
	Co-60	30	300
	Zr-Nb-95	40	400
	Cs-134	10	30
	Cs-137	20	50
	Ba-La-140	100	200
	Sr-89	8[d]	--
	Sr-90	8[d]	--
	Zn-65	30	300
Milk (pCi/l)	I-131	1.0	3
	Cs-134	20	60
	Cs-137	20	70
	Ba-La-140	100	300
	Sr-89	10	--
Grass, Cattle Feed, and Vegetables (pCi/g wet)	Gross Beta	30	--
	I-131	0.1	0.1
	Cs-134	0.2	1
	Cs-137	0.2	2
	Sr-89	1	--
	Sr-90	1	--

Table 2.2.1-D

Reporting Levels for Radioactivity Concentrations in Environmental Samples

Medium	Radionuclide	Reporting Levels	
		CV to KPS[a]	KPS to NRC[b]
Eggs (pCi/g wet)	Gross Beta	30	--
	Cs-134	0.2	1
	Cs-137	0.2	2
	Sr-89	1	--
	Sr-90	1	--
Soil, Bottom Sediments (pCi/g)	Gross Beta	50	--
	Cs-134	5	--
	Cs-137	5	--
	Sr-89	5	--
	Sr-90	5	--
Meat (pCi/g wet)	Gross Beta (Flesh, Bones)	10	--
	Cs-134 (Flesh)	1.0	1.0
	Cs-137 (Flesh)	2	2.0
	Sr-89 (Bones)	2	--
	Sr-90 (Bones)	2	--
Fish (pCi/g wet)	Gross Beta (Flesh, Bones)	10	--
	Mn-54	--	30.0
	Fe-59	--	10.0
	Co-58	--	30.0
	Co-60	--	10.0
	Cs-134 (Flesh)	1	1.0
	Cs-137 (Flesh)	2	2.0
	Sr-89 (Bones)	2	--
	Sr-90 (Bones)	2	--
	Zn-65 (Bones)	--	20

a. Radionuclides will be monitored by the CV and concentrations above the listed limits will be reported to KPS.

b. Concentrations above the listed limits will be reported to NRC as required by Specification 2.2.1.b.

c. For drinking water samples, this is 40CFR Part 141 value. If no drinking water pathway exists, a value of 30,000 pCi/l may be used.

d. The Sr-89/90 values are based on the EPA drinking water standards. See note "f." of Table 2.3.1-A for further information

Table 2.3.1-A
Detection Capabilities for Environmental Sample Analysis[a]
Lower Limit of Detection (LLD)[b,c]

Analysis	Water (pCi/l)	Airborne Particulate or Gases (pCi/m^3)	Fish (pCi/kg, wet)	Milk (pCi/l)	Food Products (pCi/kg, wet)	Sediment (pCi/kg, dry)
Gross Beta	4	0.01				
H-3	2000[d]					
Mn-54	15		130			
Fe-59	30		260			
Co-58, 60	15		130			
Zr-Nb-95	15					
I-131	1[e]	0.07		1	60	
Cs-134	15	0.05	130	15	60	150
Cs-137	18	0.06	150	18	80	180
Ba-La-140	15			15		
Zn-65	30		260			
Sr-89/90 [f]	5					

Table Notations for Table 2.3.1-A

a. This list does not mean that only these nuclides are to be considered. Other peaks that are identifiable, together with those of the above nuclides, shall also be analyzed and reported in the Annual Radiological Environment Monitoring Report.

b. Required detection capabilities for thermoluminescent dosimeters used for environmental measurements are given in Regulatory Guide 4.13.

c. The LLD is defined, for purposes of these specifications, as the smallest concentration of radioactive material in a sample that will yield a net count, above system background, that will be detected with 95% probability with only 5% probability of falsely concluding that a blank observation represents a "real" signal.

For a particular measurement system, which may include radiochemical separation:

$$LLD = \frac{4.66 s_b}{E \times V \times 2.22 \times Y \times \exp(-\gamma \Delta t)}$$

Where:

LLD is the a priori lower limit of detection as defined above, as picocuries per unit mass or volume,

S_b is the standard deviation of the background counting rate or of the counting rate of blank sample as appropriate, as counts per minute,

E is the counting efficiency, as counts per disintegration,

V is the sample size in units of mass or volume,

2.22 is the number of disintegrations per minute per picocurie,

Y is the fractional radiochemical yield, when applicable,

γ is the radioactive decay constant for the particular radionuclide, and

Δt for environmental samples is the elapsed time between sample collection, or end of the sample collection period, and time of counting,

Typical values of E, V, Y, and Δt should be used in calculation.

Table Notations for Table 2.3.1-A (con't)

It should be recognized that the LLD is defined as a priori (before the fact) limit representing the capability of a measurement system and not as an a posteriori (after the fact) limit for a particular measurement. Analyses shall be performed in such a manner that the stated LLDs will be achieved under routine conditions. Occasionally background fluctuations, unavoidable small sample sizes, the presence of interfering nuclides, or other uncontrollable circumstances may render these LLDs unachievable. In such cases, the contributing factors shall be identified and described in the Annual Radiological Environmental Monitoring Report.

d. If no drinking water pathway exists, a value of 3,000 pCi/l may be used.

e. LLD for drinking water samples. If no drinking water pathway exists, the LLD of gamma isotopic analysis may be used.

f. This is NOT a NUREG-0472 required value. It is based on EPA drinking water standards, which tie into the NEI Groundwater Protection Initiative that was implemented at KPS on August 4, 2006.

FIGURE 1

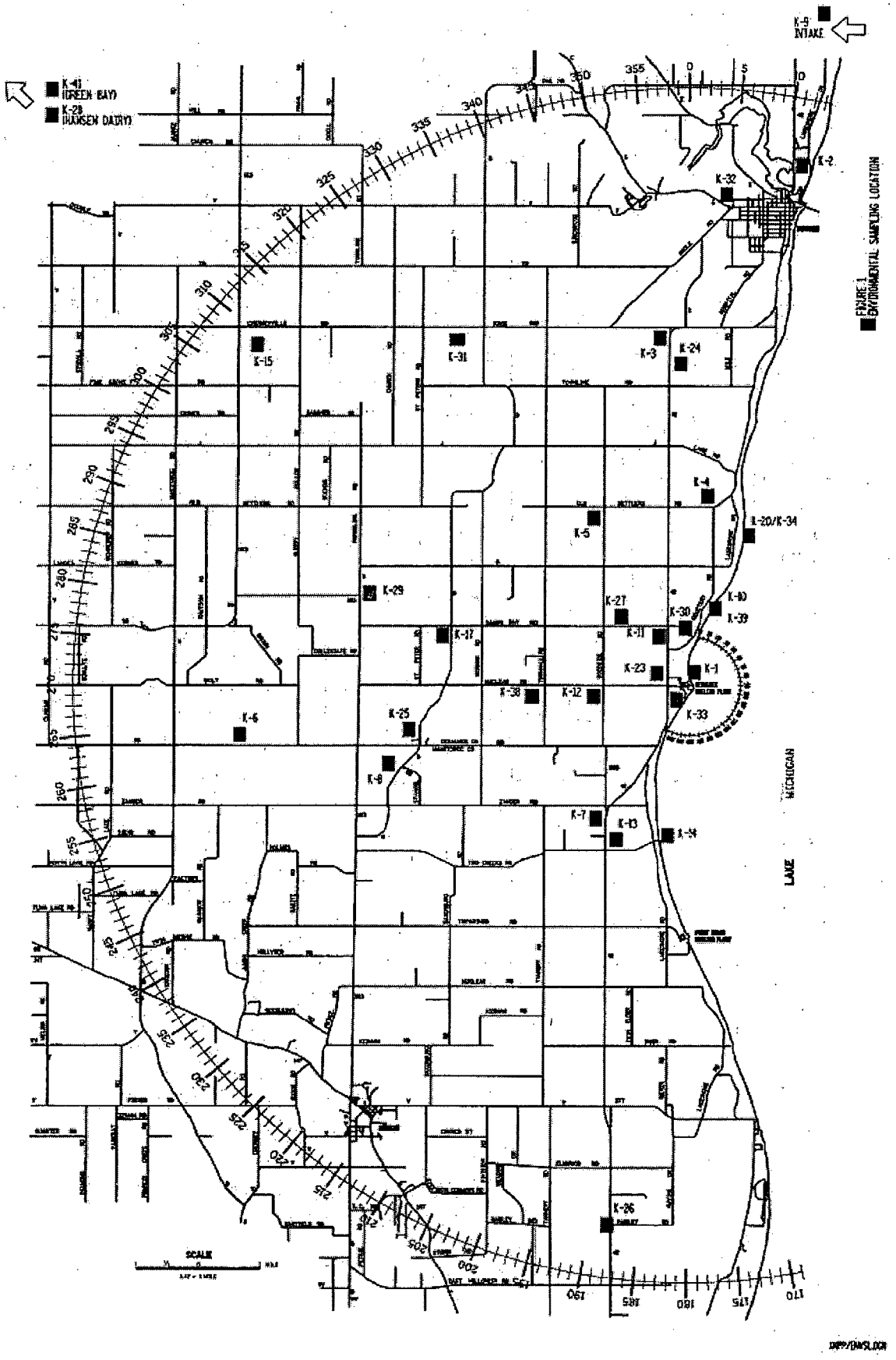

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FIGURE 2

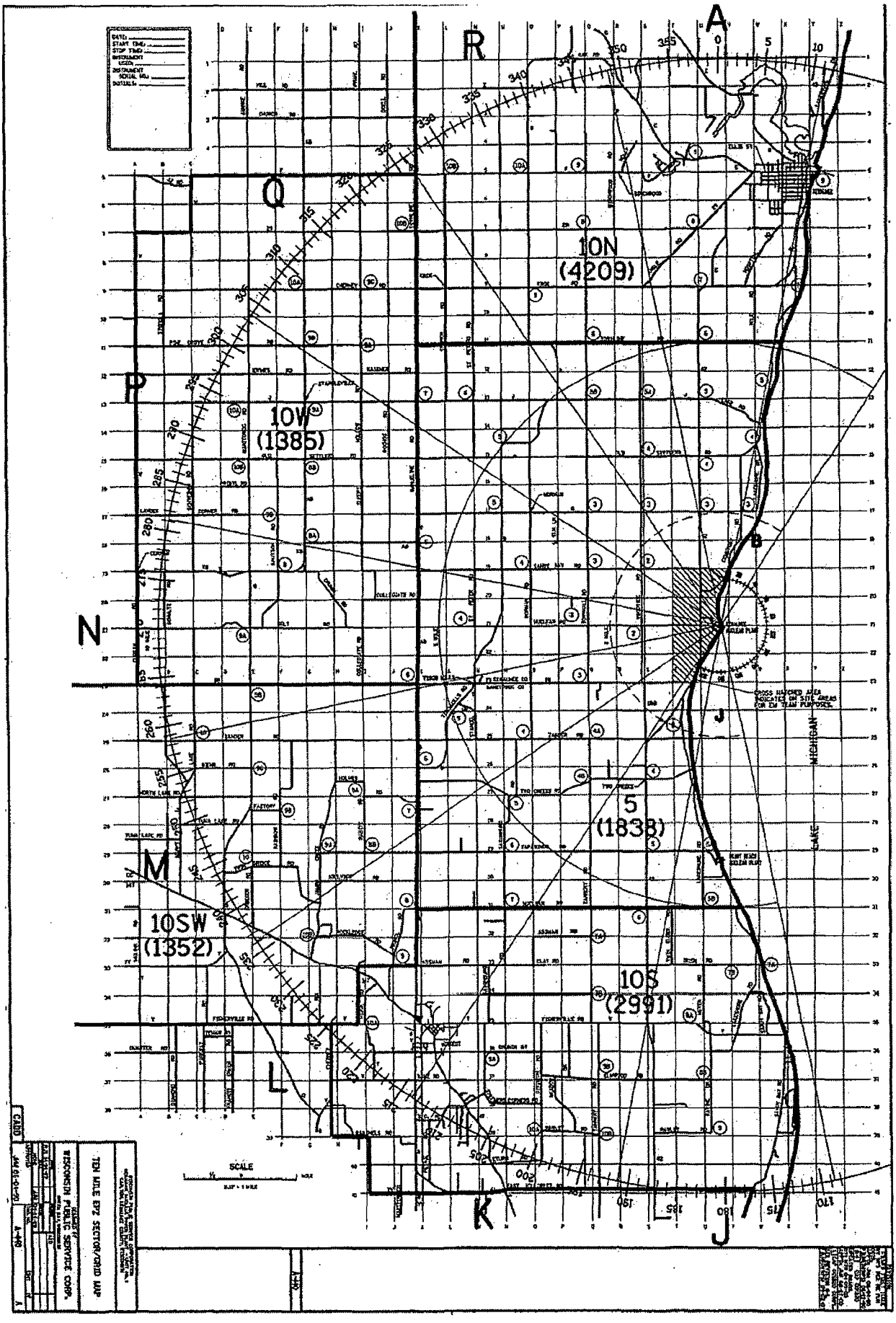

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FIGURE 3

NOTES:

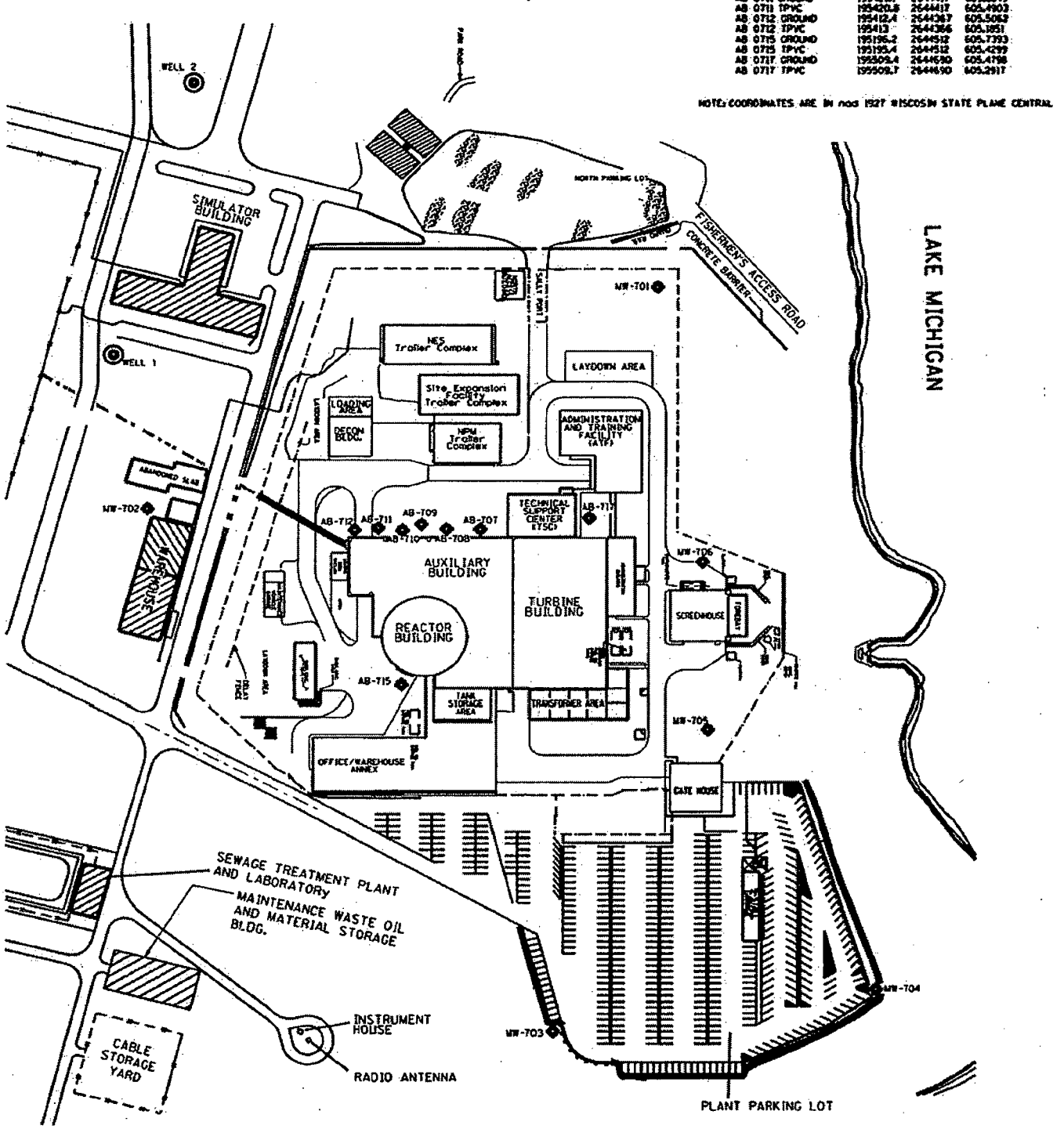
1. LOCATIONS OF MONITORING WELLS SURVEYED BY STS ON JUNE 21, 2007.
2. LOCATIONS OF WATER SUPPLY WELLS ARE ESTIMATED.

LOCATION	NORTHING	EASTING	ELEVATION
MW-0701 GROUND	195859.5	2644681	605.828
MW-0701 TPVC	195859	2644681	605.622
MW-0702 GROUND	195372.1	2644096	607.897
MW-0702 TPVC	195371.5	2644097	607.386
MW-0703 TPVC	194762.3	2644838	602.685
MW-0703 GROUND	194761.4	2644838	603.112
MW-0704 GROUND	194938.2	2645265	608.916
MW-0704 TPVC	194938.7	2645268	608.502
MW-0705 TPVC	195264.4	2644927	604.912
MW-0705 GROUND	195264.4	2644927	605.309
MW-0706 GROUND	195491.2	2644865	606.402
MW-0706 TPVC	195491.2	2644865	605.997
AB 0707 GROUND	195461	2644543	606.0153
AB 0707 TPVC	195460.6	2644543	605.6723
AB 0708 GROUND	195451.3	2644530	606.0615
AB 0708 TPVC	195451	2644529	605.5165
AB 0709 GROUND	195448.3	2644493	606.1195
AB 0709 TPVC	195448	2644493	605.8593
AB 0710 GROUND	195428.7	2644450	606.1495
AB 0710 TPVC	195429.2	2644450	605.8672
AB 0711 GROUND	195421.1	2644417	605.8849
AB 0711 TPVC	195420.8	2644417	605.4903
AB 0712 GROUND	195412.4	2644367	605.5063
AB 0712 TPVC	195413	2644366	605.1851
AB 0715 GROUND	195196.2	2644512	605.7393
AB 0715 TPVC	195195.4	2644512	605.4299
AB 0717 GROUND	195009.4	2644690	605.4198
AB 0717 TPVC	195009.7	2644690	605.2917

NOTE: COORDINATES ARE IN nad 1927 WISCOSIN STATE PLANE CENTRAL

LEGEND:

- 6' HIGH FENCE
- SUPPLY WELL
- MONITORING WELL



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APPENDIX E

ADDENDUM to the
2007 ANNUAL REPORT

Kewaunee Power Station

Radiological Environmental Monitoring Manual (REMM)

Revision 12

February 22 2007

Reviewed by:	Tom Webb Plant Operations Review Committee	Date: 02-20-2007
Approved by:	James M. Hale Manager, Radiological Protection and Chemistry	Date: 02-19-2007
Approved by:	Thomas Breene Manager, Regulatory Affairs	Date: 02-19-2007

Table of Contents

Tables & Figures

1.0 Introduction

1.1 Purpose

The purpose of this document is to define the Radiological Environmental Monitoring Program (REMP) for the Kewaunee Power Station (KPS). The REMP is required by KPS Technical Specification (TS) 6.16.b.2, "Radiological Environmental Monitoring Program."

This document is known as the Radiological Environmental Monitoring Manual (REMM) and is intended to serve as a tool for program administration and as a guidance document for contractors which implement the monitoring program.

1.2 Scope

This program defines the sampling and analysis schedule which was developed to provide representative measurements of radiation and of radioactive materials in those exposure pathways and for those radionuclides that lead to the high potential radiation exposures of MEMBERS OF THE PUBLIC resulting from plant operation. This monitoring program implements Section IV.B.2 of Appendix I to 10CFR Part 50 and thereby verifies that the measurable concentrations of radioactivity and levels of radiation are not higher than expected on the basis of the effluent measurements and the modeling of the environmental exposure pathways. Guidance for the development of this monitoring program is provided by the Radiological Assessment Branch Technical Position on Environmental Monitoring. This program has been developed in accordance with NUREG 0472.

The program will provide field and analytical data on the air, aquatic, and terrestrial radioecology of the area near the Kewaunee Power Station so as to:

1. Determine the effects of the operation of the Kewaunee Power Station on the environment;
2. Serve as a gauge of the operating effectiveness of in-plant control of waste discharges; and
3. Provide data on the radiation dose to the public by direct or indirect pathways of exposure.

1.3 Implementation

This document is considered, by reference, to be part of the Offsite Dose Calculation Manual. This is as required by KPS TS 6.16.b.2. The REMM is controlled as a separate document for ease of revision, use in the field and use by contractors. This format was approved by the NRC as part of TS Amendment No. 64, which provided Radiological Effluent Technical Specifications (RETS) for KPS.

The REMP is setup to be implemented by a vendor and controlled by KPS in accordance with Nuclear Administrative Directive NAD-1.20, "Radiological Environmental Monitoring Program." Monthly reviews of the vendor's progress report are checked and approved by KPS in accordance with Surveillance Procedure SP-63-276. Annual reviews and submittals of the vendor's report and raw data are checked and approved by KPS in accordance with Surveillance Procedure SP-63-280. All sample collection, preparation, and analysis are performed by the vendor except where noted. Surveillance Procedure SP-63-164 outlines the environmental sample collection

performed by KPS. Current vendor Quality Control Program Manuals and implementing procedures shall be kept on file at KPS.

Periodic reviews of monitoring data and an annual land use census will be used to develop modifications to the existing monitoring program. Upon approval, these modifications will be incorporated into this document so that it will accurately reflect the current radiological environmental monitoring program in effect for KPS.

The remainder of this document is divided into two sections. The first section, 2.0 REMP Requirements, describes the different TS and REMM requirements associated with the REMP. The second section, 3.0 REMP Implementation, describes the specific requirements used to implement the REMP.

2.0 REMP Requirements

KPS TS Amendment No. 104 implemented the guidance provided in Generic Letter 89-01, "Implementation of Programmatic Controls for Radiological Effluent Technical Specifications (RETS)." These changes included:

1. Incorporation of *programmatic controls* in the Administrative Controls section of the TS to satisfy existing regulatory requirements for RETS, and

2. Relocation of the *procedural details* on radioactive effluents monitoring, radiological environmental monitoring, reporting details, and other related specifications from the TS to the ODCM.

Relocating the procedural details to the ODCM allows for revising these requirements using the 10CFR50.59 process instead of requiring prior NRC approval using the TS Amendment process.

The RETS requirements were incorporated verbatim into the ODCM, Revision 6. Several of these requirements pertain only to the environmental monitoring program and therefore have been relocated into this document (REMM, Revision 3 and 4) and are identified as REMM requirements.

2.1 Technical Specification Requirements

Technical Specification 6.16.b.2 provides the programmatic control, which requires a program to monitor the radiation and radionuclides in the environs of the plant. This is the reason for the existence of the REMP. TS 6.16.b.2 also provides the programmatic control which requires:

a. The program to perform the monitoring, sampling, analysis, and reporting in accordance with the methodology and parameters in the ODCM,

b. A land use census to be performed, and

c. Participation in an Interlaboratory Comparison Program.

The details of each requirement are described in the REMM requirements stated below.

Technical Specification 6.9.b.1 requires an "Annual Radiological Environmental Monitoring Report" be submitted to the NRC each year. The specific contents of this report are detailed in REMM 2.4.1. Additional specific reporting requirements are listed in the other REMM requirements.

2.2 REMM Requirements

The following REMM requirements include the procedural details that were originally located in the KPS RETS section and then relocated into Revision 6 of the ODCM, as discussed above. These requirements are specific to the radiological environmental monitoring program and have been relocated into this document for ease of use and completeness.

The REMM requirements for the Monitoring Program, Land Use Census, and the Interlaboratory Comparison Program include a detailed specification (numbered 2.2.1, 2.2.2, and 2.2.3 respectively) and an associated surveillance requirement (numbered 2.3.1, 2.3.2, and 2.3.3 respectively), along with the basis for the requirement. Reporting requirements are listed in specification REMM 2.4.1.

General requirements also apply to all ODCM and REMM requirements (specifications 3.01, 3.02, 3.03, 4.01, 4.02, and 4.03). The requirements are located in the ODCM and are repeated here for convenience.

GENERAL SPECIFICATIONS

3.0.1 Compliance with the specifications contained in the succeeding text is required during the conditions specified therein; except that upon failure to meet the specifications, the associated ACTION requirements shall be met.

3.0.2 Noncompliance with a Specification shall exist when its requirements and associated ACTION requirements are not met within the specified time intervals. If the Specification is restored prior to expiration of the specified time intervals, completion of the Action requirements is not required.

3.0.3 When a Specification is not met, except as provided in the associated ACTION requirements, reporting pursuant to TS 6.9.b and REMM 2.4.1 will be initiated.

SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements shall be met during the conditions specified for individual Specifications unless otherwise stated in an individual Surveillance Requirement.

4.0.2 Each Surveillance Requirement shall be performed within the specified time interval with a maximum allowable extension not to exceed 25% of the surveillance interval.

4.0.3 Failure to perform a Surveillance Requirement within the specified time interval shall constitute a failure to meet the OPERABILITY requirements for a Specification. Exceptions to these requirements are stated in the individual Specification. Surveillance Requirements do not have to be performed on inoperable equipment.

REMM 2.2.1/2.3.1 Monitoring Program

SPECIFICATION

2.2.1 The radiological environmental monitoring program shall be conducted as specified in Table 2.2.1-A.

APPLICABILITY

At all times.

ACTION

a. With the radiological environmental monitoring program not being conducted as specified in Table 2.2.1-A, in lieu of a Licensee Event Report, prepare and submit to the Commission, in the Annual Radiological Environmental Monitoring Report required by TS 6.9.b.1 and REMM 2.4.1, a description of the reasons for not conducting the program as required and the plans for preventing a recurrence.

b. With the level of radioactivity as the result of plant effluents in an environmental sampling medium at a specified location exceeding the reporting levels of Table 2.2.1-D when averaged over any calendar quarter in lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days, pursuant to TS 6.9.b.3, a Special Report that identifies the cause(s) for exceeding the limit(s) and defines the corrective actions to be taken to reduce radioactive effluents so that the potential annual dose[1] to A MEMBER OF THE PUBLIC is less than the calendar year limits of specifications ODCM 3.3.2, 3.4.2, and 3.4.3. When more than one of the radionuclides in Table 2.2.1-D are detected in the sampling medium, this report shall be submitted if:

$$\frac{concentration\,(1)}{reporting\,level\,(1)} + \frac{concentration\,(2)}{reporting\,level\,(2)} + K \geq 1.0$$

When radionuclides other than those in Table 2.2.1-D are detected and are the result of plant effluents, this report shall be submitted if the potential annual dose[1] to a MEMBER OF THE PUBLIC is equal to or greater than the calendar year limits of specifications ODCM 3.3.2, 3.4.2, and 3.4.3. This report is not required if the measured level of radioactivity was not the result of plant effluents; however, in such an event the condition shall be reported and described in the Annual Radiological Environmental Monitoring Report.

[1]The methodology and parameters used to estimate the potential annual dose to a member of the public shall be indicated in this report.

c. With milk or fresh leafy vegetable samples unavailable from one or more of the sample locations required by Table 2.2.1-A, a sample from an alternative location will be substituted, noting the reason for the unavailability in the Annual Radiological Environmental Monitoring Report. When changes in sampling locations are permanent, the sampling schedule in the RADIOLOGICAL ENVIRONMENTAL MONITORING MANUAL (REMM) will be updated to reflect the new routine and alternative sampling locations and this revision will be described in the Annual Radiological Environmental Monitoring Report.

SURVEILLANCE REQUIREMENT

2.3.1 The radiological environmental monitoring samples shall be collected pursuant to Table 2.2.1-A from the specific locations given in the table and figure(s) in the REMM, and shall be analyzed pursuant to the requirements of Table 2.2.1-A and the detection capabilities required by Table 2.3.1-A.

BASIS

The radiological environmental monitoring program required by this specification provides representative measurements of radiation and of radioactive materials in those exposure pathways and for those radionuclides that lead to the highest potential radiation exposures of MEMBERS OF THE PUBLIC resulting from the station operation. This monitoring program implements Section IV.B.2 of Appendix I to 10CFR Part 50 and thereby supplements the radiological effluent monitoring program by verifying that the measurable concentrations of radioactive materials and levels of radiation are not higher than expected on the basis of the effluent measurements and the modeling of the environmental exposure pathways. Guidance for this monitoring program is provided by the Radiological Assessment Branch Technical Position on Environmental Monitoring. Program changes may be initiated based on operational experience.

The required detection capabilities for environmental sample analyses are tabulated in terms of the lower limits of detection (LLDs). The LLDs required by Table 2.3.1-A are considered optimum for routine environmental measurements in industrial laboratories. It should be recognized that the LLD is defined as a priori (before the fact) limit representing the capability of a measurement system and not as an a posteriori (after the fact) limit for a particular measurement.

Detailed discussion of the LLD, and other detection limits, can be found in HASL Procedures Manual, HASL-300 (revised annually), Currie, L.A., "Limits for Qualitative Detection and Quantitative Determination - Application to Radiochemistry," Anal. Chem. 40, 586-93 (1968), and Hartwell, J.K., "Detection Limits for Radioanalytical Counting Techniques," Atlantic Richfield Hanford Company Report ARH-SA-215 (June 1975).

Discussion

KPS TS 6.16.b.2(A) requires that the monitoring, sampling, analysis, and reporting of radiation and radionuclides in the environment be done in accordance with the methodology and parameters in the ODCM.

REMM 2.2.2/2.3.2 Land Use Census

SPECIFICATION

2.2.2 A land use census shall be conducted and shall identify within a distance of 8 km (5 miles) the location in each of the 10 meteorological sectors of the nearest milk animal, the nearest residence and the nearest garden[2] of greater than 50 m^2 (500 ft^2) producing broad leaf vegetation.

APPLICABILITY

At all times.

ACTION

a. With a land use census identifying a location(s) that yields a calculated dose or dose commitment greater than the values currently being calculated in ODCM Surveillance Requirement 4.4.3, in lieu of a Licensee Event Report, identify the new location(s) in the next Annual Radiological Environmental Monitoring Report pursuant to TS 6.9.b.1 and REMM 2.4.1.

b. With a land use census identifying a location(s) that yields a calculated dose or dose commitment (via the same exposure pathway) 20% greater than at a location from which samples are currently being obtained in accordance with specification REMM 2.2.1, add the new location(s) to the radiological environmental monitoring program within 30 days. The sampling location(s), excluding the control station location, having a lower calculated dose or dose commitment(s), via the same exposure pathway, may be deleted from this monitoring program. In lieu of a Licensee Event Report, identify the new location(s) in the next Annual Radiological Environmental Monitoring Report pursuant to TS 6.9.b.1 and REMM 2.4.1 and also include in the report a revised figure(s) and table for the REMM reflecting the new location(s).

SURVEILLANCE REQUIREMENT

2.3.2 The land use census shall be conducted during the growing season once per 12 months using reasonable survey methods, such as by a door-to-door survey, aerial survey, or by consulting local agriculture authorities. The results of the land use census shall be included in the Annual Radiological Environmental Monitoring Report pursuant to TS 6.9.b.1 and REMM 2.4.1.

[2]Sampling of leaf vegetation may be performed at the site boundary in each of two different direction sectors with the highest predicted D/Qs in lieu of the garden census. Specifications for broad leaf vegetation sampling in Table 2.2.1-A item 4c shall be followed, including analysis of control samples.

BASIS

This specification is provided to ensure that changes in the use of areas at and beyond the SITE BOUNDARY are identified and that modifications to the radiological environmental monitoring program are made if required by the door-to-door survey, from aerial survey or from consulting with local agricultural authorities. This census satisfies the requirements of Section IV.B.3 of Appendix I to 10CFR Part 50. Restricting the census to gardens of greater than 50 m^2 provides assurance that significant exposure pathways via leafy vegetables will be identified and monitored since a garden of this size is the minimum required to produce the quantity (26 kg/yr) of leafy vegetables assumed in Regulatory Guide 1.109 for consumption by a child. To determine this minimum garden size, the following assumptions were made:

1. 20% of the garden was used for growing leafy vegetation (i.e., similar to lettuce and cabbage), and
2. A vegetation yield of 2 kg/m^2.

Discussion

KPS TS 6.16.b.2(b) requires that a land use census be performed to ensure that changes in the use of areas at and beyond site boundary are identified and that modifications to the radiological environmental monitoring program are made if required by the results of this census.

REMM 2.2.3/2.3.3 Interlaboratory Comparison Program

SPECIFICATION

2.2.3 Analyses shall be performed on radioactive materials supplied as part of an Interlaboratory Comparison Program that has been approved by the Commission.

APPLICABILITY

At all times.

ACTION

a. With analyses not being performed as required above, report corrective actions taken to prevent a recurrence to the Commission in the Annual Radiological Environmental Monitoring Report pursuant to TS 6.9.b.1 and REMM 2.4.1.

SURVEILLANCE REQUIREMENT

2.3.3 The Interlaboratory Comparison Program shall be described in the REMM. A summary of the results obtained as part of the above required Interlaboratory Comparison Program shall be included in the Annual Radiological Environmental Monitoring Report pursuant to TS 6.9.b.1 and REMM 2.4.1.

BASIS

The requirement for participation in an approved Interlaboratory Comparison Program is provided to ensure that independent checks on the precision and accuracy of measurements of radioactive material in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring in order to demonstrate that the results are valid for the purposes of Section IV.B.2 of Appendix I to 10CFR Part 50.

Discussion

KPS TS 6.16.b.2(c) requires participation in an approved Interlaboratory Comparison Program to ensure that an independent check is performed of the precision and accuracy of radioactive materials measurements. This will demonstrate that the results are valid for the purposes of Section IV.B.2 of Appendix I to 10CFR Part 50.

REMM 2.4.1 Reporting Requirements

2.4.1 The Annual Radiological Environmental Monitoring Report shall include:

a. Summaries, interpretations, and an analysis of trends of the results of the radiological environmental surveillance activities for the report period, including a comparison with pre-operational studies, with operational controls as appropriate, and with previous environmental surveillance reports, and an assessment of the observed impacts of the plant operation on the environment. The reports shall also include the results of land use censuses required by specification REMM 2.2.2.

b. The results of analyses of radiological environmental samples and of environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the Radiological Environmental Monitoring Manual (REMM), as well as summarized and tabulated results of these analyses and measurements in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted as soon as possible in a supplementary report when applicable.

c. A summary description of the radiological environmental monitoring program; legible maps covering all sampling locations keyed to a table giving distances and directions from the centerline of one reactor; the results of licensee participation in the Interlaboratory Comparison Program, required by specification REMM 2.2.3; discussion of all deviations from the sampling schedule of Table 2.2.1-A; and discussion of all analyses in which the LLD required by Table 2.3.1-A was not achievable.

Discussion

KPS TS 6.9.b.1 provides the programmatic control, which requires that an Annual Radiological Environmental Monitoring Report be submitted to the NRC. It also states that this report shall include summaries, interpretations, and analysis of trends of the results of the REMP for the reporting period.

The procedural details of this report are included in this specification. Specifications REMM 2.2.1/2.3.1, 2.2.2/2.3.2, and 2.2.3/2.3.3 also include specific reporting requirements. These specifications reference this REMM specification, along with TS 6.9.b.1, as the method for reporting deviations from the current program during the reporting period, and require that this information be included in the Annual Radiological Environmental Monitoring Report.

The Radiological Environmental Monitoring Program for KPS is under the direction of a Contracted Vendor (CV). This section describes this program, as required by REMM 2.2.1 and the process the CV uses to perform it.

3.1 Sampling Requirements

Table 2.2.1-A identifies the various samples required by the REMP. Identified in the "available sample locations" column in Table 2.2.1-A are the sample locations selected, in conjunction with the vendor, to meet or exceed the REMP requirements. Table 2.2.1-B includes the same requirements as in Table 2.2.1-A but presents the information in a different format by identifying the type of samples required at each location and the collection frequency. Table 2.2.1-C identifies the location and description of each sample location. Figure 1 shows the physical location of each sample point on an area map.

3.2 Analysis Methodology

Analytical procedures and counting methods employed by the CV will follow those recommended by the U.S. Public Health Service publication, Radioassay Procedures for Environmental Samples, January 1967; and the U.S. Atomic Energy Commission Health and Safety Laboratory, HASL Procedures Manual (HASL-300), 1972. The manual is also available on-line at www.eml.doe.gov/publications/procman.

Updated copies will be maintained in KPS's vault.

3.3 Detection Capability (LLD) Requirements

The required detection capabilities for environmental sample and analysis are tabulated in terms of lower limits of detection (LLDs) in Table 2.3.1-A. The LLDs required by Table 2.3.1-A are considered optimum for routine environmental measurements in industrial laboratories. It should be recognized that the LLD is defined as a priori (before the fact) limit representing the capability of a measurement system and not as an a posteriori (after the fact) limit for a particular measurement.

Detailed discussion of the LLD, and other detection limits, can be found in HASL Procedures Manual, HASL-300 (revised annually), Currie, L.A., "Limits for Qualitative Detection and Quantitative Determination - Application to Radiochemistry," Anal. Chem. 40, 586-93 (1968), and Hartwell, J.K., "Detection Limits for Radioanalytical Counting Techniques," Atlantic Richfield Hanford Company Report ARH-SA-215 (June 1975).

3.4 Contracted Vendor Reporting Requirements

Monthly Progress Reports

Monthly progress reports will include a tabulation of completed analytical data on samples obtained during the previous 30 day period together with graphic representations where trends are evident, and the status of field collections. One copy of the reports will be submitted within 30 days of the reporting month.

Annual Reports

Annual reports will be submitted in two parts. Part I, to be submitted to the NRC, will be prepared in accordance with NRC Regulatory Guide 4.8. It will contain an introductory statement, a summary of results, description of the program, discussion of the results, and summary table. Part II of the annual report will include tables of analytical data for all samples collected during the reporting period, together with graphic presentation where trends are evident and statistical evaluation of the results. Gamma scan data will be complemented by figures of representative spectra. Draft copies of each annual report will be due 60 days after completion of the annual period. After final review of the draft document, one photoready copy of the revised annual report will be sent to KPS for printing.

Non-Routine Reports

If analyses of any samples collected show abnormally high levels of radioactivity, KPS will be notified by telephone immediately after data becomes available.

Action Limits

The CV will report any radioactive concentrations found in the environmental samples which exceed the reporting levels shown in Table 2.2.1-D, CV to KPS column. These levels are set below the NRC required reporting levels (KPS to NRC column) so actions can be initiated to prevent exceeding the NRC concentration limits.

3.5 Quality Control Program

To insure the validity of the data, the CV maintains a quality control (QC) program, which employs quality control checks, with documentation, of the analytical phase of its environmental monitoring studies. The program is defined in the CV's QC Program Manual, and procedures are presented in the CV QC Procedures Manual. The program shall be reviewed and meet the requirements of Regulatory Guide 4.15 and 10CFR21. All data related to quality control will be available for review by Dominion Energy Kewaunee upon reasonable prior notification. Proprietary information will be identified so that it may be treated accordingly.

Updated copies of the Quality Control Program Manual and the Quality Assurance Program Manual will be maintained in KPS's vault.

3.6 Sample Descriptions

A description of each of the samples required by this program follows:

Airborne Particulates

Airborne particulates are collected at six locations (K-1f, K-2, K-7, K-8, K-31, and K-41) on a continuous basis on a 47 mm diameter membrane filter of 0.8 micron porosity at a volumetric rate of approximately one cubic foot per minute (CFM). The filters are changed weekly, placed in glassine protective envelopes, and dispatched by U.S. Mail to the CV for Gamma Isotopic Analysis. Filter samples are analyzed weekly for gross beta activity after sufficient time (usually 3 to 5 days) has elapsed to allow decay of Radon and Thoron daughters. If gross beta concentration in air particulate samples are greater than ten (10) times the yearly mean of the control samples, gamma isotopic analysis shall be performed on the individual samples. Quarterly composites from each location receive Gamma Isotopic Analysis using a Germanium detector. All identifiable gamma-emitters are quantified. Reporting units are pCi/m^3.

Airborne Iodine

All air samplers are equipped with charcoal traps installed behind the particulate filters for collection of airborne I-131. The traps are changed once every two weeks. Iodine-131 is measured by Gamma Isotopic Analysis.

Periphyton (Slime) or Aquatic Vegetation

Periphyton (slime) or aquatic plant samples are collected at or near locations used for surface water sampling. They are collected twice during the year (2nd and 3rd quarter), if available. The samples are analyzed for gross beta activity and, if available in sufficient quantity, for Sr-89, Sr-90, and by Gamma Isotopic Analysis. Reporting units are pCi/g wet weight.

Fish

Fish are collected three times per year (second, third, and fourth quarters) near the discharge area (K-1d). Flesh is separated from the bones and analyzed for gross beta activity and by Gamma Isotopic Analysis. The bones are analyzed for gross beta activity and Sr-89 and Sr-90. Reporting units are pCi/g wet weight.

Domestic Meat

Domestic meat (chickens) may be collected once a year during the 3rd quarter, from six locations in the vicinity of the plant (K-20, K-24, K-27, K-29, K-34, and K-32). Samples may not be available every year at every location due to farmer preference. At least one control and one indicator should be collected. The flesh is analyzed for gross alpha, gross beta, and by Gamma Isotopic Analysis to identify and quantify gamma-emitting radionuclides. Reporting units are pCi/g wet weight.

Ambient Radiation

Two packets of thermoluminescent dosimeters ($CaSO_4$: Dy cards) are placed at forteen locations, six of which are air sampling locations (K-1f, K-2, K-7, K-8, K-31, and K-41) and four of which are milk sampling locations (K-3, K-5, K-25, and K-39); the remaining four locations are K -15, K-17, K-27, and K-30. One packet is changed quarterly and one annually. Annual TLDs will serve as an emergency set to be read when needed. They will be exchanged annually (without reading) if not read during the year. To insure the precision of the measurement, each packet will contain two cards with four dosimeters each (four sensitive areas each for a total of eight). For protection against moisture each set of cards is sealed in a plastic bag and placed in a plastic container.

Each card is individually calibrated for self-irradiation and light response. Fading is guaranteed by the manufacturer (Teledyne Isotopes) not to exceed 20% in one year. Minimum sensitivity for the multi-area dosimeter is 0.5 mR defined as 3 times the standard deviation of the background. Maximum Error (1 standard deviation) - ^{60}Co Gamma +/-0.2 mR or +/-3%, whichever is greater. The maximum spread between areas on the same dosimeter is 3.5% at 1 standard deviation.

Reporting units for TLDs are mR/91 days for quarterly TLDs and mR/exposure period for annual TLDs.

Tests for uniformity and reproducibility of TLDs as specified in ANSI N545-1981 and NRC Regulatory Guide 4.13, are performed annually.

Well Water

One gallon water samples are taken once every three months from four off-site wells, (K-10, K-11, K-13, and K-25) and two on-site wells (K-1h and K-1g). All samples are analyzed for gross beta in the total residue, K-40, tritium, and by Gamma Isotopic Analysis. Samples from one on-site well are analyzed for Sr-89, and Sr-90. Samples from K-1h and K-1g are also analyzed for gross alpha. Reporting units are pCi/l.

Precipitation

A monthly cumulative sample of precipitation is taken at Location K-11. This sample is analyzed for tritium. Reporting units are pCi/l.

Milk

Milk samples are collected from two herds that graze within three miles of the reactor site (K-25 and K-34); from four herds that graze between 3-7 miles of the reactor site (K-3, K-5, K-38, and K-39); and one from a dairy in Green Bay (K-28), 26 miles from the reactor site.

The samples are collected twice per month during the grazing period (May through October) and monthly for the rest of the year. To prevent spoilage the samples are treated with preservative. All samples are analyzed by Gamma Isotopic Analysis and for iodine -131 immediately after they are received at the laboratory. To achieve required minimum sensitivity of 0.5 pCi/l, iodine is separated on an ion exchange column, precipitated as palladium iodide and beta counted. Monthly samples and monthly composites of semimonthly samples are then analyzed for Sr-89 and Sr-90. Potassium and calcium are determined and the $^{137}Cs/gK$ and $^{90}Sr/gCa$ ratios are calculated. Reporting units are pCi/l except for stable potassium and calcium, which are reported in g/l.

If milk samples are not available, green leafy vegetables will be collected on a monthly basis (when available) from Locations K-10, K-11, and K-26.

Grass

Grass is collected three times per year (2nd, 3rd, and 4th quarters) from the six dairy farms (K-3, K-5, K-25, K-34, K-38, and K-39) and from two on-site locations (K-1b and K-1f). The samples are analyzed for gross beta activity, for Sr-89 and Sr-90, and Gamma Isotopic Analysis to identify and quantify gamma-emitting radionuclides. Reporting units are pCi/g wet weight.

Cattlefeed

Once per year, during the first quarter when grass is not available, cattlefeed (such as hay or silage) is collected from the six dairy farms. The analyses performed are the same as for grass. Reporting units are pCi/g wet weight.

Vegetables and Grain

Annually, during the 3rd quarter, samples of five varieties of vegetables grown and marketed for human consumption are collected from K-17 and/or K-26, depending upon the availability of samples. If samples are not available from these locations, samples may be obtained from any local source so there is some sample of record. The location will be documented. In addition, two varieties of grain, if available, are collected annually from the farmland owned by Dominion Energy Kewaunee (K-23) and rented to a private individual for growing crops. The analyses performed are the same as for grass. Reporting units are pCi/g wet weight.

Eggs

Quarterly samples of eggs can be taken from K-24, K-27, and K-32. At least one control and one indicator should be collected. The samples are analyzed for gross beta activity, for Sr-89 and Sr-90, and Gamma Isotopic Analysis to identify and quantify gamma-emitting radionuclides. Reporting units are pCi/g wet weight.

Soil

Twice during the growing season samples of the top two inches of soil are collected from the six dairy farms and from an on-site location (K-1f). The soil is analyzed for gross alpha and gross beta activities, for Sr-89 and Sr-90, and Gamma Isotopic Analysis to identify and quantify gamma-emitting manmade radionuclides. Reporting units are pCi/g dry weight.

Surface Water

Surface water is sampled monthly from Lake Michigan at the KPS discharge (K-1d), and at Two Creeks Park, 2.5 miles south of the reactor site (K-14). Samples are collected monthly at the Green Bay Municipal Pumping station between Kewaunee and Green Bay (K-9). Raw and treated water is collected. Monthly samples are also taken, when available, from each of the three creeks (K-1a, K-1b, K-1e) that pass through the reactor site and from the drainage pond (K-1k) south of the plant. The samples are taken at a point near the mouth of each creek and at the shore of the drainage pond. The water is analyzed for gross beta activity in:

a. The total residue,
b. The dissolved solids, and
c. The suspended solids.

The samples are also analyzed for K-40 and by Gamma Isotopic Analysis. Quarterly composites from all locations are analyzed for tritium, Sr-89 and Sr-90. Reporting units are pCi/l.

Bottom Sediments

Five samples of Lake Michigan bottom sediments, one at the discharge (K-1d), one from 500 feet north of the discharge (K-1c), one from 500 feet south of the discharge (K-1j), and one at the Two Creeks Park (K-14), one at the Green Bay Municipal Pumping Station (K-9) are collected semi-annually (May and November). The samples are collected at the beach in about 2-3 feet of water. All samples are analyzed for gross beta activity, for Sr-89 and Sr-90 and by Gamma isotopic Analysis. Since it is known that the specific activity of the sediments (i.e., the amount of radioactivity per unit mass of sediment) increases with decreasing particle size, the sampling procedure will assure collection of very fine particles. Reporting units are pCi/g dry weight.

Table 2.2.1-A

Radiological Environmental Monitoring Program

Exposure Pathway And/Or Sample	Minimum Required Samples [a]	Available Sample Locations [b]	Sampling, Collection and Analysis Frequency	Type of Analysis
1. Direct Radiation[c]	5 Inner Ring locations	**K-5, K-25, K-27, K-7, K-1F, K-30**	See Table 2.2.1-B	Gamma dose
	6 Outer Ring locations	**K-2, K-3, K-15, K-17, K-8, K-31, K-39**		
	1 Control location	**K-41**		
	1 Population center	**K-7**		
	1 Special interest location	**K-8**		
	1 Nearby resident	**K-27**		
2. Airborne Radioiodine and Particulates	3 samples close to the site boundary in highest average X/Q	**K-1f, K-2, K-7, K-8, K-31**	See Table 2.2.1-B Continuous sampler operation Iodine; charcoal	Iodine (I-131) by Gamma Isotopic[f]
	1 sample from the closest community having the highest X/Q	**K-7**	Particulates See Table 2.2.1-B	Particulates; gross beta analysis[e] Gamma isotopic of composite (by location) [f]
	1 sample from a control location	**K-41**[d]	See Table 2.2.1-B	
3. Waterborne				
a. Surface[g]	1 Upstream sample 1 Downstream sample	**K-1a, K-9, K-1d K-1e, K-14, K-1k, K-1b**	Grab sample See Table 2.2.1-B	Gross Beta, Gamma isotopic [f] Composite of grab samples for tritium, and Sr 89/90
b. Ground	1-2 location likely to be affected [g]	**K-1g, K-1h**[h]	Grab sample See Table 2.2.1-B	Gamma isotopic [f], tritium analysis Gross Beta, Gross Alpha, Sr 89/90
c. Drinking	1-3 samples of nearest water supply	**K-10, K-11, K-13, K-25**	Grab sample See Table 2.2.1-B	Gross beta and gamma isotopic [f] analysis. Tritium analysis of the composite of monthly grab samples.
d. Sediment from shoreline	1 sample from downstream area with potential for recreational value	**K-14, K-1c, K-1d, K-1j, K-9**	Grab sample See Table 2.2.1-B	Gamma isotopic [f] analysis Gross Beta, Sr 89/90

Table 2.2.1-A

Radiological Environmental Monitoring Program

Exposure Pathway And/Or Sample	Minimum Required Samples [a]	Available Sample Locations [b]	Sampling, Collection and Analysis Frequency	Type of Analysis
4. Ingestion				
a. Milk	Samples from milking animals in 3 locations within 5 km having the highest dose potential.	**K-5, K-25, K-34**	See Table 2.2.1-B	I-131 Gamma Isotopic [f] Sr 89/90
	1 alternate location	**K-38, K-39**		
	1 control location	**K-3, K-28**		
b. Fish	3 random samplings of commercially and recreationally important species in the vicinity of the discharge.	**K-1d**	See Table 2.2.1-B	Gamma isotopic [f] and edible portions Gross Beta Sr 89/90 on bones
c. Food Products	Samples of leaf vegetables grown nearest each of two different offsite locations within 5 miles of the plant if milk sampling is not performed.	2 samples nearest highest predicted annual average ground level D/Q, **K-10, K-11** 1 sample 15-30 km distant if milk sampling is not performed. **K-26**	See Table 2.2.1-B	Gamma isotopic [f] and I-131 Analysis.
5. Miscellaneous samples not identified in NUREG-0472				
a. Aquatic Slime	None required	K-1k K-1a, K-1b, K-1e K-14, K-1d K-9 (control)	See Table 2.2.1-B	Gross Beta activity and if available Sr-89, Sr-90 and Gamma Isotopic[f]
b. Soil	None required	K-1f, K-5, K-25, K-39 K-34, K-38 K-3, (control)	See Table 2.2.1-B	Gross Alpha/Beta Sr-89 and Sr-90 Gamma Isotopic[f]
c. Cattlefeed	None required	K-5, K-25, K-39 K-34, K-38 K-3,(control)	See Table 2.2.1-B	Gross Beta Sr-89 and Sr-90 Gamma Isotopic[f]
d. Grass	None required	K-1b, K-1f, K-25, K-39 K-5, K-34, K-38 K-3,(control)	See Table 2.2.1-B	Gross Beta Sr-89 and Sr-90 Gamma Isotopic[f]
e. Domestic Meat	None required	K-20, K-24, K-27, K-29 K-32 (control), K-34	See Table 2.2.1-B	Gross Alpha/Beta Gamma Isotopic[f]

Table 2.2.1-A

Radiological Environmental Monitoring Program

Exposure Pathway And/Or Sample	Minimum Required Samples [a]	Available Sample Locations [b]	Sampling, Collection and Analysis Frequency	Type of Analysis
f. Eggs	None required	K-27 K-32 K-24	See Table 2.2.1-B	Gross Beta Sr-89/90 Gamma Isotopic[f]
g. Precipitation	None required	K-11	See Table 2.2.1-B	Tritium
h. Vegetables/Grain	None required	K-17, K-23 K-26 (control)	See Table 2.2.1-B	Gross Beta Sr-89/90 Gamma Isotopic[f]

Table Notations

a. The samples listed in this column describe the minimum sampling required to meet REMP requirements.

b. Additional details of sample locations are provided in Table 2.2.1-C and Figure 1. The REMP requires that samples to be taken from each of the "available sample locations" listed (see section 3.1). Deviations from the required sampling schedule will occur if specimens are unobtainable due to hazardous conditions, seasonal unavailability, malfunction of automatic sampling equipment and other legitimate reasons. If specimens are unobtainable due to sampling equipment malfunction, reasonable efforts shall be made to complete corrective actions prior to the end of the next sampling period. All deviations from the sampling schedule shall be documented, as required by REMM 2.4.1.c, in the Annual Radiological Environmental Monitoring Report. It is recognized that, at times, it may not be possible or practicable to continue to obtain samples of the media of choice at the most desired location or time. In these instances suitable alternative media and locations may be chosen for the particular pathway in question and appropriate substitutions made within 30 days in the REMM. The cause of the unavailability of samples for that pathway and the new location(s) for obtaining replacement samples will be identified in the Annual Radiological Environmental Monitoring Report.

c. For the purposes of this table, each location will have 2 packets of thermoluminescent dosimeters (TLDs). The TLDs are CaSO4: Dy cards with 2 cards/packet and 4 dosimeters/card (four sensitive areas each for a total of eight dosimeters/packet). The NRC guidance of 40 stations is not an absolute number. The number of direct radiation monitoring stations has been reduced according to geographical limitations; e.g., Lake Michigan. The frequency of analysis or readout for TLD systems depends upon the characteristics of the specific system used and selection is made to obtain optimum dose information with minimal fading.

d. The purpose of this sample is to obtain background information. If it is not practical to establish control locations in accordance with the distance and wind direction criteria, other sites that provide valid background data may be substituted.

e. Airborne particulate sample filters shall be analyzed for gross beta radioactivity 24 hours or more after sampling to allow for radon and thoron daughter decay. If gross beta activity in air particulate samples is greater than ten times the yearly mean of control samples, gamma isotopic analysis shall be performed on the individual samples.

f. Gamma isotopic analysis means the identification and quantification of gamma-emitting radionuclides that may be attributable to the effluents from the facility.

g. The "upstream sample" shall be taken at a distance beyond significant influence of the discharge. The "downstream" sample shall be taken in an area near the mixing zone.

h. Ground water samples shall be taken when this source is tapped for drinking or irrigation purposes in areas where the hydraulic gradient or recharge properties are suitable for contamination.

Table 2.2.1-B

Type and Frequency of Collection

Location	Weekly	Biweekly	Monthly	Quarterly	Semi-Annually	Annually
K-1a			SW		SL[f]	
K-1b			SW	GR[a]	SL[f]	
K-1c					BS[b]	
K-1d			SW	FI[a]	BS[b] SL[f]	
K-1e			SW		SL[f]	
K-1f	AP	AI		GR[a] TLD	SO	
K-1g				WW		
K-1h				WW		
K-1j					BS[b]	
K-1k			SW		SL[f]	
K-2	AP	AI		TLD		
K-3			MI[c]	GR[a] TLD CF[d]	SO	
K-5			MI[c]	GR[a] TLD CF[d]	SO	
K-7	AP	AI		TLD		
K-8	AP	AI		TLD		
K-9			SW		BS[b] SL[f]	
K-10			GLV[e]	WW		
K-11			PR, GLV[e]	WW		
K-13				WW		
K-14			SW		BS[b] SL[f]	
K-15				TLD		
K-17				TLD		VE
K-20						DM
K-23						GRN
K-24				EG		DM
K-25			MI[c]	GR[a] TLD CF[d] WW	SO	
K-26			GLV[e]			VE
K-27				EG TLD		DM
K-28			MI[c]			
K-29						DM
K-30				TLD		
K-31	AP	AI		TLD		
K-32				EG		DM
K-34			MI[c]	GR[a] CF[d]	SO	DM
K-38			MI[c]	GR[a] CF[d]	SO	

Table 2.2.1-B *Type and Frequency of Collection*								
Location	Weekly	Biweekly	Monthly	Quarterly			Semi-Annually		Annually
K-39			MI[c]	TLD	GR[a]	CF[d]	SO		
K-41	AP	AI		TLD					

a. Three times a year, second (April, May, June), third (July, August, September), and fourth (October, November, December) quarters
b. To be collected in May and November
c. Monthly from November through April; semimonthly from May through October
d. First (January, February, March) quarter only
e. Alternate if milk is not available
f. Second and third quarters

Code	Description	Code	Description	Code	Description
AI	Airborne Iodine	FI	Fish	SO	Soil
AP	Airborne Particulate	GR	Grass	SW	Surface Water
BS	Bottom Sediment	GRN	Grain	TLD	Thermoluminescent Dosimeter
CF	Cattlefeed	MI	Milk	VE	Vegetables
DM	Domestic Meat	PR	Precipitation	WW	Well Water
EG	Eggs	SL	Slime	GLV	Green Leafy Vegetables

Table 2.2.1-C

Sampling Locations, Kewaunee Power Station

Code	Type[a]	Distance (Miles)[b] and Sector	Location
K-1			Onsite
K-1a	I	0.62 N	North Creek
K-1b	I	0.12 N	Middle Creek
K-1c	I	0.10 N	500′ North of Condenser Discharge
K-1d	I	0.10 E	Condenser Discharge
K-1e	I	0.12 S	South Creek
K-1f	I	0.12 S	Meteorological Tower
K-1g	I	0.06 W	South Well
K-1h	I	0.12 NW	North Well
K-1j	I	0.10 S	500′ south of Condenser Discharge
K-1k	I	0.60 SW	Drainage Pond, south of plant
K-2	C	9.5 NNE	WPS Operations Building in Kewaunee
K-3	C	6.0 N	Lyle and John Siegmund Farm, N2815 Hy 42, Kewaunee
K-4(h)	I	3.0 N	Tom Stangel Farm, E4804 Old Settlers Rd, Kewaunee
K-5	I	3.5 NNW	Ed Paplham Farm, E4160 Old Settlers Rd, Kewaunee
K-6(e)	C	6.7 WSW	Novitsky Farm, E1870 Cty Tk BB, Denmark
K-7	I	2.75 SSW	Ron Zimmerman Farm, 17620 Nero Rd, Two Rivers
K-8	C	5.0 WSW	Saint Isadore the Farmer Church, 18424 Tisch Mills Rd, Tisch Mills
K-9	C	11.5 NNE	Green Bay Municipal Pumping Station, six miles east of Green Bay (sample source is Lake Michigan from Rostok Intake 2 miles north of Kewaunee)
K-10	I	1.5 NNE	Turner Farm, Kewaunee Site
K-11	I	1.0 NW	Harlan Ihlenfeld Farm, N879 Hy 42, Kewaunee
K-12(i)	I	1.5 WSW	LeCaptain Farm, N491 Woodside Rd, Kewaunee
K-13	C	3.0 SSW	Rand's General Store, Two Creeks
K-14	I	2.5 S	Two Creeks Park, 2.5 miles south of site
K-15	C	9.25 NW	Gas Substation, 1.5 miles north of Stangelville
K-17	I	4.25 W	Jansky's Farm, N885 Cty Tk B, Kewaunee
K-19(f)	I	1.75 NNE	Wayne Paral Farm, N1048 Lakeview Dr., Kewaunee
K-20	I	2.5 N	Carl Struck Farm, N1596 Lakeshore Dr., Kewaunee
K-23	I	0.5 W	0.5 miles west of plant, Kewaunee site

Table 2.2.1-C

Sampling Locations, Kewaunee Power Station

Code	Type[a]	Distance (Miles)[b] and Sector	Location
K-24	I	5.45 N	Fectum Farm, N2653 Hy 42, Kewaunee
K-25	I	2.75 SW	Wotachek Farm, E3968 Cty Tk BB, Two Rivers
K-26(d)	C	10.7 SSW	Bertler's Fruit Stand (8.0 miles south of "BB")
K-27	I	1.5 NW	Schlies Farm, E4298 Sandy Bay Rd
K-28	C	26 NW	Hansen Dairy, 1742 University Ave., Green Bay, Wisconsin
K-29	I	5.75 W	Kunesh Farm, E3873 Cty Tk G, Kewaunee
K-30	I	1.00 N	End of site boundary
K-31	I	6.25 NNW	E. Krok Substation, Krok Road
K-32	C	11.50 N	Piggly Wiggly, 931 Marquette Dr., Kewaunee
K-33(g)	I	4.25 W	Gary and Lynn Holly Farm, E2885 Holly Lane, Tisch Mills
K-34	I	2.5 N	Leon and Vicky Struck Farm, N1549 Lakeshore Drive, Kewaunee
K-35(j)	C	6.75 WNW	Jean Ducat Farm, N1215 Sleepy Hollow, Kewaunee
K-36(j)	I		Fiala's Fish Market, 216 Milwaukee, Kewaunee
K-37 (k)	I	4.00 N	Gary and Ann Hardtke Farm, E4282 Old Settlers Road, Kewaunee
K-38	I	3.8 WNW	Dave Sinkula Farm, N890 Town Hall Road, Kewaunee
K-39	I	4.00 N	Francis Wotja Farm, N1859 Lakeshore Road, Kewaunee
K-41 (l)	C	22 NW	KPS-EOF, 3060 Voyager Drive, Green Bay

a. I = indicator; C = control.
b. Distances are measured from reactor stack.
c. Deleted
d. Location K-18 was changed because Schmidt's Food Stand went out of business. It was replaced by Bertler's Fruit Stand (K-26).
e. Replaced by K-33 in summer of 2000. Retired from farming.
f. Replaced by K-34 in summer of 2000. Retired from farming.
g. Replaced by K-35 in fall of 2000.
h. Sold farm in summer of 2000, replaced by K-25
i. Retired from farming in summer of 2000
j. Removed from the program in Fall of 2001
k. Removed from the program in Fall of 2002
l. Location replaces K-16, January of 2007

Table 2.2.1-D

Reporting Levels for Radioactivity Concentrations in Environmental Samples

Medium	Radionuclide	Reporting Levels	
		CV to KPS[a]	KPS to NRC[b]
Airborne Particulate or Gases (pCi/m3)	Gross Beta	1	--
	I-131 (Charcoal)	0.1	0.9
	Cs-134	1	10
	Cs-137	1	20
Precipitation (pCi/l)	H-3	1,000	--
Water (pCi/l)	Gross Alpha	10	--
	Gross Beta	30	--
	H-3	10,000	20,000[c]
	Mn-54	100	1,000
	Fe-59	40	400
	Co-58	100	1,000
	Co-60	30	300
	Zr-Nb-95	40	400
	Cs-134	10	30
	Cs-137	20	50
	Ba-La-140	100	200
	Sr-89	8[d]	--
	Sr-90	8[d]	--
	Zn-65	30	300
Milk (pCi/l)	I-131	1.0	3
	Cs-134	20	60
	Cs-137	20	70
	Ba-La-140	100	300
	Sr-89	10	--
Grass, Cattle Feed, and Vegetables (pCi/g wet)	Gross Beta	30	--
	I-131	0.1	0.1
	Cs-134	0.2	1
	Cs-137	0.2	2
	Sr-89	1	--
	Sr-90	1	--

Table 2.2.1-D

Reporting Levels for Radioactivity Concentrations in Environmental Samples

Medium	Radionuclide	Reporting Levels	
		CV to KPS[a]	KPS to NRC[b]
Eggs (pCi/g wet)	Gross Beta	30	--
	Cs-134	0.2	1
	Cs-137	0.2	2
	Sr-89	1	--
	Sr-90	1	--
Soil, Bottom Sediments (pCi/g)	Gross Beta	50	--
	Cs-134	5	--
	Cs-137	5	--
	Sr-89	5	--
	Sr-90	5	--
Meat (pCi/g wet)	Gross Beta (Flesh, Bones)	10	--
	Cs-134 (Flesh)	1.0	1.0
	Cs-137 (Flesh)	2	2.0
	Sr-89 (Bones)	2	--
	Sr-90 (Bones)	2	--
Fish (pCi/g wet)	Gross Beta (Flesh, Bones)	10	--
	Mn-54	--	30.0
	Fe-59	--	10.0
	Co-58	--	30.0
	Co-60	--	10.0
	Cs-134 (Flesh)	1	1.0
	Cs-137 (Flesh)	2	2.0
	Sr-89 (Bones)	2	--
	Sr-90 (Bones)	2	--
	Zn-65 (Bones)	--	20

a. Radionuclides will be monitored by the CV and concentrations above the listed limits will be reported to KPS.

b. Concentrations above the listed limits will be reported to NRC as required by Specification 2.2.1.b.

c. For drinking water samples, this is 40CFR Part 141 value. If no drinking water pathway exists, a value of 30,000 pCi/l may be used.

d. The Sr-89/90 values are based on the EPA drinking water standards. See note "f." of Table 2.3.1-A for further information

Table 2.3.1-A
Detection Capabilities for Environmental Sample Analysis[a]
Lower Limit of Detection (LLD)[b,c]

Analysis	Water (pCi/l)	Airborne Particulate or Gases (pCi/m^3)	Fish (pCi/kg, wet)	Milk (pCi/l)	Food Products (pCi/kg, wet)	Sediment (pCi/kg, dry)
Gross Beta	4	0.01				
H-3	2000[d]					
Mn-54	15		130			
Fe-59	30		260			
Co-58, 60	15		130			
Zr-Nb-95	15					
I-131	1[e]	0.07		1	60	
Cs-134	15	0.05	130	15	60	150
Cs-137	18	0.06	150	18	80	180
Ba-La-140	15			15		
Zn-65	30		260			
Sr-89/90 [f]	5					

Table Notations for Table 2.3.1-A

a. This list does not mean that only these nuclides are to be considered. Other peaks that are identifiable, together with those of the above nuclides, shall also be analyzed and reported in the Annual Radiological Environment Monitoring Report.

b. Required detection capabilities for thermoluminescent dosimeters used for environmental measurements are given in Regulatory Guide 4.13.

c. The LLD is defined, for purposes of these specifications, as the smallest concentration of radioactive material in a sample that will yield a net count, above system background, that will be detected with 95% probability with only 5% probability of falsely concluding that a blank observation represents a "real" signal.

For a particular measurement system, which may include radiochemical separation:

$$LLD = \frac{4.66 s_b}{E \cdot V \cdot 2.22 \cdot Y \cdot \exp(-\lambda \Delta t)}$$

Where:

LLD is the a priori lower limit of detection as defined above, as picocuries per unit mass or volume,

S_b is the standard deviation of the background counting rate or of the counting rate of blank sample as appropriate, as counts per minute,

E is the counting efficiency, as counts per disintegration,

V is the sample size in units of mass or volume,

2.22 is the number of disintegrations per minute per picocurie,

Y is the fractional radiochemical yield, when applicable,

λ is the radioactive decay constant for the particular radionuclide, and

Δt for environmental samples is the elapsed time between sample collection, or end of the sample collection period, and time of counting,

Typical values of E, V, Y, and Δt should be used in calculation.

Table Notations for Table 2.3.1-A (con't)

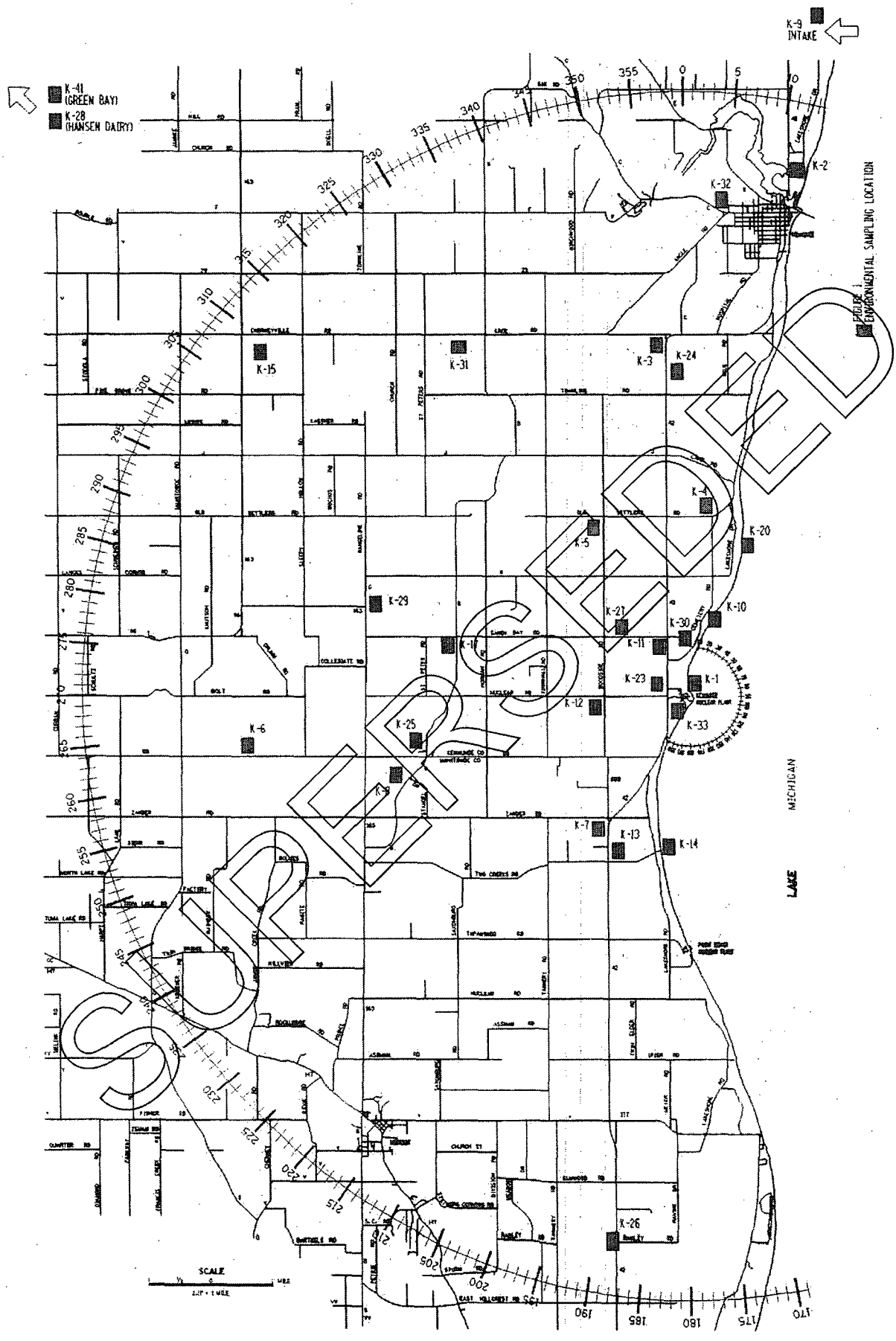
It should be recognized that the LLD is defined as a priori (before the fact) limit representing the capability of a measurement system and not as an a posteriori (after the fact) limit for a particular measurement. Analyses shall be performed in such a manner that the stated LLDs will be achieved under routine conditions. Occasionally background fluctuations, unavoidable small sample sizes, the presence of interfering nuclides, or other uncontrollable circumstances may render these LLDs unachievable. In such cases, the contributing factors shall be identified and described in the Annual Radiological Environmental Monitoring Report.

d. If no drinking water pathway exists, a value of 3,000 pCi/l may be used.

e. LLD for drinking water samples. If no drinking water pathway exists, the LLD of gamma isotopic analysis may be used.

f. This is NOT a NUREG-0472 required value. It is based on EPA drinking water standards, which tie into the NEI Groundwater Protection Initiative that was implemented at KPS on August 4, 2006.

FIGURE 1



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Dominion®

2008 Annual Environmental Monitoring Report

Kewaunee Power Station
Part II, Data Tabulations, Graphs and Analyses

Dominion Energy Kewaunee, Inc.

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REPORT TO

DOMINION NUCLEAR

RADIOLOGICAL MONITORING PROGRAM FOR THE KEWAUNEE POWER STATION KEWAUNEE, WISCONSIN

ANNUAL REPORT - PART II
DATA TABULATIONS AND ANALYSES

January 1 to December 31, 2008

Prepared and submitted by

ENVIRONMENTAL, Inc.
Midwest Laboratory
Project No. 8002

Approved :

Bronia Grob
Laboratory Manager

J. Michael Hale
Radiation Protection /
Chemistry Mgr., KPS

PREFACE

The staff members of Environmental, Inc., Midwest Laboratory were responsible for the acquisition of data presented in this report. Samples were collected by the personnel of Environmental, Inc., Midwest Laboratory and the Kewaunee Power Station.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

The following constitutes Part II of the final report for the 2008 Radiological Monitoring Program conducted at the Kewaunee Power Station (KPS), Kewaunee, Wisconsin.

Included are tabulations of data for all samples collected in 2008 along with graphs of data trends. A summary and interpretation of the data presented here are published in Part I of the 2008 Annual Report on the Radiological Monitoring Program for the Kewaunee Power Station.

NOTE: Page 2 is intentionally left out.

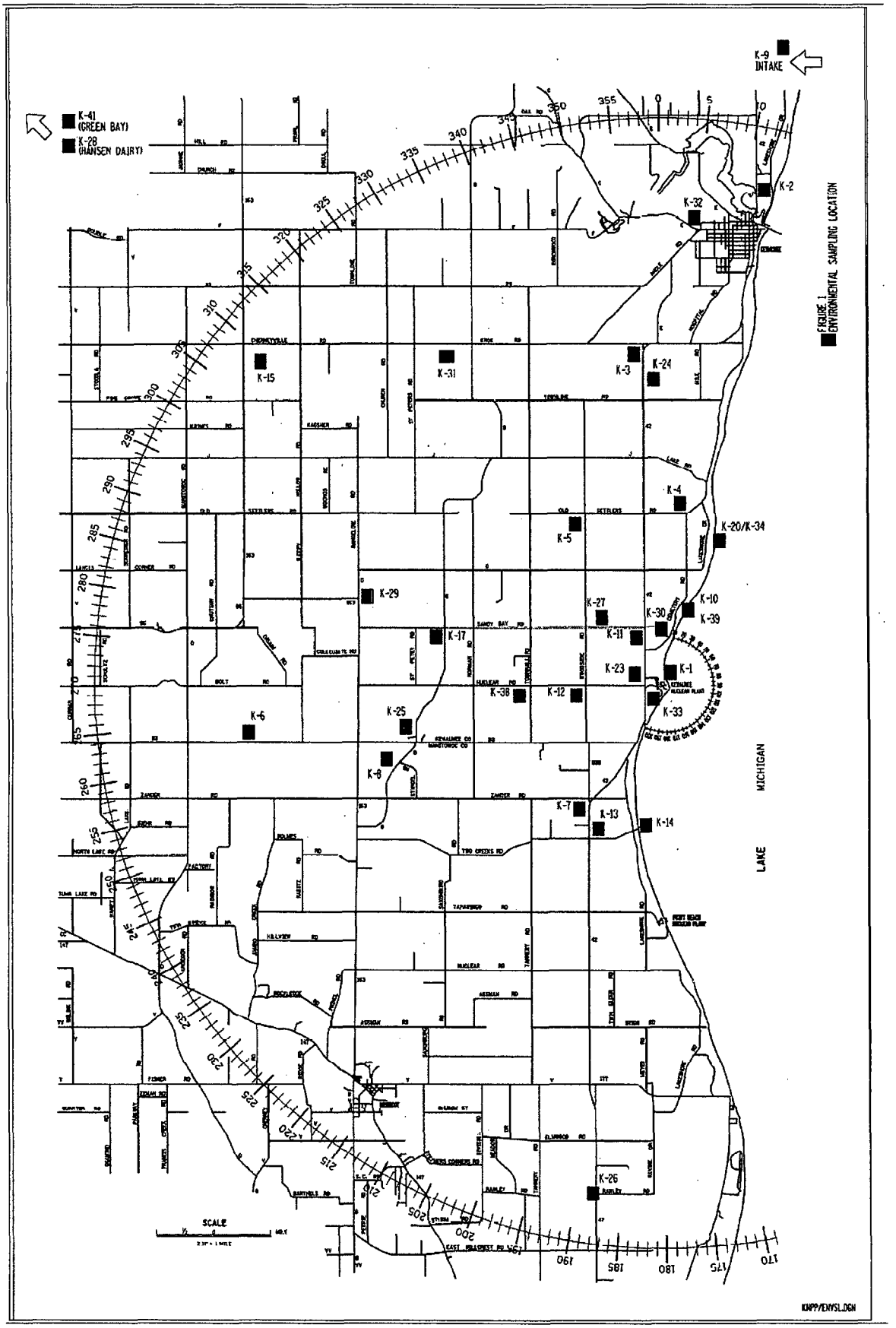

Figure 1. Sampling locations, Kewaunee Power Station

Table 1. Sampling locations, Kewaunee Power Station.

Code	Type[a]	Distance (miles)[b] and Sector	Location
K-1			Onsite
K-1a	I	0.62 N	North Creek
K-1b	I	0.12 N	Middle Creek
K-1c	I	0.10 N	500' north of condenser discharge
K-1d	I	0.10 E	Condenser discharge
K-1e	I	0.12 S	South Creek
K-1f	I	0.12 S	Meteorological Tower
K-1g	I	0.06 W	South Well
K-1h	I	0.12 NW	North Well
K-1j	I	0.10 S	500' south of condenser discharge
K-1k	I	0.60 SW	Drainage Pond, south of plant
K-2	C	9.5 NNE	WPS Operations Building in Kewaunee
K-3	C	6.0 N	Lyle and John Siegmund Farm, N2815 Hy 12, Kewaunee
K-5	I	3.5 NNW	Ed Paplham Farm, E4160 Old Settlers Rd, Kewaunee
K-7	I	2.75 SSW	Ron Zimmerman Farm, 17620 Nero Road, Two Rivers
K-8	C	5.0 WSW	Saint Isidore the Farmer Church, Tisch Mills
K-9	C	11.5 NNE	Rostok Water Intake for Green Bay, Wisconsin, two miles north of Kewaunee
K-10	I	1.5 NNE	Turner Farm, Kewaunee site
K-11	I	1.0 NW	Harlan Ihlenfeld Farm, N879 Hy 42, Kewaunee
K-13	C	3.0 SSW	Rand's General Store
K-14	I	2.5 S	Two Creeks Park, 2.5 miles south of site
K-15	C	9.25 NW	Gas Substation, 1.5 miles north of Stangelville
K-17	I	4.25 W	Jansky's Farm, N885 Tk B, Kewaunee
K-20	I	2.5 N	Carl Struck Farm, Lakeshore Dr, Kewaunee
K-23	I	0.5 W	0.5 miles west of plant, Kewaunee site
K-24	I	5.45 N	Fectum Farm, N2653 Hy 42, Kewaunee
K-25[c]	I	2.75 SW	Wotachek Farm, 3968 E. Cty Tk BB, Two Rivers
K-26	C	10.7 SSW	Bertler's Fruit Stand (8.0 miles south of "BB")
K-27	I	1.5 NW	Schlies Farm, E4298 Sandy Bay Rd, Kewaunee
K-28	C	26 NW	Hansen's Dairy Store, Green Bay, Wisconsin
K-29	I	5.75 W	Kunesh Farm, Route 1, Kewaunee
K-30	I	1.00N	End of site boundary
K-31	C	6.25NNW	E. Krok Substation
K-32	C	11.50 N	Piggly Wiggly, 931 Marquette Dr., Kewaunee
K-34	I	2.5 N	Leon and Vicki Struck, N1549 Lakeshore Dr., Kewaunee
K-35[d]	C	6.0 mi. WNW	Ducat, N1215 Sleepy Hollow Rd., Kewaunee
K-38	I	3.8 mi. WNW	Dave Sinkula Farm, N890 Town Hall Road, Kewaunee
K-39	I	4.0 mi. N	Francis and Sue Wojta, N1859 Lakeshore Dr., Kewaunee
K-41	C	22 NW	KPS, EOF3060 Voyager Dr. , Green Bay

[a] I = indicator; C = control.
[b] Distances are measured from reactor stack.
[c] Farm out of dairy business, April, 2008.
[d] Location reinstated as of August, 2008.

Table 2. Type and frequency of collection.

Location	Weekly	Biweekly	Monthly	Quarterly	Semiannually	Annually
K-1a			SW		SL	
K-1b			SW	GR[a]	SL	
K-1c					BS[b]	
K-1d			SW	FI[a]	BS[b], SL	
K-1e			SW		SL	
K-1f	AP	AI		GR[a], TLD	SO	
K-1g				WW		
K-1h				WW		
K-1j					BS[b]	
K-1k			SW		SL	
K-2	AP	AI		TLD		
K-3			MI[c]	GR[a], TLD, CF[d]	SO	
K-5			MI[c]	GR[a], TLD, CF[d]	SO	
K-7	AP	AI		TLD		
K-8	AP	AI		TLD		
K-9			SW		BS[b], SL	
K-10				WW		
K-11			PR	WW		
K-13				WW		
K-14			SW		BS[b], SL	
K-15				TLD		
K-17				TLD		VE
K-20						DM
K-23						GRN
K-24				EG		DM
K-25			MI[c]	GR[a], TLD, CF[d], WW	SO	
K-26						VE
K-27				TLD, EG		DM
K-28			MI[c]			
K-29						DM
K-30				TLD		
K-31	AP	AI		TLD		
K-32				EG		DM
K-34			MI[c]	GR[a], CF[d]	SO	DM
K-35			MI[c]	GR[a], CF[d]	SO	
K-38			MI[c]	GR[a], CF[d]	SO	
K-39			MI[c]	GR[a], TLD, CF[d]	SO	
K-41	AP	AI		TLD		

[a] Three times a year, second, third and fourth quarters.

[b] To be collected in May and November.

[c] Monthly from November through April; semimonthly May through October.

[d] First quarter (January, February, March) only.

Table 3. Sample Codes:

AP	Airborne particulates	MI	Milk
AI	Airborne Iodine	PR	Precipitation
BS	Bottom sediments	SL	Slime
CF	Cattlefeed	SO	Soil
DM	Domestic Meat	SW	Surface water
EG	Eggs	TLD	Thermoluminescent Dosimeter
FI	Fish	VE	Vegetables
GRN	Grain	WW	Well water
GR	Grass		

Note: Page 6 is intentionally left out.

GRAPHS OF DATA TRENDS

Note: Conventions used in trending data.
The following conventions should be used in the interpretation of the graphs of data trends:

1. Both solid and open data points may be used in the graphs. A solid point indicates an activity, an open point, a lower limit of detection (LLD) value.
2. Data points are connected by a solid line. A break in the plot indicates missing data.

Kewaunee

Air Particulates - Gross Beta

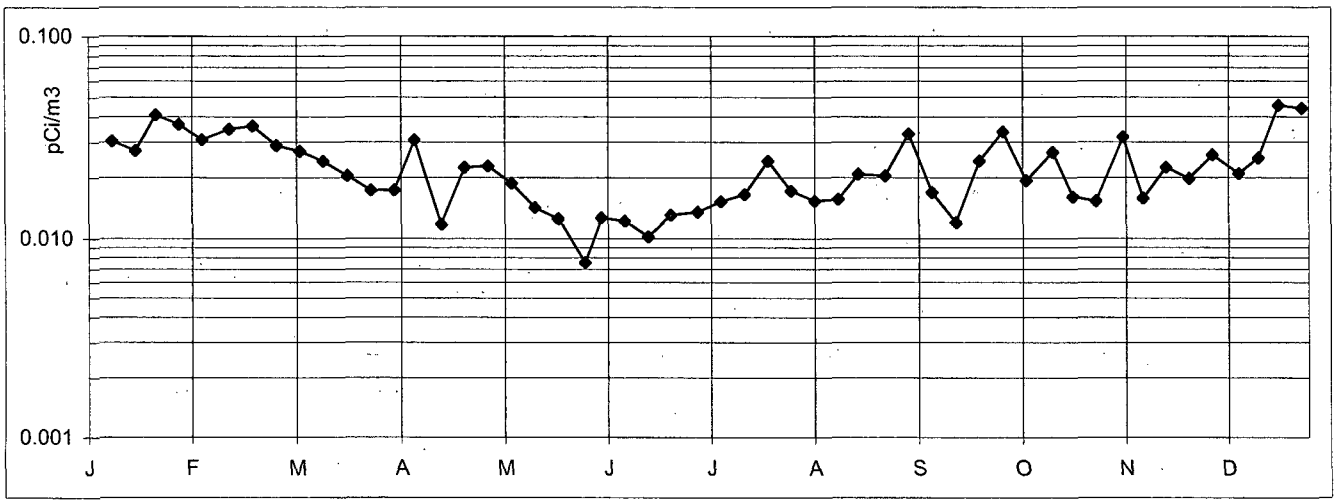

Figure 2. Location K-1f (weekly samples, 2008).

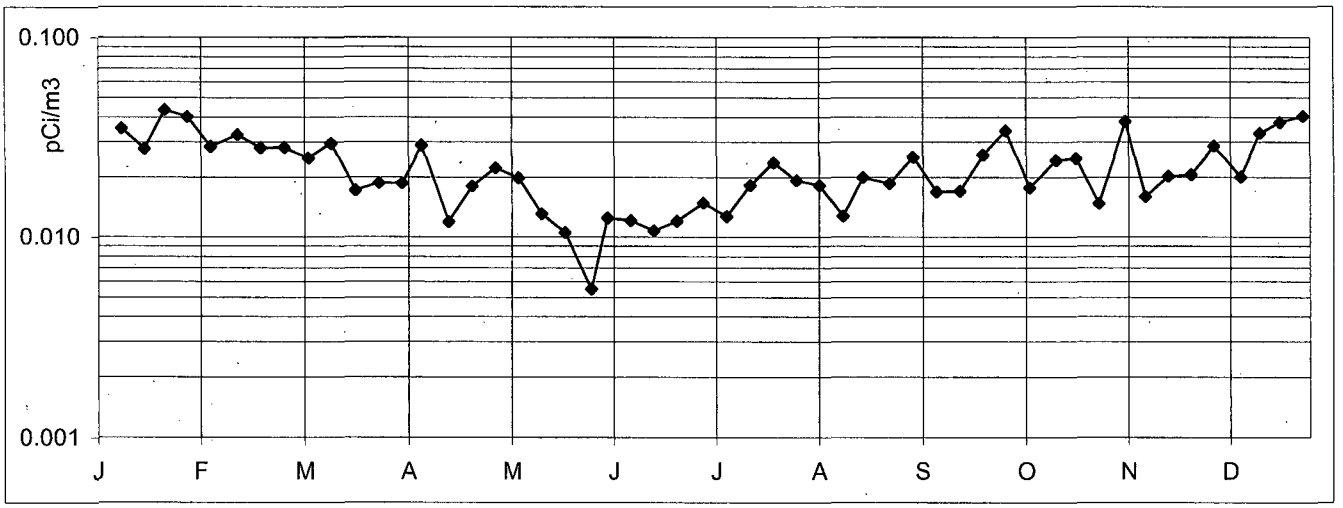

Figure 3. Location K-2 (weekly samples, 2008).

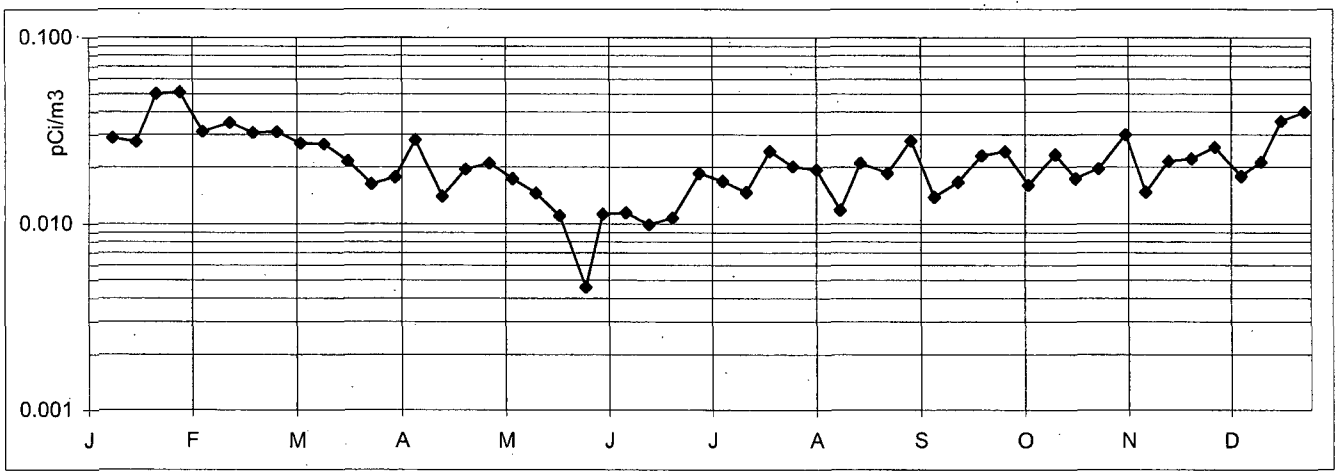

Figure 4. Location K-7 (weekly samples, 2008).

Kewaunee

Air Particulates - Gross Beta

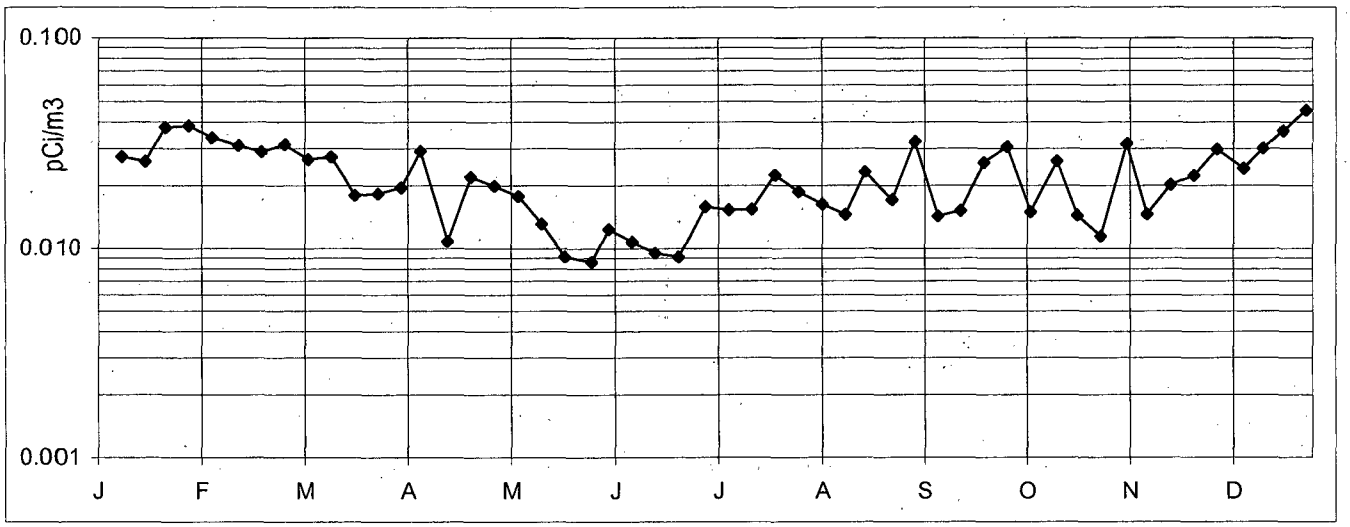

Figure 5. Location K-8 (weekly samples, 2008).

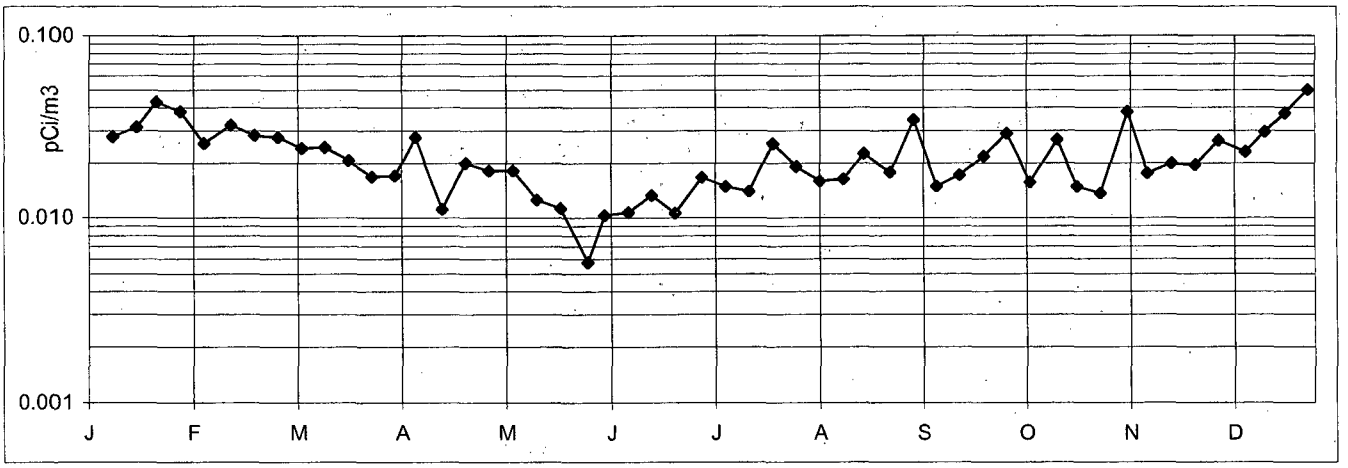

Figure 6. Location K-31 (weekly samples, 2008).

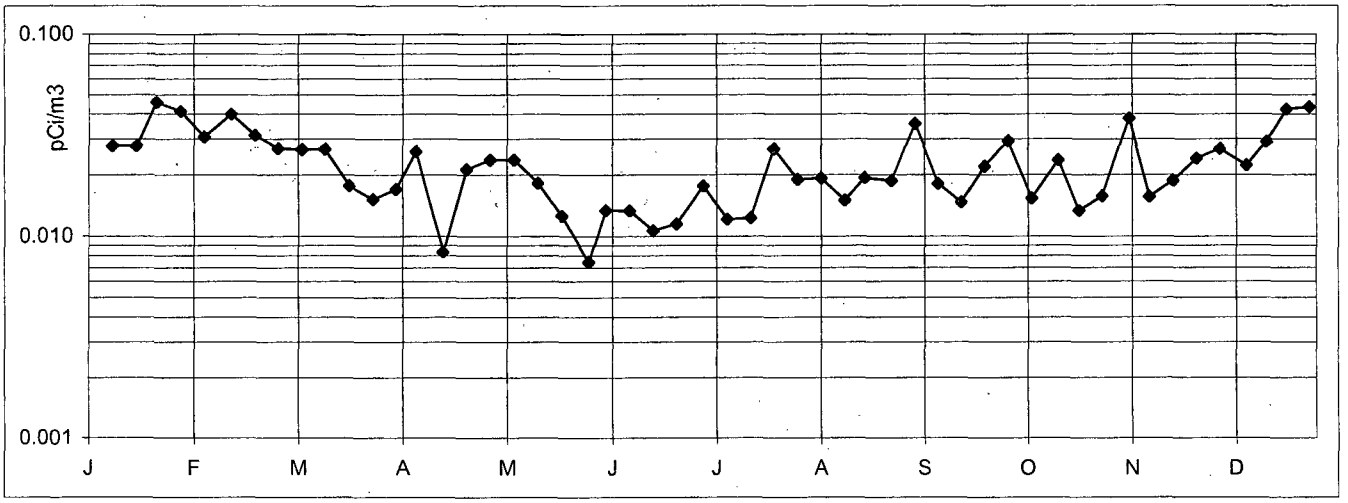

Figure 7. Location K-41 (weekly samples, 2008).

Kewaunee Power Station
Air Particulates - Gross Beta

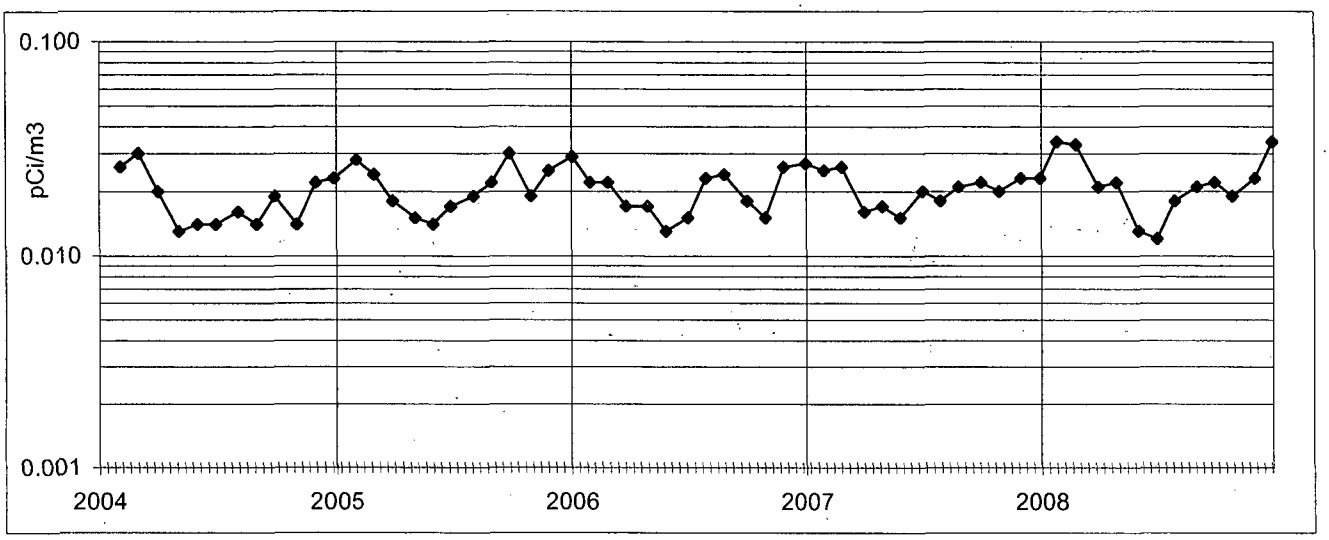

Figure 8. Location K-1f (monthly averages, 2004-2008).

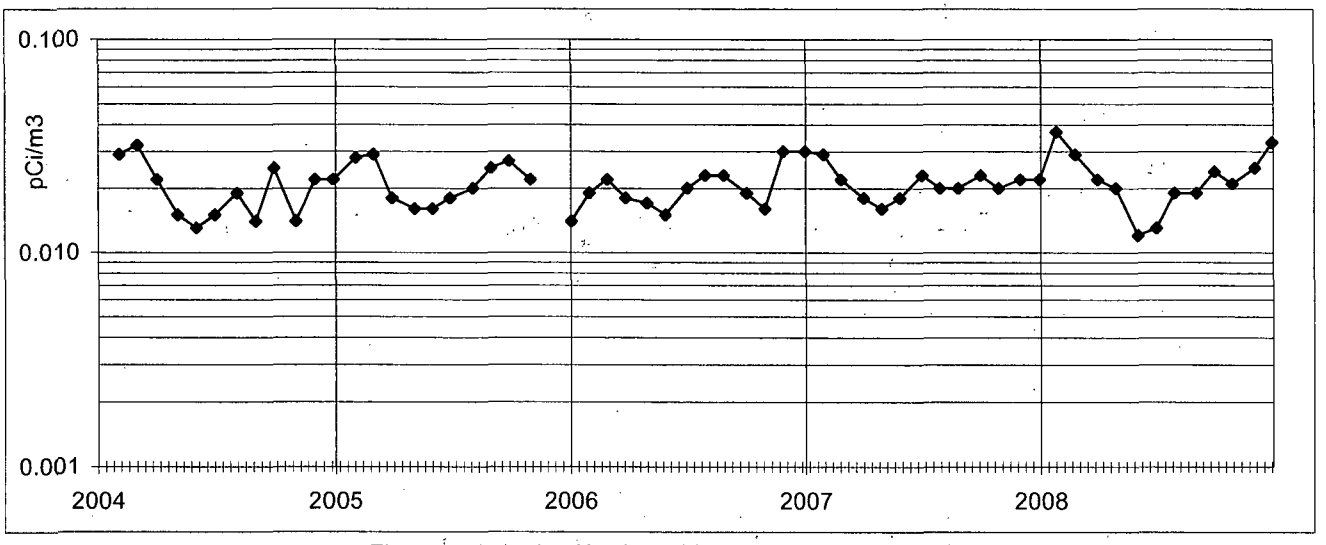

Figure 9. Location K-2 (monthly averages, 2004-2008).

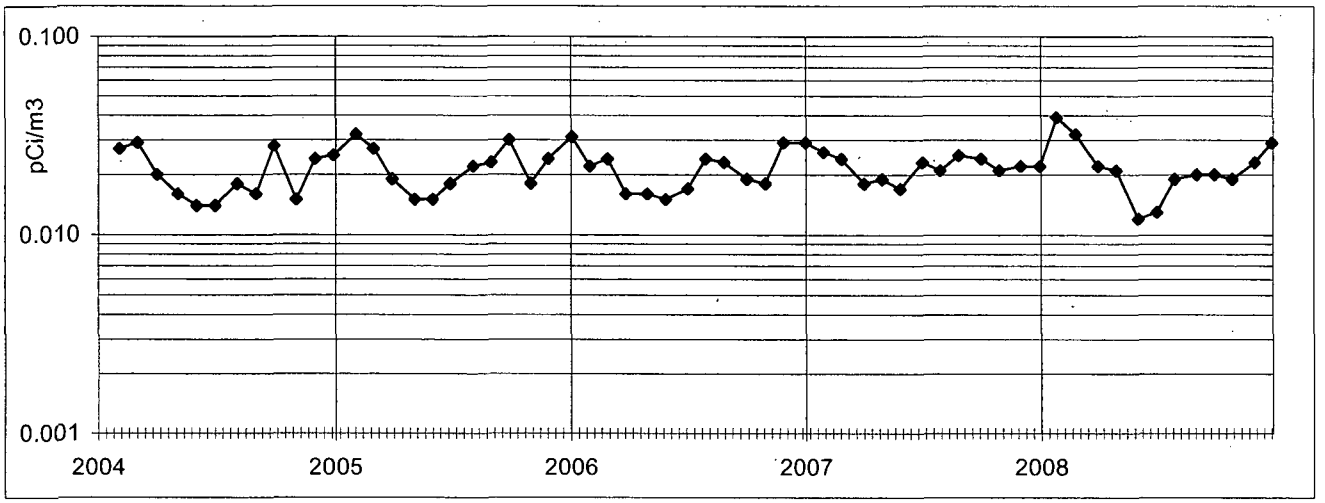

Figure 10. Location K-7 (monthly averages, 2004-2008).

Kewaunee Power Station
Air Particulates - Gross Beta

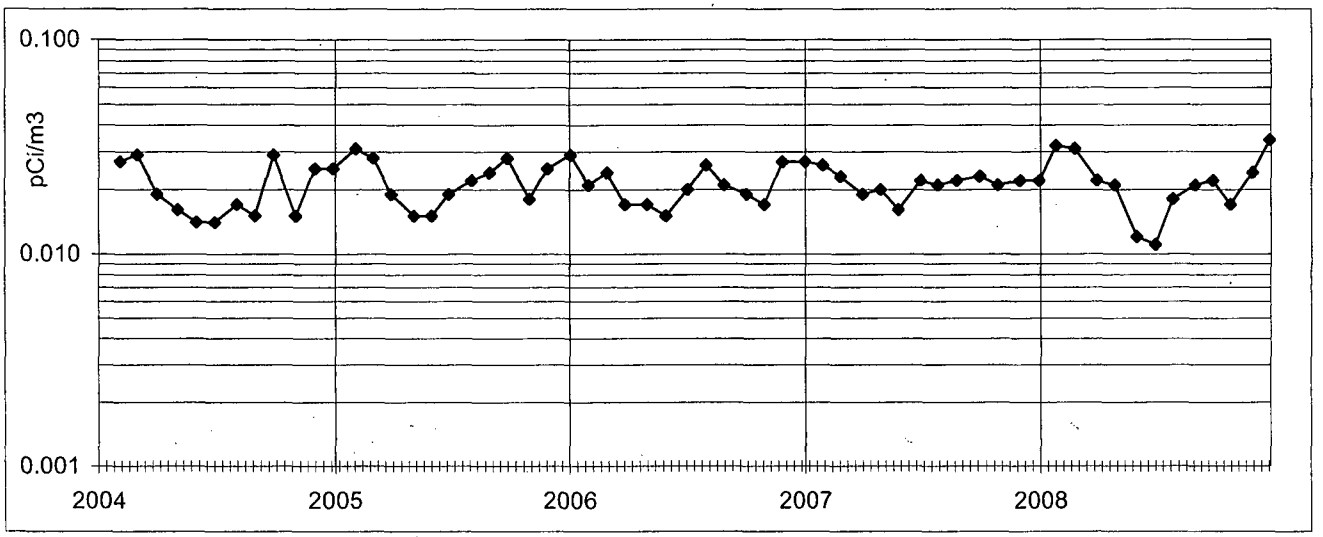

Figure 11. Location K-8 (monthly averages, 2004-2008).

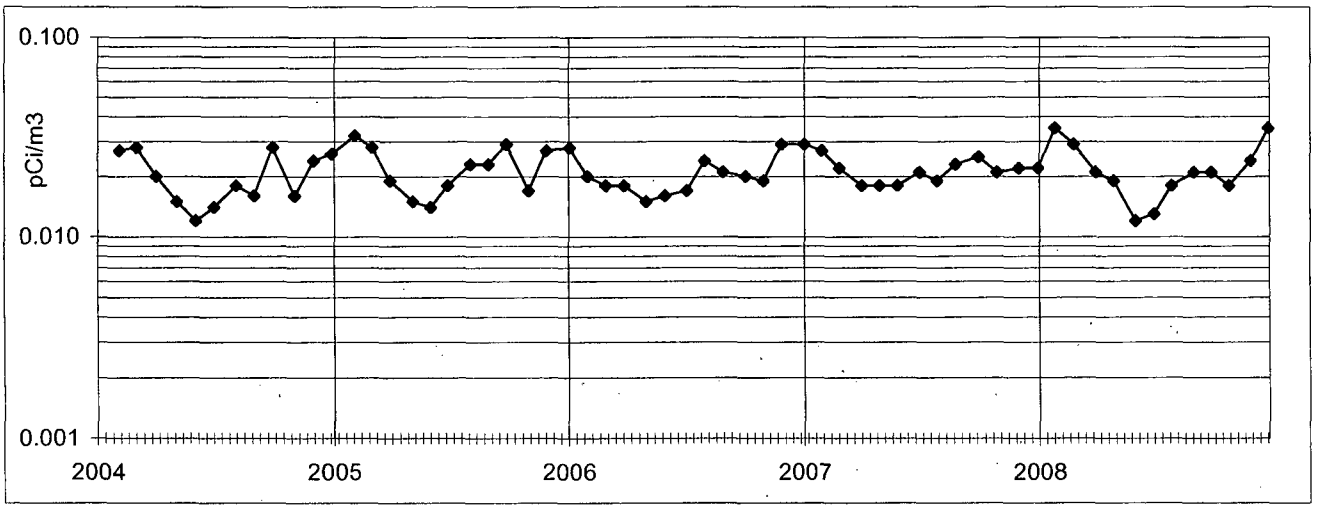

Figure 12. Location K-31 (monthly averages, 2004-2008).

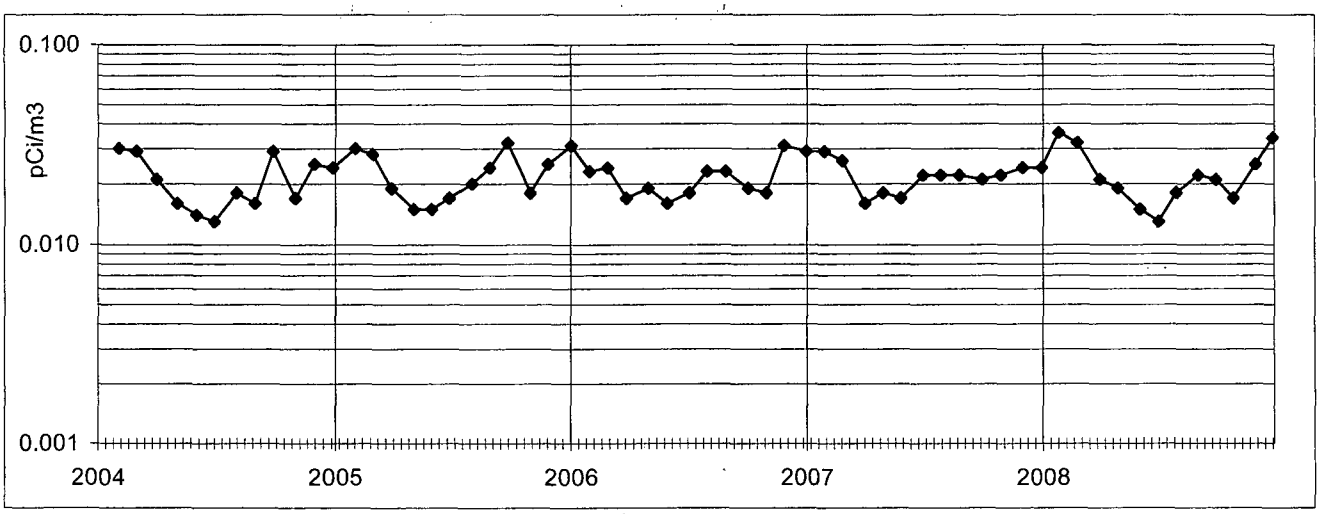

Figure 13. Location K-41[a] (monthly averages, 2004-2008).

[a] collected at location K-16 prior to 2007

Kewaunee

WELL WATER-GROSS ALPHA

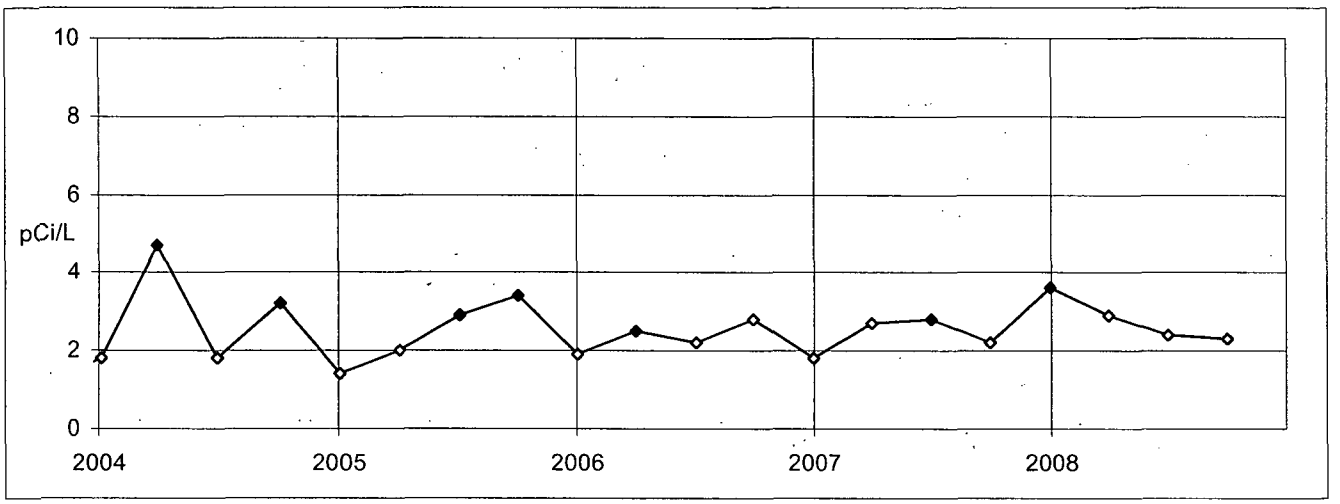

Figure 14. Location K-1g. Total Residue. Quarterly collection.

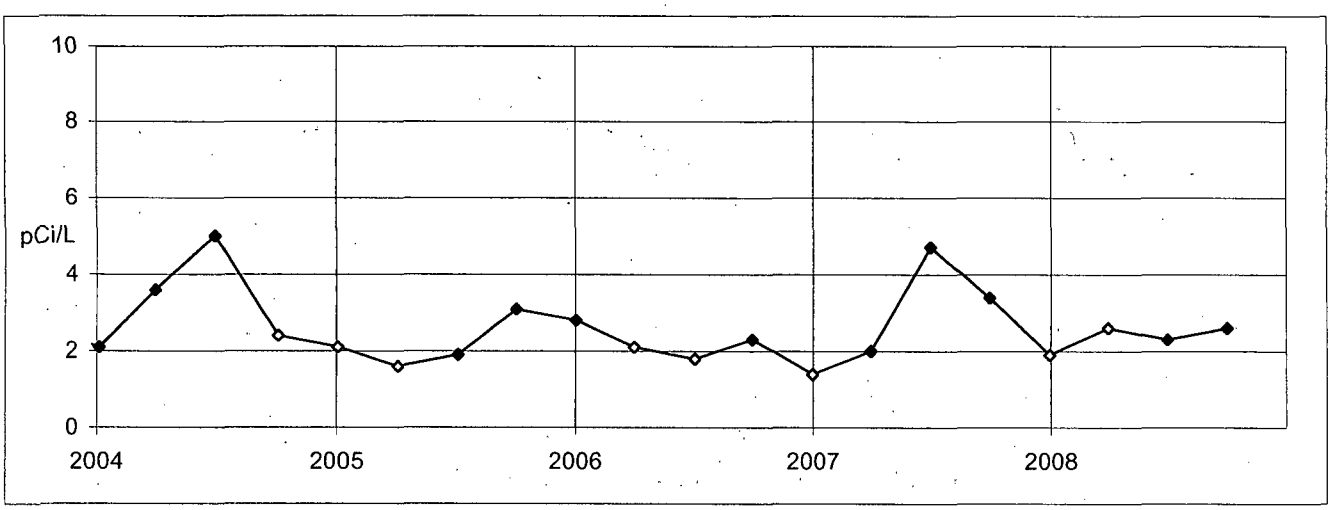

Figure 15. Location K-1h. Total Residue. Quarterly collection.

Kewaunee Power Station
WELL WATER-GROSS BETA

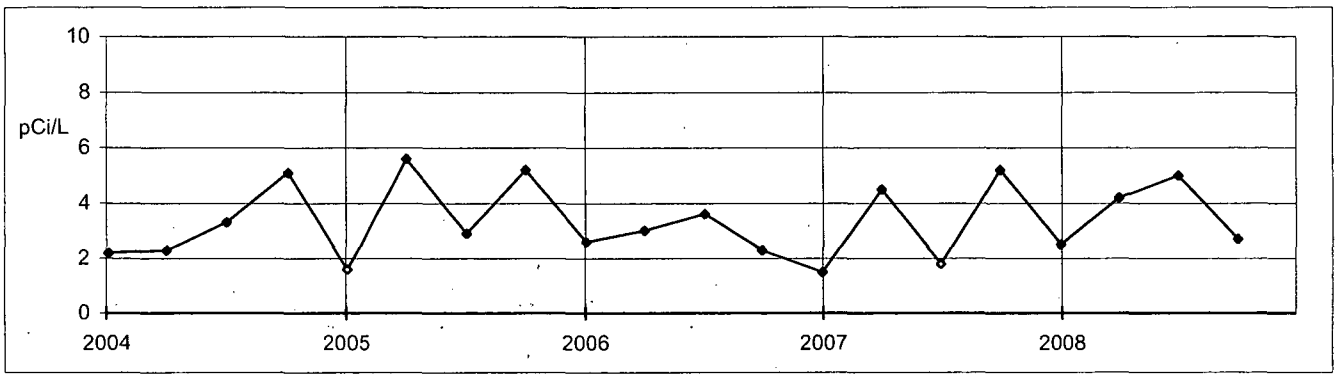

Figure 16. Location K-1g. Total Residue. Quarterly collection.

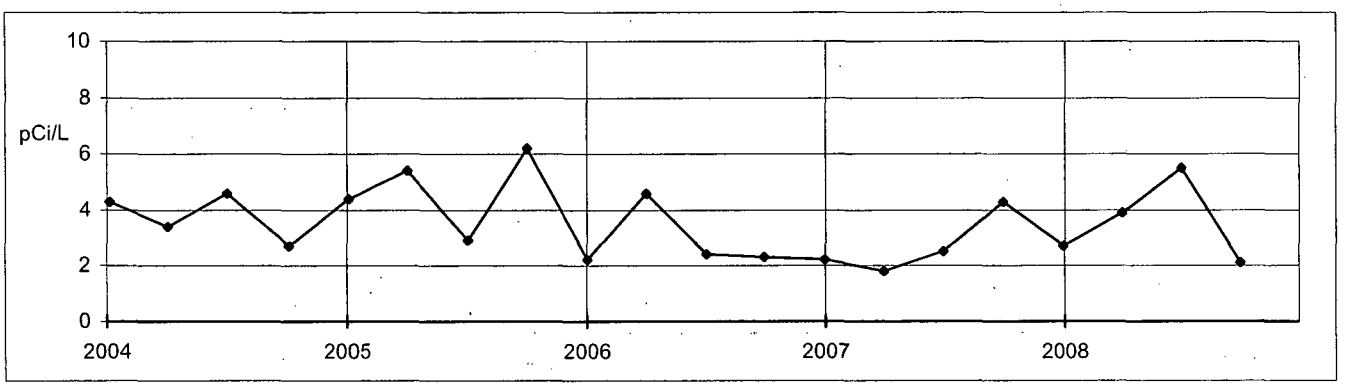

Figure 17. Location K-1h. Total Residue. Quarterly collection.

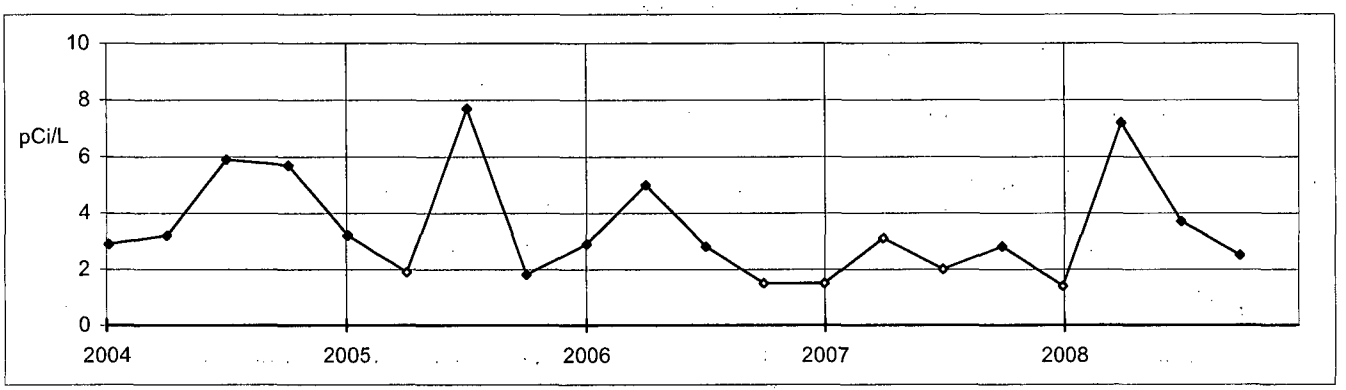

Figure 18. Location K-10. Total Residue. Quarterly collection.

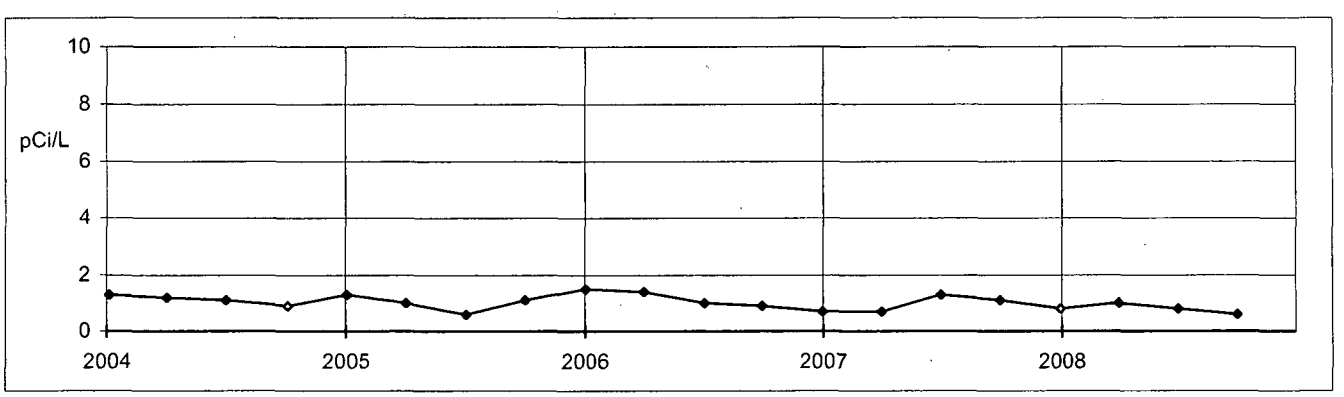

Figure 19. Location K-11. Total Residue. Quarterly collection.

Note: An open data point indicates activity less than the lower limit of detection (LLD).

Kewaunee Power Station
WELL WATER-GROSS BETA

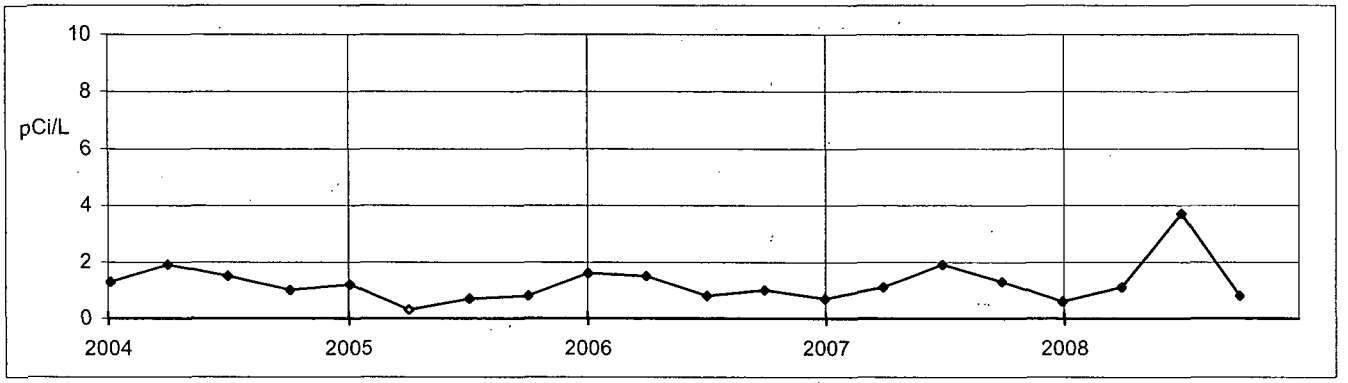

Figure 20. Location K-13. Total Residue. Quarterly collection.

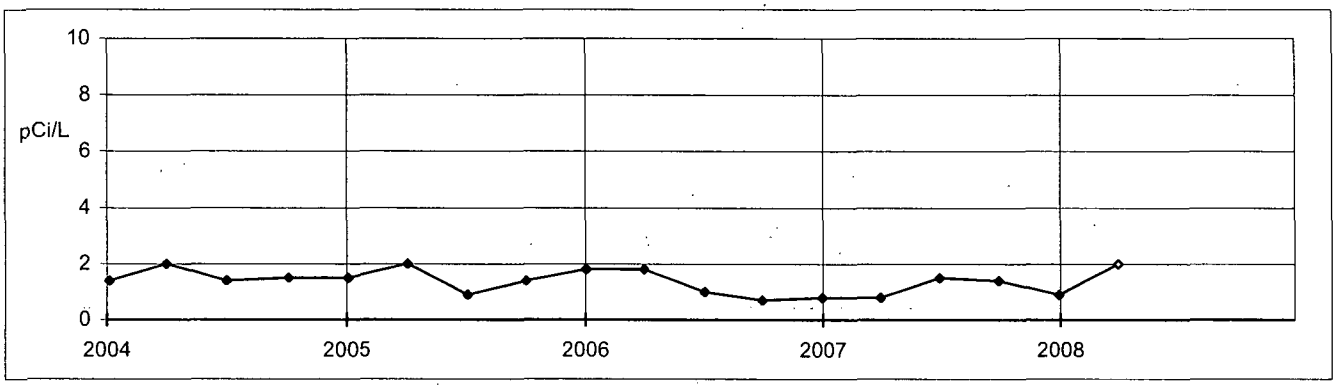

Figure 21a. Location K-25*. Total Residue. Quarterly collection.
* Location K-25 dropped from the program in the third quarter, 2008.

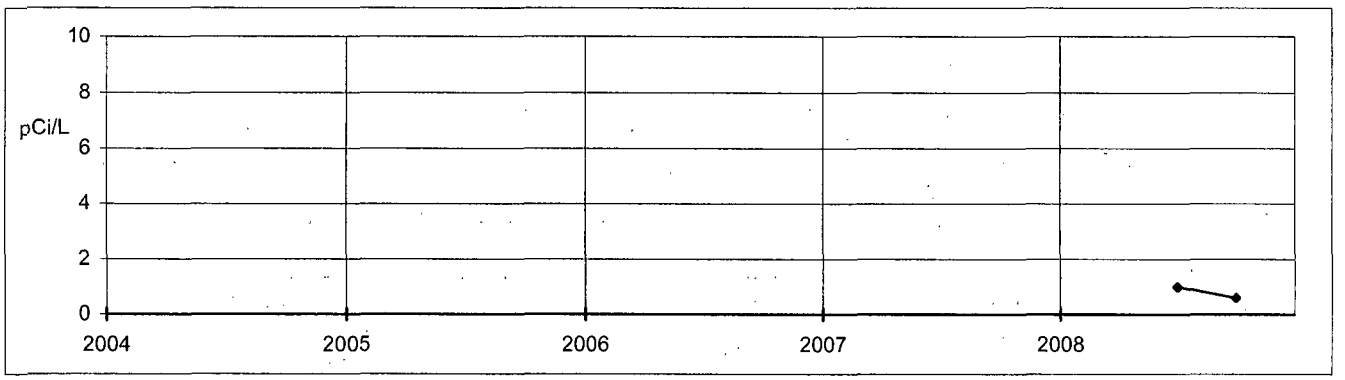

Figure 21b. Location K-38*. Total Residue. Quarterly collection.
* Collected as substitute well for K-25. First collection, third quarter, 2008.

Kewaunee Power Station
Milk - Strontium-90

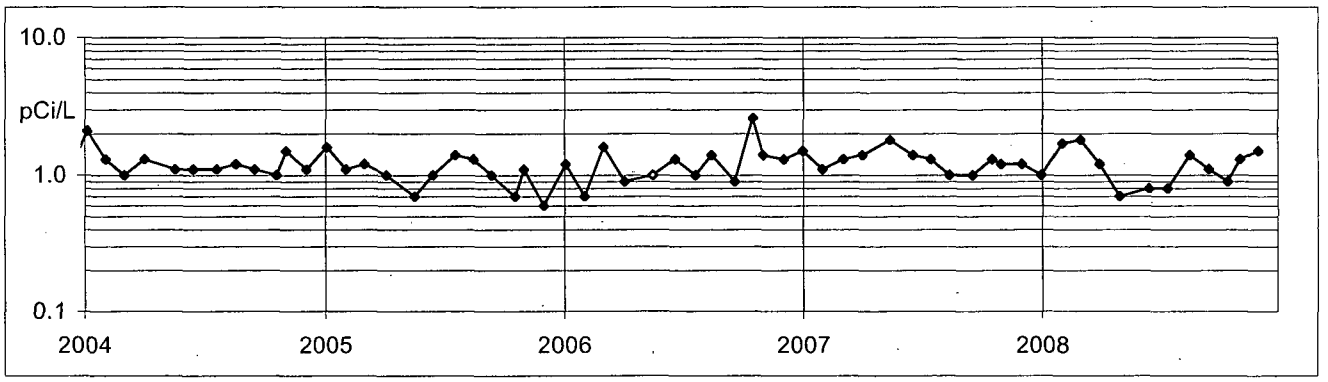

Figure 22. Milk samples. Location K-3.

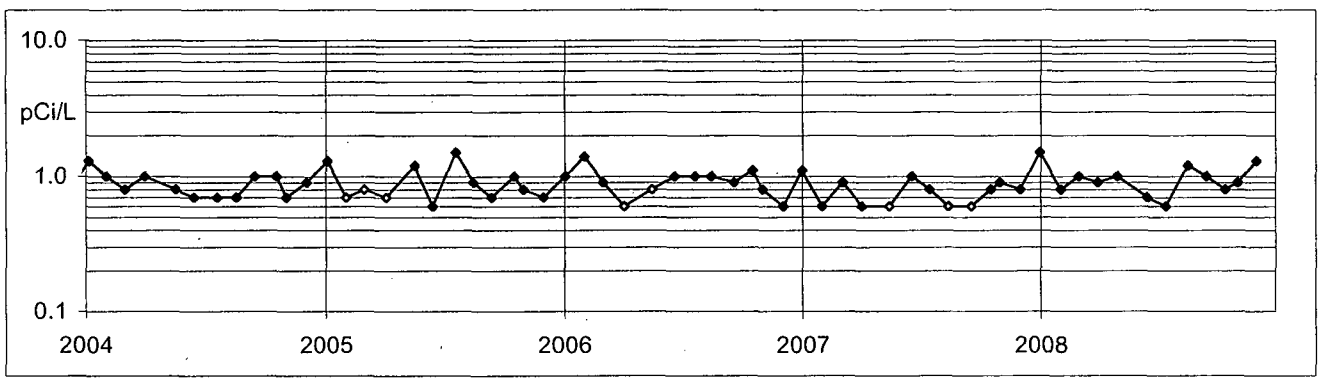

Figure 23. Milk samples. Location K-5.

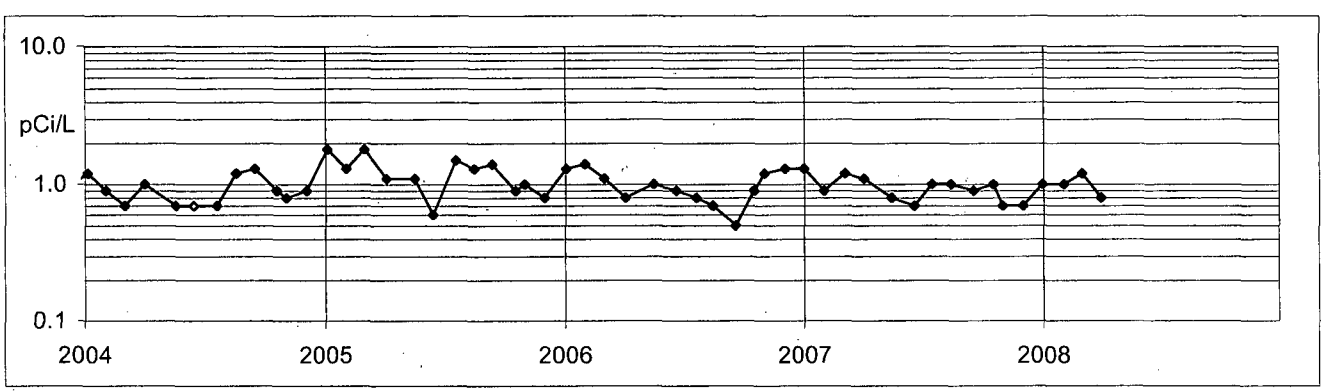

Figure 24a. Milk samples. Location K-25.

No samples available after April, 2008. Farm out of dairy business.

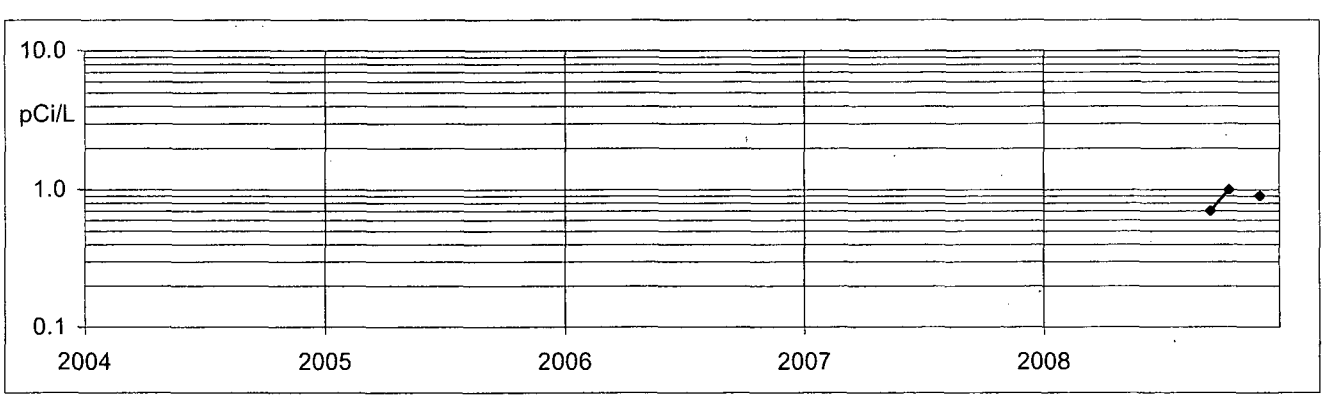

Figure 24b. Milk samples. Location K-35.

Replacement dairy for K-25, first collection 09-03-08.

Kewaunee Power Station
Milk - Strontium-90

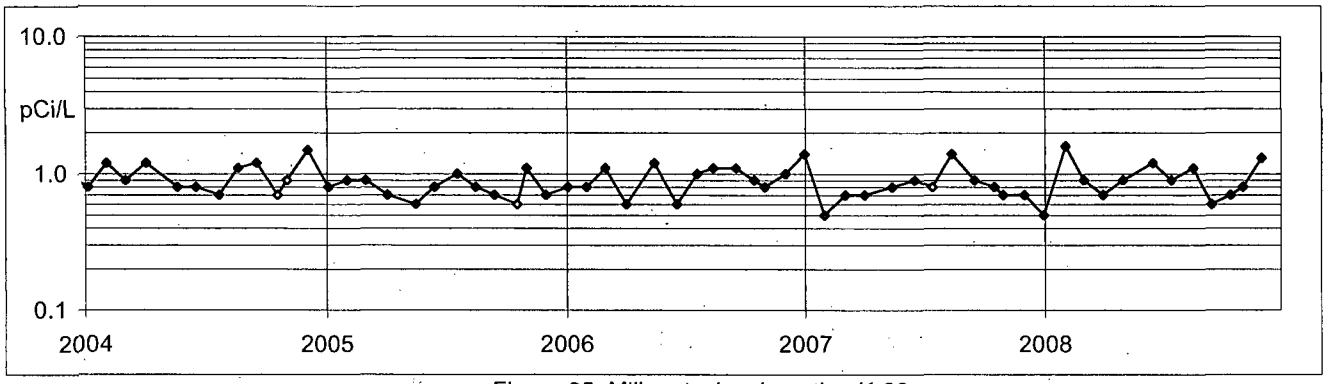

Figure 25. Milk samples. Location K-28.

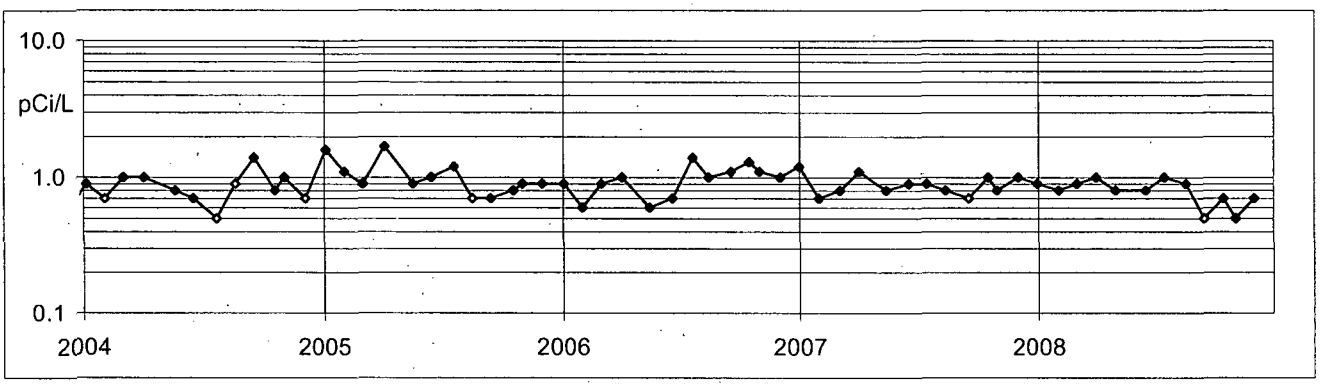

Figure 26. Milk samples. Location K-34.

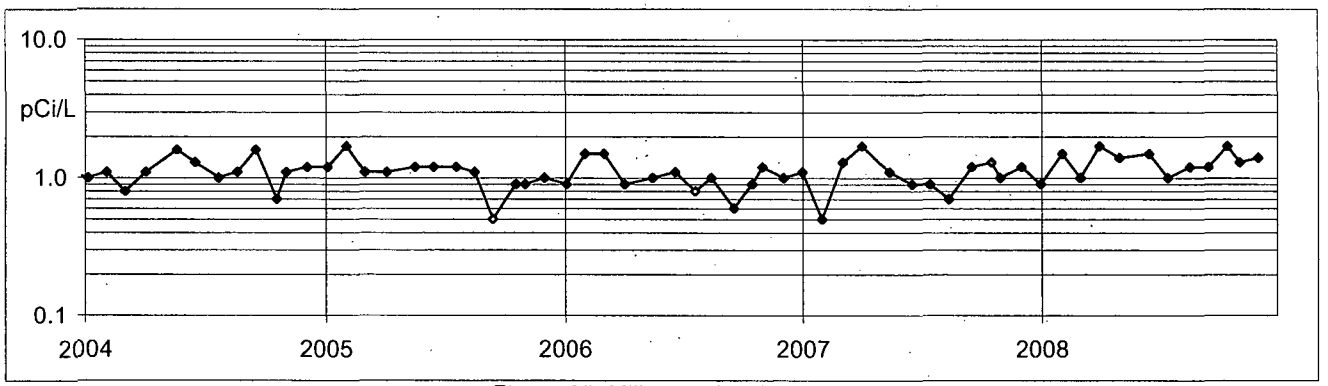

Figure 27. Milk samples. Location K-38.

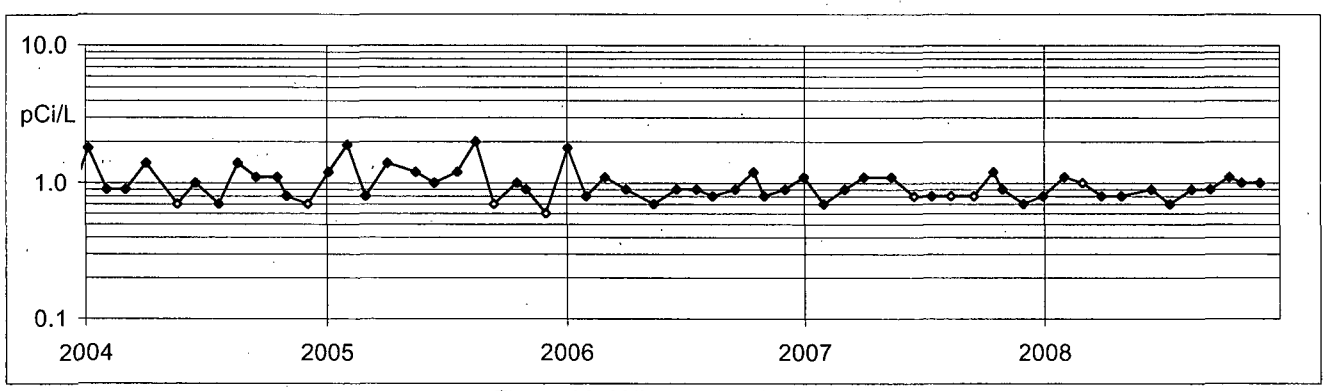

Figure 28. Milk samples. Location K-39.

Kewaunee Power Station
Surface Water - Gross Beta

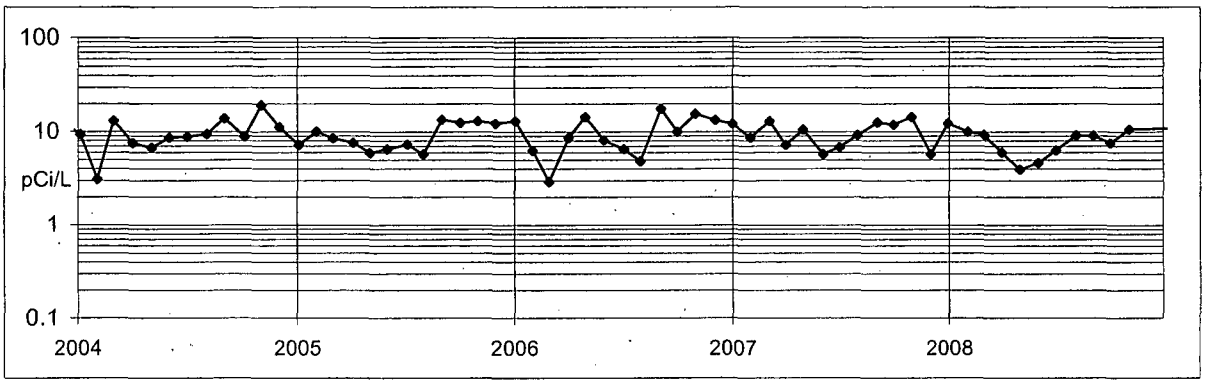

Figure 30. Surface water . North Creek, Onsite (K-1a).

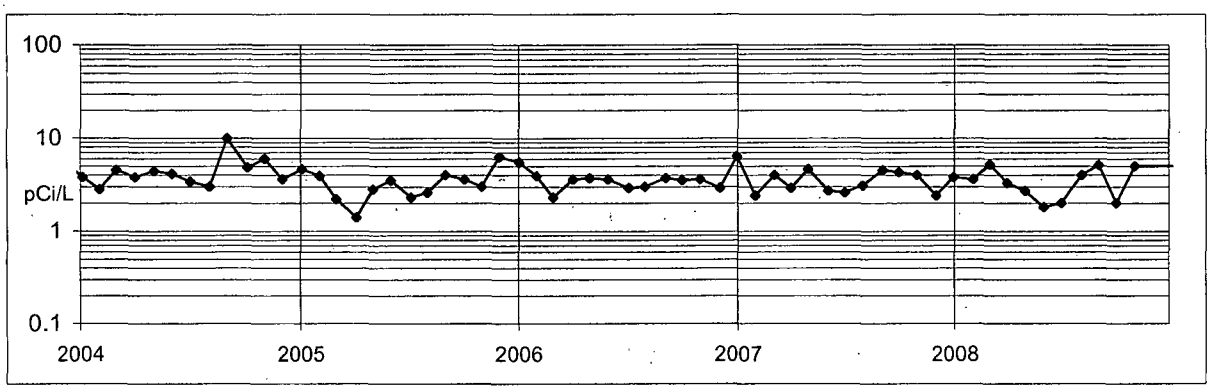

Figure 31. Surface water . Middle Creek, Onsite (K-1b).

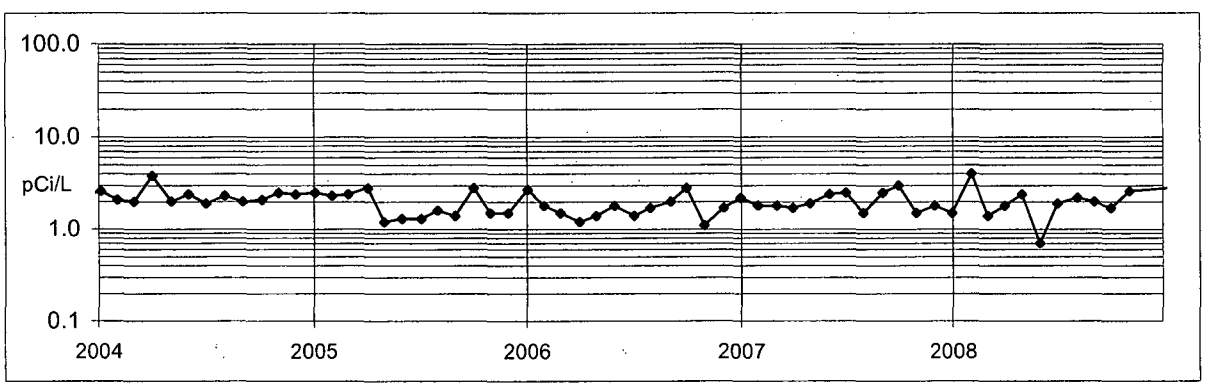

Figure 32. Surface water. Lake Michigan, condenser discharge, Onsite (K-1d).

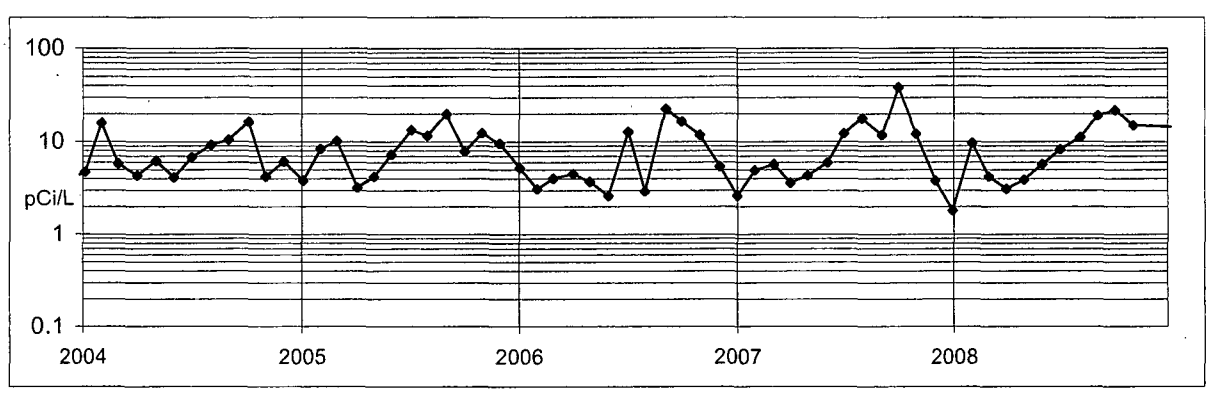

Figure 33. Surface water. South Creek, Onsite (K-1e).

Kewaunee Power Station
Surface Water - Gross Beta

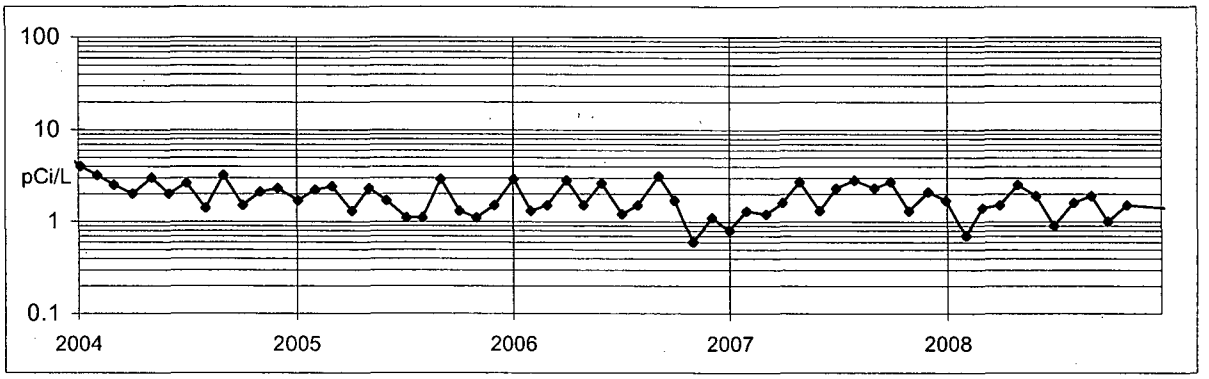

Figure 34. Surface water (raw). Lake Michigan, Rostok Intake (K-9)

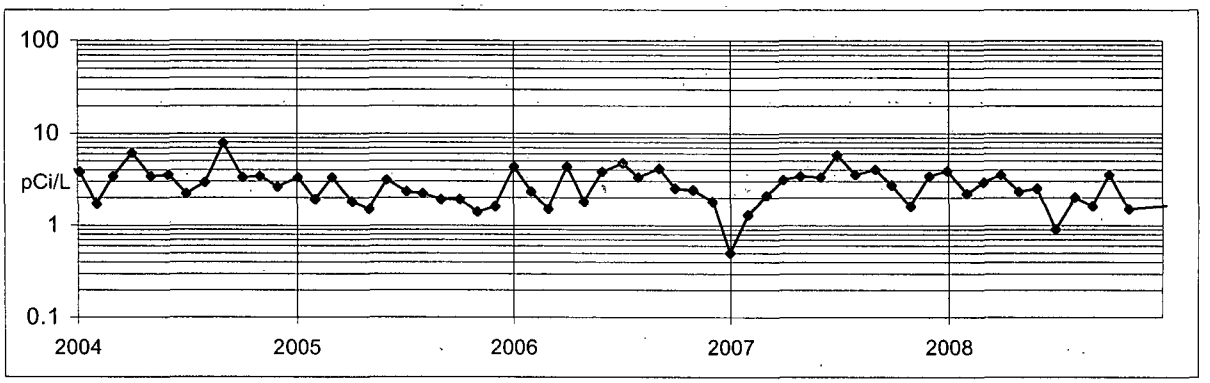

Figure 35. Surface water . Lake Michigan, Two Creeks Park (K-14a).

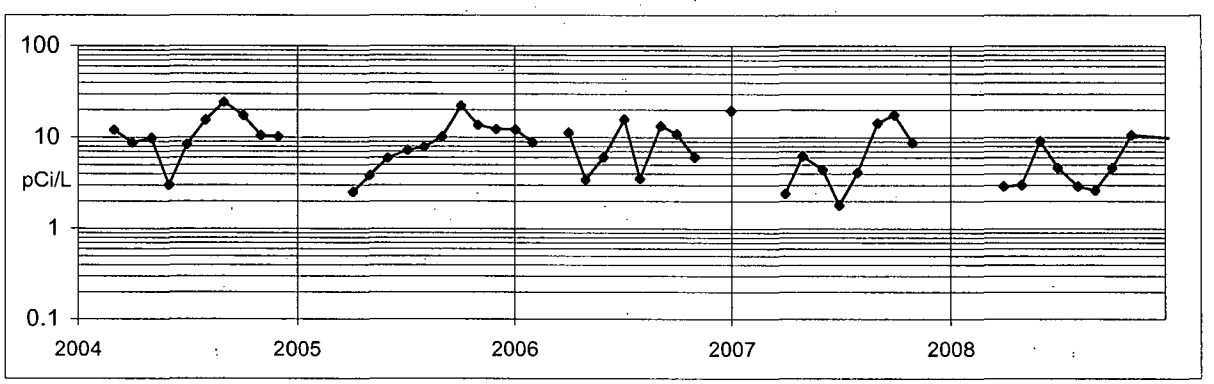

Figure 36. Surface water. School Forest Pond (K-1k).

Surface Water - Tritium

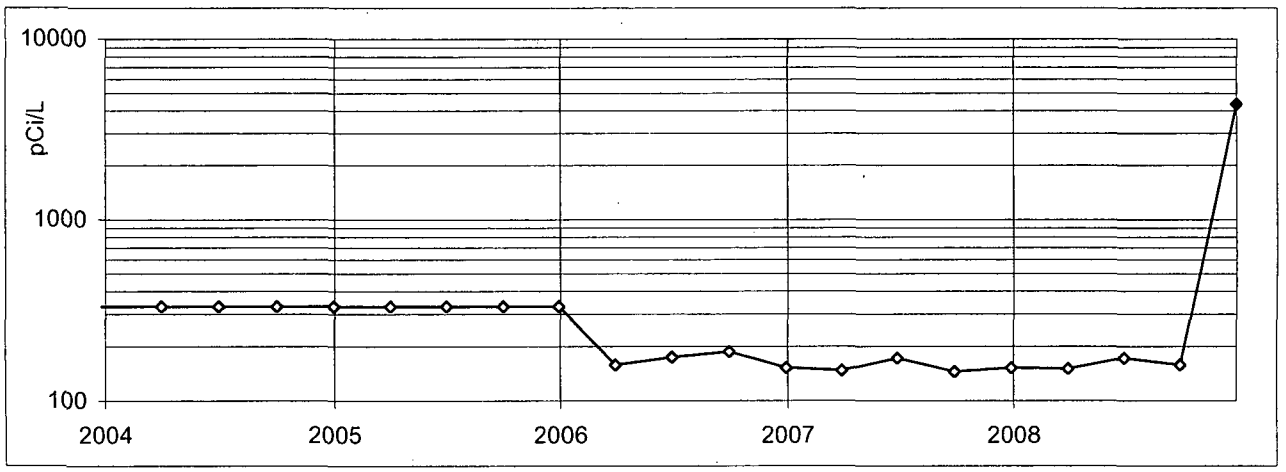

Figure 37. Surface water. Lake Michigan, condenser discharge, K-1d. Quarterly collection.

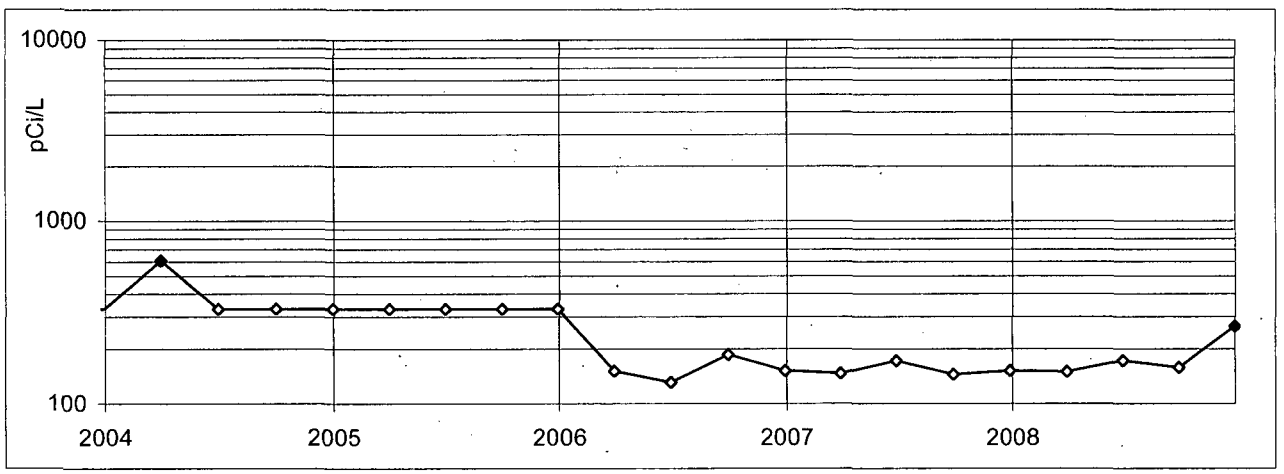

Figure 38. Surface water. Lake Michigan, Two Creeks Park, K-14a. Quarterly collection.

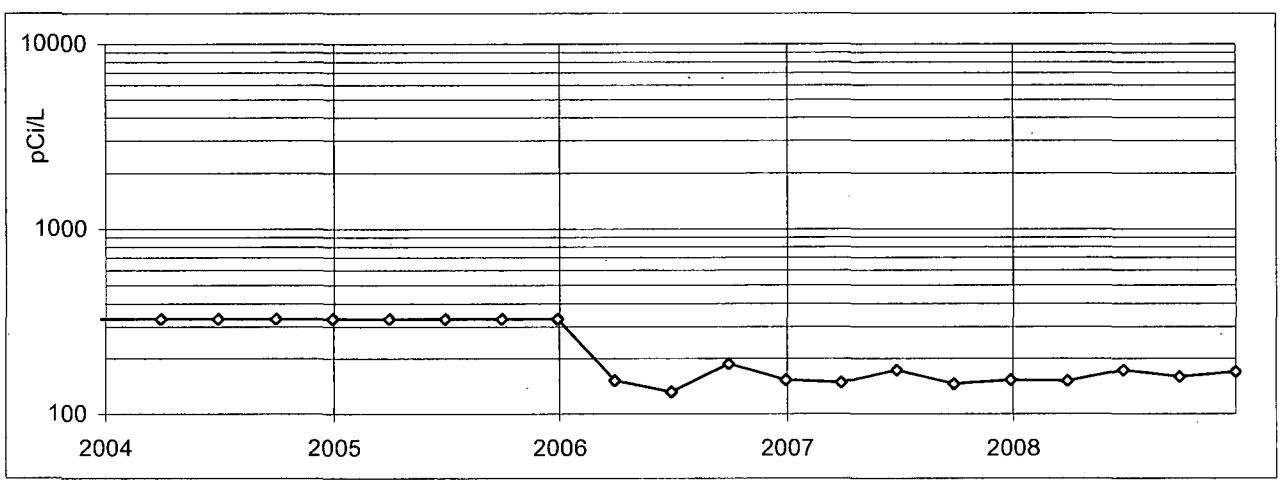

Figure 39. Surface water. Lake Michigan, Rostok Intake, K-9. Quarterly collection.

Note: Prior to 2006, LLD values were reported as compliant with technical specifications (< 330 pCi/L).
Note: Pages 20 through 29 are intentionally left out.

6.0 DATA TABULATIONS

Table 4. Airborne particulates and charcoal canisters, analyses for gross beta and iodine-131[a].

Location: K-1f

Units: pCi/m^3

Collection: Continuous, weekly exchange.

Date Collected	Volume (m^3)	Gross Beta	Date Collected	Volume (m^3)	Gross Beta
Required LLD		0.010	Required LLD		0.010
01-08-08	260	0.030 ± 0.004	07-08-08	332	0.015 ± 0.003
01-15-08	327	0.027 ± 0.004 [b]	07-15-08	314	0.016 ± 0.003
01-21-08	299	0.041 ± 0.004	07-22-08	298	0.024 ± 0.003
01-28-08	331	0.037 ± 0.004	07-29-08	326	0.017 ± 0.003
02-04-08	302	0.031 ± 0.004	08-05-08	328	0.015 ± 0.003
02-12-08	347	0.035 ± 0.004	08-12-08	301	0.016 ± 0.003
02-19-08	301	0.036 ± 0.004	08-18-08	315	0.021 ± 0.003
02-26-08	311	0.029 ± 0.004	08-26-08	321	0.020 ± 0.003
			09-02-08	303	0.033 ± 0.004
03-04-08	307	0.027 ± 0.003			
03-11-08	310	0.024 ± 0.004	09-09-08	302	0.017 ± 0.003
03-18-08	312	0.020 ± 0.003	09-16-08	317	0.012 ± 0.003
03-25-08	332	0.017 ± 0.003	09-23-08	312	0.024 ± 0.003
04-01-08	314	0.017 ± 0.003	09-30-08	307	0.034 ± 0.004
1st Quarter Mean ± s.d.		0.029 ± 0.008	3rd Quarter Mean ± s.d.		0.020 ± 0.007
04-07-08	274	0.031 ± 0.004	10-07-08	304	0.019 ± 0.003
04-15-08	357	0.012 ± 0.003	10-15-08	351	0.027 ± 0.003
04-22-08	303	0.022 ± 0.004	10-21-08	252	0.016 ± 0.003
04-29-08	301	0.023 ± 0.004	10-28-08	304	0.015 ± 0.003
05-06-08	328	0.019 ± 0.003	11-05-08	347	0.032 ± 0.003
05-13-08	337	0.014 ± 0.003	11-11-08	260	0.016 ± 0.003
05-20-08	314	0.012 ± 0.003	11-18-08	301	0.022 ± 0.003
05-28-08	385	0.008 ± 0.002	11-25-08	302	0.020 ± 0.003
06-02-08	250	0.013 ± 0.004	12-02-08	302	0.026 ± 0.003
06-09-08	322	0.012 ± 0.003	12-10-08	346	0.021 ± 0.003
06-16-08	324	0.010 ± 0.003	12-16-08	259	0.025 ± 0.004
06-23-08	320	0.013 ± 0.003	12-22-08	261	0.046 ± 0.005
07-01-08	390	0.013 ± 0.003	12-29-08	303	0.044 ± 0.004
2nd Quarter Mean ± s.d.		0.016 ± 0.006	4th Quarter Mean ± s.d.		0.025 ± 0.010
			Cumulative Average		0.022

[a] Iodine-131 is sampled biweekly. Concentrations are < 0.03 pCi/m^3 unless otherwise noted.

[b] Missed collection for airborne iodine, refer to CR # 029323.

Table 5. Airborne particulates and charcoal canisters, analyses for gross beta and iodine-131[a].

Location: K-2

Units: pCi/m^3

Collection: Continuous, weekly exchange.

Date Collected	Volume (m^3)	Gross Beta	Date Collected	Volume (m^3)	Gross Beta
Required LLD		0.010	Required LLD		0.010
01-08-08	260	0.035 ± 0.004	07-08-08	337	0.013 ± 0.003
01-15-08	301	0.028 ± 0.004 [b]	07-15-08	341	0.018 ± 0.003
01-21-08	257	0.043 ± 0.005	07-22-08	351	0.024 ± 0.003
01-28-08	305	0.040 ± 0.004	07-29-08	350	0.019 ± 0.003
02-04-08	302	0.028 ± 0.004	08-05-08	354	0.018 ± 0.003
02-12-08	375	0.032 ± 0.003	08-12-08	350	0.013 ± 0.002
02-19-08	351	0.028 ± 0.003	08-18-08	354	0.020 ± 0.003
02-26-08	357	0.028 ± 0.003	08-26-08	338	0.019 ± 0.003
			09-02-08	326	0.025 ± 0.003
03-04-08	325	0.025 ± 0.003			
03-11-08	312	0.029 ± 0.004	09-09-08	340	0.017 ± 0.003
03-18-08	336	0.017 ± 0.003	09-16-08	313	0.017 ± 0.003
03-25-08	362	0.019 ± 0.003	09-23-08	309	0.026 ± 0.003
04-01-08	344	0.019 ± 0.003	09-30-08	307	0.034 ± 0.004
1st Quarter Mean ± s.d.		0.029 ± 0.008	3rd Quarter Mean ± s.d.		0.020 ± 0.006
04-07-08	287	0.029 ± 0.004	10-07-08	304	0.018 ± 0.003
04-15-08	386	0.012 ± 0.003	10-15-08	344	0.024 ± 0.003
04-22-08	343	0.018 ± 0.003	10-21-08	259	0.025 ± 0.004
04-29-08	341	0.022 ± 0.003	10-28-08	303	0.015 ± 0.003
05-06-08	339	0.020 ± 0.003	11-05-08	358	0.038 ± 0.003
05-13-08	334	0.013 ± 0.003	11-11-08	269	0.016 ± 0.003
05-20-08	347	0.010 ± 0.003	11-18-08	302	0.020 ± 0.003
05-28-08	390	0.005 ± 0.002	11-25-08	302	0.021 ± 0.003
06-02-08	261	0.012 ± 0.004	12-02-08	302	0.029 ± 0.003
06-09-08	353	0.012 ± 0.003	12-10-08	347	0.020 ± 0.003
06-16-08	334	0.011 ± 0.003	12-16-08	258	0.033 ± 0.004
06-23-08	302	0.012 ± 0.003	12-22-08	269	0.038 ± 0.004
07-01-08	404	0.015 ± 0.003	12-29-08	314	0.040 ± 0.004
2nd Quarter Mean ± s.d.		0.015 ± 0.006	4th Quarter Mean ± s.d.		0.026 ± 0.009
			Cumulative Average		0.022

[a] Iodine-131 is sampled biweekly. Concentrations are < 0.03 pCi/m^3 unless otherwise noted.

[b] Missed collection for airborne iodine, refer to CR # 029323.

Table 6. Airborne particulates and charcoal canisters, analyses for gross beta and iodine-131[a].

Location: K-7

Units: pCi/m^3

Collection: Continuous, weekly exchange.

Date Collected	Volume (m^3)	Gross Beta	Date Collected	Volume (m^3)	Gross Beta
Required LLD		0.010	Required LLD		0.010
01-08-08	263	0.029 ± 0.004	07-08-08	312	0.017 ± 0.003
01-15-08	299	0.027 ± 0.004 [b]	07-15-08	312	0.015 ± 0.003
01-21-08	225	0.050 ± 0.005	07-22-08	317	0.024 ± 0.003
01-28-08	307	0.051 ± 0.005	07-29-08	320	0.020 ± 0.003
02-04-08	303	0.031 ± 0.004	08-05-08	331	0.019 ± 0.003
02-12-08	344	0.035 ± 0.004	08-12-08	332	0.012 ± 0.002
02-19-08	301	0.031 ± 0.004	08-18-08	324	0.021 ± 0.003
02-26-08	309	0.031 ± 0.004	08-26-08	331	0.019 ± 0.003
			09-02-08	342	0.028 ± 0.003
03-04-08	281	0.027 ± 0.004			
03-11-08	305	0.027 ± 0.004	09-09-08	353	0.014 ± 0.002
03-18-08	298	0.022 ± 0.004	09-16-08	378	0.017 ± 0.002
03-25-08	311	0.016 ± 0.003	09-23-08	394	0.023 ± 0.003
04-01-08	298	0.018 ± 0.003	09-30-08	364	0.024 ± 0.003
1st Quarter Mean ± s.d.		0.030 ± 0.010	3rd Quarter Mean ± s.d.		0.019 ± 0.005
04-07-08	253	0.028 ± 0.004	10-07-08	346	0.016 ± 0.003
04-15-08	340	0.014 ± 0.003	10-15-08	379	0.023 ± 0.003
04-22-08	302	0.019 ± 0.004	10-21-08	275	0.017 ± 0.003
04-29-08	312	0.021 ± 0.003	10-28-08	230	0.020 ± 0.004
05-06-08	324	0.017 ± 0.003	11-05-08	404	0.030 ± 0.003
05-13-08	320	0.015 ± 0.003	11-11-08	308	0.015 ± 0.003
05-20-08	322	0.011 ± 0.003	11-18-08	348	0.021 ± 0.003
05-28-08	389	0.005 ± 0.002	11-25-08	300	0.022 ± 0.003
06-02-08	256	0.011 ± 0.004	12-02-08	332	0.026 ± 0.003
06-09-08	353	0.011 ± 0.003	12-10-08	427	0.018 ± 0.002
06-16-08	151	0.010 ± 0.005	12-16-08	317	0.021 ± 0.003
06-23-08	309	0.011 ± 0.003	12-22-08	314	0.036 ± 0.004
07-01-08	341	0.019 ± 0.003	12-29-08	357	0.040 ± 0.004
2nd Quarter Mean ± s.d.		0.015 ± 0.006	4th Quarter Mean ± s.d.		0.023 ± 0.008
			Cumulative Average		0.022

[a] Iodine-131 is sampled biweekly. Concentrations are < 0.03 pCi/m^3 unless otherwise noted.

[b] Missed collection for airborne iodine, refer to CR # 029323.

Table 7. Airborne particulates and charcoal canisters, analyses for gross beta and iodine-131[a].

Location: K-8

Units: pCi/m^3

Collection: Continuous, weekly exchange.

Date Collected	Volume (m^3)	Gross Beta	Date Collected	Volume (m^3)	Gross Beta
Required LLD		0.010	Required LLD		0.010
01-08-08	241	0.027 ± 0.004	07-08-08	302	0.015 ± 0.003
01-15-08	299	0.026 ± 0.004 [b]	07-15-08	302	0.015 ± 0.003
01-21-08	257	0.038 ± 0.004	07-22-08	307	0.022 ± 0.003
01-28-08	307	0.038 ± 0.004	07-29-08	300	0.019 ± 0.003
02-04-08	302	0.034 ± 0.004	08-05-08	305	0.016 ± 0.003
02-12-08	345	0.031 ± 0.004	08-12-08	302	0.015 ± 0.003
02-19-08	300	0.029 ± 0.004	08-18-08	295	0.023 ± 0.003
02-26-08	308	0.031 ± 0.004	08-26-08	305	0.017 ± 0.003
			09-02-08	306	0.032 ± 0.004
03-04-08	297	0.027 ± 0.003			
03-11-08	304	0.027 ± 0.004	09-09-08	303	0.014 ± 0.003
03-18-08	299	0.018 ± 0.003	09-16-08	313	0.015 ± 0.003
03-25-08	310	0.018 ± 0.003	09-23-08	333	0.026 ± 0.003
04-01-08	297	0.019 ± 0.003	09-30-08	344	0.031 ± 0.003
1st Quarter Mean ± s.d.		0.028 ± 0.007	3rd Quarter Mean ± s.d.		0.020 ± 0.006
04-07-08	249	0.029 ± 0.004	10-07-08	346	0.015 ± 0.002
04-15-08	334	0.011 ± 0.003	10-15-08	379	0.026 ± 0.003
04-22-08	302	0.022 ± 0.004	10-21-08	275	0.014 ± 0.003
04-29-08	302	0.020 ± 0.003	10-28-08	344	0.011 ± 0.003
05-06-08	304	0.018 ± 0.003	11-05-08	404	0.032 ± 0.003
05-13-08	301	0.013 ± 0.003	11-11-08	296	0.015 ± 0.003
05-20-08	302	0.009 ± 0.003	11-18-08	311	0.020 ± 0.003
05-28-08	344	0.009 ± 0.003	11-25-08	300	0.022 ± 0.003
06-02-08	223	0.012 ± 0.004	12-02-08	306	0.030 ± 0.003
06-09-08	303	0.011 ± 0.003	12-10-08	342	0.024 ± 0.003
06-16-08	293	0.009 ± 0.003	12-16-08	280	0.030 ± 0.004
06-23-08	308	0.009 ± 0.003	12-22-08	294	0.036 ± 0.004
07-01-08	341	0.016 ± 0.003	12-29-08	326	0.045 ± 0.004
2nd Quarter Mean ± s.d.		0.014 ± 0.006	4th Quarter Mean ± s.d.		0.025 ± 0.010
			Cumulative Average		0.022

[a] Iodine-131 is sampled biweekly. Concentrations are < 0.03 pCi/m^3 unless otherwise noted.

[b] Missed collection for airborne iodine, refer to CR # 029323.

Table 8. Airborne particulates and charcoal canisters, analyses for gross beta and iodine-131[a].

Location: K-31

Units: pCi/m^3

Collection: Continuous, weekly exchange.

Date Collected	Volume (m^3)	Gross Beta	Date Collected	Volume (m^3)	Gross Beta
Required LLD		0.010	Required LLD		0.010
01-08-08	260	0.028 ± 0.004	07-08-08	351	0.015 ± 0.003
01-15-08	327	0.031 ± 0.004 [b]	07-15-08	358	0.014 ± 0.003
01-21-08	291	0.043 ± 0.004	07-22-08	350	0.025 ± 0.003
01-28-08	355	0.038 ± 0.004	07-29-08	350	0.019 ± 0.003
02-04-08	338	0.026 ± 0.004	08-05-08	338	0.016 ± 0.003
02-12-08	386	0.032 ± 0.003	08-12-08	335	0.016 ± 0.003
02-19-08	352	0.028 ± 0.003	08-18-08	353	0.023 ± 0.003
02-26-08	356	0.028 ± 0.003	08-26-08	340	0.018 ± 0.003
			09-02-08	337	0.034 ± 0.003
03-04-08	352	0.024 ± 0.003			
03-11-08	351	0.024 ± 0.003	09-09-08	353	0.015 ± 0.002
03-18-08	352	0.021 ± 0.003	09-16-08	351	0.017 ± 0.003
03-25-08	362	0.017 ± 0.003	09-23-08	355	0.022 ± 0.003
04-01-08	344	0.017 ± 0.003	09-30-08	353	0.029 ± 0.003
1st Quarter Mean ± s.d.		0.027 ± 0.007	3rd Quarter Mean ± s.d.		0.020 ± 0.006
04-07-08	300	0.028 ± 0.004	10-07-08	329	0.016 ± 0.003
04-15-08	403	0.011 ± 0.002	10-15-08	344	0.027 ± 0.003
04-22-08	353	0.020 ± 0.003	10-21-08	259	0.015 ± 0.003
04-29-08	352	0.018 ± 0.003	10-28-08	303	0.014 ± 0.003
05-06-08	354	0.018 ± 0.003	11-05-08	347	0.038 ± 0.004
05-13-08	349	0.013 ± 0.003	11-11-08	260	0.018 ± 0.003
05-20-08	357	0.011 ± 0.003	11-18-08	303	0.020 ± 0.003
05-28-08	403	0.006 ± 0.002	11-25-08	302	0.020 ± 0.003
06-02-08	261	0.010 ± 0.004	12-02-08	302	0.026 ± 0.003
06-09-08	353	0.011 ± 0.003	12-10-08	347	0.023 ± 0.003
06-16-08	344	0.013 ± 0.003	12-16-08	259	0.030 ± 0.004
06-23-08	353	0.011 ± 0.003	12-22-08	260	0.037 ± 0.004
07-01-08	394	0.017 ± 0.003	12-29-08	303	0.050 ± 0.004
2nd Quarter Mean ± s.d.		0.014 ± 0.006	4th Quarter Mean ± s.d.		0.026 ± 0.011
			Cumulative Average		0.022

[a] Iodine-131 is sampled biweekly. Concentrations are < 0.03 pCi/m^3 unless otherwise noted.

[b] Missed collection for airborne iodine, refer to CR # 029323.

Table 9. Airborne particulates and charcoal canisters, analyses for gross beta and iodine-131[a].

Location: K-41
Units: pCi/m^3
Collection: Continuous, weekly exchange.

Date Collected	Volume (m^3)	Gross Beta	Date Collected	Volume (m^3)	Gross Beta
Required LLD		0.010	Required LLD		0.010
01-08-08	259	0.028 ± 0.004	07-08-08	301	0.012 ± 0.003
01-15-08	303	0.028 ± 0.004	07-15-08	313	0.012 ± 0.003
01-21-08	256	0.046 ± 0.005	07-22-08	320	0.027 ± 0.003
01-28-08	305	0.041 ± 0.004	07-29-08	300	0.019 ± 0.003
02-04-08	303	0.031 ± 0.004	08-05-08	313	0.019 ± 0.003
02-12-08	347	0.040 ± 0.004	08-12-08	322	0.015 ± 0.003
02-19-08	300	0.031 ± 0.004	08-18-08	323	0.019 ± 0.003
02-26-08	305	0.027 ± 0.004	08-26-08	312	0.019 ± 0.003
			09-02-08	302	0.036 ± 0.004
03-04-08	301	0.027 ± 0.003			
03-11-08	327	0.027 ± 0.004	09-09-08	327	0.018 ± 0.003
03-18-08	351	0.018 ± 0.003	09-16-08	354	0.015 ± 0.002
03-25-08	362	0.015 ± 0.003	09-23-08	353	0.022 ± 0.003
04-01-08	344	0.017 ± 0.003	09-30-08	353	0.029 ± 0.003
1st Quarter Mean ± s.d.		0.029 ± 0.009	3rd Quarter Mean ± s.d.		0.020 ± 0.007
04-07-08	292	0.026 ± 0.004	10-07-08	356	0.015 ± 0.002
04-15-08	380	0.008 ± 0.002	10-15-08	399	0.024 ± 0.003
04-22-08	328	0.021 ± 0.003	10-21-08	303	0.013 ± 0.003
04-29-08	312	0.024 ± 0.004	10-28-08	330	0.016 ± 0.003
05-06-08	313	0.024 ± 0.004	11-05-08	346	0.038 ± 0.004
05-13-08	319	0.018 ± 0.003	11-11-08	259	0.016 ± 0.003
05-20-08	342	0.013 ± 0.003	11-18-08	302	0.019 ± 0.003
05-28-08	402	0.007 ± 0.002	11-25-08	302	0.024 ± 0.003
06-02-08	260	0.013 ± 0.004	12-02-08	302	0.027 ± 0.003
06-09-08	353	0.013 ± 0.003	12-10-08	346	0.022 ± 0.003
06-16-08	344	0.011 ± 0.003	12-16-08	258	0.029 ± 0.004
06-23-08	328	0.011 ± 0.003	12-22-08	262	0.042 ± 0.004
07-01-08	348	0.018 ± 0.003	12-29-08	303	0.043 ± 0.004
2nd Quarter Mean ± s.d.		0.016 ± 0.006	4th Quarter Mean ± s.d.		0.025 ± 0.010
			Cumulative Average		0.023

[a] Iodine-131 is sampled biweekly. Concentrations are < 0.03 pCi/m^3 unless otherwise noted.
[b] Missed collection for airborne iodine, refer to CR # 029323.

Table 10. Airborne particulate data, gross beta analyses, monthly averages, minima and maxima.

January

Location	Average	Minima	Maxima
Indicators	0.037	0.027	0.051
K-1f	0.034	0.027	0.041
K-7	0.039	0.027	0.051
Controls	0.035	0.026	0.046
K-2	0.037	0.028	0.043
K-8	0.032	0.026	0.038
K-31	0.035	0.028	0.043
K-41	0.036	0.028	0.046

February

Location	Average	Minima	Maxima
Indicators	0.026	0.012	0.040
K-1f	0.033	0.029	0.036
K-7	0.032	0.031	0.035
Controls	0.030	0.026	0.040
K-2	0.029	0.028	0.032
K-8	0.031	0.029	0.034
K-31	0.029	0.026	0.032
K-41	0.032	0.027	0.040

March

Location	Average	Minima	Maxima
Indicators	0.022	0.016	0.027
K-1f	0.021	0.017	0.027
K-7	0.022	0.016	0.027
Controls	0.020	0.012	0.029
K-2	0.022	0.017	0.029
K-8	0.022	0.018	0.027
K-31	0.021	0.017	0.024
K-41	0.021	0.015	0.027

April

Location	Average	Minima	Maxima
Indicators	0.022	0.012	0.031
K-1f	0.022	0.012	0.031
K-7	0.021	0.014	0.028
Controls	0.020	0.011	0.029
K-2	0.020	0.012	0.029
K-8	0.021	0.011	0.029
K-31	0.019	0.011	0.028
K-41	0.019	0.011	0.028

May

Location	Average	Minima	Maxima
Indicators	0.013	0.005	0.027
K-1f	0.013	0.008	0.019
K-7	0.012	0.005	0.017
Controls	0.013	0.005	0.024
K-2	0.012	0.005	0.020
K-8	0.012	0.009	0.018
K-31	0.012	0.006	0.018
K-41	0.015	0.007	0.024

June

Location	Average	Minima	Maxima
Indicators	0.013	0.010	0.019
K-1f	0.012	0.010	0.013
K-7	0.013	0.010	0.019
Controls	0.016	0.009	0.027
K-2	0.013	0.011	0.015
K-8	0.011	0.009	0.016
K-31	0.013	0.011	0.017
K-41	0.013	0.011	0.018

Note: Samples collected on the first, second or third day of the month are grouped with data of the previous month.

Table 10. Airborne particulate data, gross beta analyses, monthly averages, minima and maxima.

July

Location	Average	Minima	Maxima
Indicators	0.019	0.015	0.024
K-1f	0.018	0.015	0.024
K-7	0.019	0.015	0.024
Controls	0.018	0.012	0.027
K-2	0.019	0.013	0.024
K-8	0.018	0.015	0.022
K-31	0.018	0.014	0.025
K-41	0.018	0.012	0.027

August

Location	Average	Minima	Maxima
Indicators	0.021	0.012	0.033
K-1f	0.021	0.015	0.033
K-7	0.020	0.012	0.028
Controls	0.021	0.013	0.036
K-2	0.019	0.013	0.025
K-8	0.021	0.015	0.032
K-31	0.021	0.016	0.034
K-41	0.022	0.015	0.036

September

Location	Average	Minima	Maxima
Indicators	0.021	0.012	0.034
K-1f	0.022	0.012	0.034
K-7	0.020	0.014	0.024
Controls	0.022	0.014	0.034
K-2	0.024	0.017	0.034
K-8	0.022	0.014	0.031
K-31	0.021	0.015	0.029
K-41	0.021	0.015	0.029

October

Location	Average	Minima	Maxima
Indicators	0.019	0.015	0.027
K-1f	0.019	0.015	0.027
K-7	0.019	0.016	0.023
Controls	0.018	0.011	0.027
K-2	0.021	0.015	0.025
K-8	0.017	0.011	0.026
K-31	0.018	0.014	0.027
K-41	0.017	0.013	0.024

November

Location	Average	Minima	Maxima
Indicators	0.023	0.015	0.032
K-1f	0.023	0.016	0.032
K-7	0.023	0.015	0.030
Controls	0.025	0.015	0.038
K-2	0.025	0.016	0.038
K-8	0.024	0.015	0.032
K-31	0.024	0.018	0.038
K-41	0.025	0.016	0.038

December

Location	Average	Minima	Maxima
Indicators	0.032	0.018	0.046
K-1f	0.034	0.021	0.046
K-7	0.029	0.018	0.040
Controls	0.034	0.020	0.050
K-2	0.033	0.020	0.040
K-8	0.034	0.024	0.045
K-31	0.035	0.023	0.050
K-41	0.034	0.022	0.043

Note: Samples collected on the first, second or third day of the month are grouped with data of the previous month.

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Table 11. Airborne particulate samples, quarterly composites of weekly samples, analysis for gamma-emitting isotopes.

	Sample Description and Concentration (pCi/m^3)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Indicator				
K-1f				
Lab Code	KAP- 1732	KAP- 3655	KAP- 5929	KAP- 7494
Volume (m^3)	4053	4205	4076	3892
Be-7	0.065 ± 0.011	0.078 ± 0.017	0.064 ± 0.015	0.055 ± 0.017
Nb-95	< 0.0006	< 0.0007	< 0.0009	< 0.0013
Zr-95	< 0.0012	< 0.0016	< 0.0022	< 0.0007
Ru-103	< 0.0008	< 0.0010	< 0.0004	< 0.0009
Ru-106	< 0.0031	< 0.0058	< 0.0065	< 0.0067
Cs-134	< 0.0004	< 0.0006	< 0.0004	< 0.0006
Cs-137	< 0.0005	< 0.0005	< 0.0005	< 0.0006
Ce-141	< 0.0012	< 0.0010	< 0.0018	< 0.0015
Ce-144	< 0.0035	< 0.0037	< 0.0034	< 0.0051
K-7				
Lab Code	KAP- 1734	KAP- 3657	KAP- 5931	KAP- 7496
Volume (m^3)	3844	3972	4410	4337
Be-7	0.065 ± 0.012	0.097 ± 0.017	0.064 ± 0.012	0.054 ± 0.013
Nb-95	< 0.0004	< 0.0013	< 0.0007	< 0.0010
Zr-95	< 0.0016	< 0.0017	< 0.0008	< 0.0013
Ru-103	< 0.0007	< 0.0010	< 0.0006	< 0.0012
Ru-106	< 0.0034	< 0.0074	< 0.0051	< 0.0066
Cs-134	< 0.0004	< 0.0008	< 0.0009	< 0.0005
Cs-137	< 0.0006	< 0.0008	< 0.0005	< 0.0007
Ce-141	< 0.0010	< 0.0014	< 0.0008	< 0.0013
Ce-144	< 0.0042	< 0.0032	< 0.0032	< 0.0036

Table 11. Airborne particulate samples, quarterly composites of weekly samples, analysis for gamma-emitting isotopes, (continued).

	Sample Description and Concentration (pCi/m^3)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Control				
K-2				
Lab Code	KAP- 1733	KAP- 3656	KAP- 5930	KAP- 7495
Volume (m^3)	4187	4421	4370	3931
Be-7	0.072 ± 0.011	0.078 ± 0.014	0.072 ± 0.013	0.057 ± 0.015
Nb-95	< 0.0010	< 0.0008	< 0.0008	< 0.0007
Zr-95	< 0.0007	< 0.0017	< 0.0009	< 0.0008
Ru-103	< 0.0009	< 0.0008	< 0.0007	< 0.0012
Ru-106	< 0.0031	< 0.0063	< 0.0041	< 0.0069
Cs-134	< 0.0005	< 0.0007	< 0.0006	< 0.0006
Cs-137	< 0.0006	< 0.0006	< 0.0006	< 0.0006
Ce-141	< 0.0007	< 0.0013	< 0.0009	< 0.0014
Ce-144	< 0.0026	< 0.0043	< 0.0044	< 0.0052
K-8				
Lab Code	KAP- 1735	KAP- 3658	KAP- 5932	KAP- 7497
Volume (m^3)	3866	3906	4017	4203
Be-7	0.067 ± 0.014	0.073 ± 0.015	0.060 ± 0.012	0.052 ± 0.015
Nb-95	< 0.0006	< 0.0011	< 0.0008	< 0.0010
Zr-95	< 0.0007	< 0.0018	< 0.0012	< 0.0017
Ru-103	< 0.0008	< 0.0012	< 0.0005	< 0.0012
Ru-106	< 0.0033	< 0.0080	< 0.0035	< 0.0065
Cs-134	< 0.0006	< 0.0003	< 0.0005	< 0.0008
Cs-137	< 0.0005	< 0.0008	< 0.0004	< 0.0006
Ce-141	< 0.0010	< 0.0018	< 0.0009	< 0.0019
Ce-144	< 0.0046	< 0.0046	< 0.0040	< 0.0033

Table 11. Airborne particulate samples, quarterly composites of weekly samples, analysis for gamma-emitting isotopes, (continued).

	Sample Description and Concentration (pCi/m^3)			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Control				
K-31				
Lab Code	KAP- 1736	KAP- 3659	KAP- 5933	KAP- 7498
Volume (m^3)	4426	4576	4524	3918
Be-7	0.070 ± 0.011	0.094 ± 0.016	0.064 ± 0.013	0.056 ± 0.012
Nb-95	< 0.0006	< 0.0006	< 0.0008	< 0.0009
Zr-95	< 0.0005	< 0.0016	< 0.0010	< 0.0012
Ru-103	< 0.0007	< 0.0010	< 0.0004	< 0.0009
Ru-106	< 0.0034	< 0.0073	< 0.0040	< 0.0047
Cs-134	< 0.0006	< 0.0010	< 0.0005	< 0.0003
Cs-137	< 0.0004	< 0.0007	< 0.0003	< 0.0005
Ce-141	< 0.0014	< 0.0009	< 0.0014	< 0.0011
Ce-144	< 0.0035	< 0.0034	< 0.0043	< 0.0033
K-41				
Lab Code	KAP- 1737 [a]	KAP- 3660	KAP- 5934	KAP- 7499
Volume (m^3)	4063	4321	4193	4068
Be-7	0.070 ± 0.014	0.076 ± 0.012	0.072 ± 0.017	0.060 ± 0.017
Nb-95	< 0.0005	< 0.0004	< 0.0008	< 0.0008
Zr-95	< 0.0008	< 0.0009	< 0.0010	< 0.0008
Ru-103	< 0.0006	< 0.0003	< 0.0009	< 0.0009
Ru-106	< 0.0037	< 0.0053	< 0.0051	< 0.0057
Cs-134	< 0.0003	< 0.0003	< 0.0006	< 0.0005
Cs-137	< 0.0005	< 0.0003	< 0.0003	< 0.0010
Ce-141	< 0.0007	< 0.0014	< 0.0011	< 0.0010
Ce-144	< 0.0031	< 0.0036	< 0.0047	< 0.0036

[a] Duplicate sample, analyses results listed in Appendix A.

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Table 12. Ambient gamma radiation (TLD), quarterly exposure.

	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	
Date Placed	01-02-08	04-01-08	07-01-08	10-01-08	
Date Removed	04-01-08	07-01-08	10-01-08	01-05-09	
	mR/91 days[a]				
Indicator					Mean±s.d.
K-1f	11.9 ± 0.6	11.0 ± 0.7	12.3 ± 0.5	13.1 ± 0.7	12.1 ± 0.9
K-5	15.3 ± 0.6	17.3 ± 0.7	18.6 ± 0.6	18.9 ± 0.6	17.5 ± 1.6
K-7	15.9 ± 0.8	17.4 ± 0.5	18.7 ± 0.7	20.3 ± 0.6	18.1 ± 1.9
K-17	12.2 ± 0.3	12.6 ± 0.2	16.6 ± 0.4	14.1 ± 0.2	13.9 ± 2.0
K-25	15.1 ± 0.5	15.6 ± 0.4	18.2 ± 0.6	17.8 ± 0.6	16.7 ± 1.6
K-27	12.7 ± 0.5	16.5 ± 0.6	16.4 ± 0.3	18.0 ± 0.7	15.9 ± 2.3
K-30	13.4 ± 0.4	13.8 ± 0.8	15.8 ± 0.7	16.3 ± 1.0	14.8 ± 1.4
K-39	13.3 ± 0.8	14.6 ± 0.7	17.1 ± 0.7	17.2 ± 0.7	15.6 ± 1.9
Mean ± s.d.	13.7 ± 1.5	14.9 ± 2.3	16.7 ± 2.1	17.0 ± 2.4	15.6 ± 1.6
Control					
K-2	11.4 ± 0.3	14.5 ± 0.6	16.1 ± 0.4	15.8 ± 0.6	14.5 ± 2.1
K-3	15.6 ± 0.6	16.2 ± 0.7	17.6 ± 0.7	18.7 ± 0.9	17.0 ± 1.4
K-8	13.4 ± 0.4	14.0 ± 0.4	16.0 ± 0.5	15.9 ± 0.5	14.8 ± 1.3
K-15	11.9 ± 0.2	13.5 ± 0.3	14.6 ± 0.2	16.0 ± 0.6	14.0 ± 1.7
K-31	10.6 ± 0.4	12.0 ± 0.2	12.9 ± 0.4	13.9 ± 0.4	12.4 ± 1.4
K-41	10.8 ± 0.6	10.8 ± 0.6	12.7 ± 0.6	15.6 ± 0.6	12.5 ± 2.3
Mean ± s.d.	12.3 ± 1.9	13.5 ± 1.9	15.0 ± 1.9	16.0 ± 1.5	14.2 ± 1.6

[a] The uncertainty for each location corresponds to the two-standard deviation error of the average dose of eight dosimeters placed at this location.

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Table 13. Precipitation samples collected at Location K-11; analysis for tritium.

Date Collected	Lab Code	H-3	
		pCi/L	T.U. (100 T.U. = 320 pCi/L)
01/02/08	KP- 51	< 149	< 47
02/04/08	KP- 527	< 110	< 34
03/04/08	KP- 845	< 177	< 55
04/01/08	KP- 1354	< 166	< 52
05/01/08	KP- 2093	< 149	< 47
06/02/08	KP- 2743	< 167	< 52
07/01/08	KP- 3329	< 171	< 53
08/05/08	KP- 4130	< 137	< 43
09/02/08	KP- 4746	< 152	< 48
09/30/08	KP- 5396	< 161	< 50
11/05/08	KP- 6442	< 148	< 46
12/02/08	KP- 6885	< 161	< 50

Table 14. Milk, analyses for iodine-131 and gamma-emitting isotopes.
Collection: Semimonthly during grazing season, monthly at other times.

Collection Date	Lab Code	Concentration (pCi/L) I-131	Cs-134	Cs-137	Ba-La-140	K-40
Indicators						
K-5						
01-02-08	KMI- 8	< 0.5	< 10	< 10	< 15	1389 ± 118
02-04-08	KMI- 442	< 0.5	< 10	< 10	< 15	1330 ± 156
03-03-08	KMI- 805	< 0.5	< 10	< 10	< 15	1354 ± 115
04-01-08	KMI- 1304	< 0.5	< 10	< 10	< 15	1382 ± 116
05-01-08	KMI- 2055	< 0.5	< 10	< 10	< 15	1450 ± 212
05-13-08	KMI- 2327	< 0.5	< 10	< 10	< 15	1279 ± 117
06-02-08	KMI- 2656	< 0.5	< 10	< 10	< 15	1378 ± 167
06-16-08	KMI- 2989	< 0.5	< 10	< 10	< 15	1360 ± 112
07-01-08	KMI- 3288	< 0.5	< 10	< 10	< 15	1263 ± 157
07-15-08	KMI- 3705	< 0.5	< 10	< 10	< 15	1447 ± 140
08-04-08	KMI- 4051	< 0.5	< 10	< 10	< 15	1472 ± 177
08-19-08	KMI- 4456	< 0.5	< 10	< 10	< 15	1340 ± 115
09-02-08	KMI- 4724	< 0.5	< 10	< 10	< 15	1394 ± 85
09-16-08	KMI- 4964	< 0.5	< 10	< 10	< 15	1270 ± 107
10-01-08	KMI- 5340	< 0.5	< 10	< 10	< 15	1329 ± 116
10-15-08	KMI- 5669	< 0.5	< 10	< 10	< 15	1293 ± 127
11-03-08	KMI- 6261	< 0.5	< 10	< 10	< 15	1352 ± 139
12-01-08	KMI- 6776	< 0.5	< 10	< 10	< 15	1455 ± 114
K-25						
01-03-08	KMI- 9	< 0.5	< 10	< 10	< 15	1313 ± 169
02-05-08	KMI- 443	< 0.5	< 10	< 10	< 15	1371 ± 100
03-04-08	KMI- 806	< 0.5	< 10	< 10	< 15	1320 ± 147
04-02-08	KMI- 1305	< 0.5	< 10	< 10	< 15	1256 ± 180
05-01-08	NS[a]					

[a] NS = No Sample; Farm out of the dairy business.

Table 14. Milk, analyses for iodine-131 and gamma-emitting isotopes (continued).

Collection Date	Lab Code	Concentration (pCi/L)				
		I-131	Cs-134	Cs-137	Ba-La-140	K-40
Indicators						
K-34						
01-03-08	KMI- 11	< 0.5	< 10	< 10	< 15	1521 ± 154
02-04-08	KMI- 445	< 0.5	< 10	< 10	< 15	1486 ± 121
03-03-08	KMI- 808	< 0.5	< 10	< 10	< 15	1397 ± 122
04-01-08	KMI- 1307	< 0.5	< 10	< 10	< 15	1389 ± 127
05-01-08	KMI- 2057	< 0.5	< 10	< 10	< 15	1316 ± 116
05-13-08	KMI- 2329	< 0.5	< 10	< 10	< 15	1460 ± 121
06-03-08	KMI- 2658	< 0.5	< 10	< 10	< 15	1457 ± 152
06-16-08	KMI- 2991	< 0.5	< 10	< 10	< 15	1420 ± 108
07-01-08	KMI- 3290	< 0.5	< 10	< 10	< 15	1456 ± 122
07-15-08	KMI- 3707	< 0.5	< 10	< 10	< 15	1359 ± 116
08-04-08	KMI- 4053	< 0.5	< 10	< 10	< 15	1549 ± 112
08-19-08	KMI- 4458	< 0.5	< 10	< 10	< 15	1407 ± 104
09-03-08	KMI- 4726	< 0.5	< 10	< 10	< 15	1393 ± 101
09-16-08	KMI- 4966	< 0.5	< 10	< 10	< 15	1254 ± 149
10-01-08	KMI- 5342	< 0.5	< 10	< 10	< 15	1364 ± 110
10-15-08	KMI- 5671	< 0.5	< 10	< 10	< 15	1334 ± 161
11-03-08	KMI- 6263	< 0.5	< 10	< 10	< 15	1465 ± 164
12-01-08	KMI- 6778	< 0.5	< 10	< 10	< 15	1409 ± 127
K-35[a]						
09-03-08	KMI- 4727	< 0.5	< 10	< 10	< 15	1379 ± 99
09-16-08	ND[b]	-	-	-	-	-
10-01-08	KMI- 5343	< 0.5	< 10	< 10	< 15	1343 ± 106
10-15-08	KMI- 5672	< 0.5	< 10	< 10	< 15	1272 ± 111
11-03-08	ND[b]	-	-	-	-	-
12-01-08	KMI- 6779	< 0.5	< 10	< 10	< 15	1413 ± 130

[a] K-35, Ducat Farm, replacement for K-25, first collection 09/03/08.

[b] Missed collection.

Table 14. Milk, analyses for iodine-131 and gamma-emitting isotopes (continued).

Collection Date	Lab Code	Concentration (pCi/L) I-131	Cs-134	Cs-137	Ba-La-140	K-40
Indicators						
K-38						
01-02-08	KMI- 12	< 0.5	< 10	< 10	< 15	1361 ± 96
02-05-08	KMI- 446	< 0.5	< 10	< 10	< 15	1318 ± 101
03-04-08	KMI- 809	< 0.5	< 10	< 10	< 15	1339 ± 168
04-01-08	KMI- 1308	< 0.5	< 10	< 10	< 15	1314 ± 116
05-01-08	KMI- 2058	< 0.5	< 10	< 10	< 15	1483 ± 122
05-13-08	KMI- 2330	< 0.5	< 10	< 10	< 15	1383 ± 124
06-02-08	KMI- 2659	< 0.5	< 10	< 10	< 15	1356 ± 111
06-16-08	KMI- 2992	< 0.5	< 10	< 10	< 15	1397 ± 110
07-02-08	KMI- 3291	< 0.5	< 10	< 10	< 15	1315 ± 187
07-15-08	KMI- 3708	< 0.5	< 10	< 10	< 15	1440 ± 111
08-05-08	KMI- 4054	< 0.5	< 10	< 10	< 15	1425 ± 131
08-19-08	KMI- 4459	< 0.5	< 10	< 10	< 15	1394 ± 121
09-02-08	KMI- 4728	< 0.5	< 10	< 10	< 15	1409 ± 80
09-16-08	KMI- 4967	< 0.5	< 10	< 10	< 15	1350 ± 105
10-02-08	KMI- 5344	< 0.5	< 10	< 10	< 15	1245 ± 115
10-15-08	KMI- 5673	< 0.5	< 10	< 10	< 15	1296 ± 104
11-03-08	KMI- 6264	< 0.5	< 10	< 10	< 15	1381 ± 175
12-01-08	KMI- 6780	< 0.5	< 10	< 10	< 15	1412 ± 125
K-39						
01-02-08	KMI- 13	< 0.5	< 10	< 10	< 15	1448 ± 141
02-05-08	KMI- 447	< 0.5	< 10	< 10	< 15	1338 ± 107
03-04-08	KMI- 810	< 0.5	< 10	< 10	< 15	1370 ± 112
04-01-08	KMI- 1309	< 0.5	< 10	< 10	< 15	1372 ± 112
05-01-08	KMI- 2059	< 0.5	< 10	< 10	< 15	1388 ± 193
05-13-08	KMI- 2331	< 0.5	< 10	< 10	< 15	1310 ± 113
06-02-08	KMI- 2660	< 0.5	< 10	< 10	< 15	1392 ± 122
06-16-08	KMI- 2993	< 0.5	< 10	< 10	< 15	1389 ± 164
07-02-08	KMI- 3292	< 0.5	< 10	< 10	< 15	1379 ± 111
07-15-08	KMI- 3709	< 0.5	< 10	< 10	< 15	1470 ± 173
08-05-08	KMI- 4055	< 0.5	< 10	< 10	< 15	1319 ± 157
08-19-08	KMI- 4460	< 0.5	< 10	< 10	< 15	1390 ± 112
09-02-08	KMI- 4729	< 0.5	< 10	< 10	< 15	1365 ± 104
09-16-08	KMI- 4968	< 0.5	< 10	< 10	< 15	1359 ± 109
10-02-08	KMI- 5345	< 0.5	< 10	< 10	< 15	1470 ± 193
10-15-08	KMI- 5674	< 0.5	< 10	< 10	< 15	1458 ± 174
11-03-08	KMI- 6265	< 0.5	< 10	< 10	< 15	1483 ± 170
12-01-08	KMI- 6781	< 0.5	< 10	< 10	< 15	1428 ± 128

Table 14. Milk, analyses for iodine-131 and gamma-emitting isotopes (continued).

Collection Date	Lab Code	Concentration (pCi/L)				
		I-131	Cs-134	Cs-137	Ba-La-140	K-40
Control						
K-3						
01-03-08	KMI- 7	< 0.5	< 10	< 10	< 15	1361 ± 115
02-05-08	KMI- 441	< 0.5	< 10	< 10	< 15	1290 ± 154
03-04-08	KMI- 804	< 0.5	< 10	< 10	< 15	1227 ± 165
04-02-08	KMI- 1303	< 0.5	< 10	< 10	< 15	1320 ± 160
05-02-08	KMI- 2054	< 0.5	< 10	< 10	< 15	1340 ± 178
05-13-08	KMI- 2326	< 0.5	< 10	< 10	< 15	1317 ± 167
06-03-08	KMI- 2655	< 0.5	< 10	< 10	< 15	1279 ± 146
06-16-08	KMI- 2988	< 0.5	< 10	< 10	< 15	1257 ± 115
07-02-08	KMI- 3287	< 0.5	< 10	< 10	< 15	1330 ± 111
07-15-08	KMI- 3704	< 0.5	< 10	< 10	< 15	1340 ± 101
08-05-08	KMI- 4050	< 0.5	< 10	< 10	< 15	1478 ± 114
08-19-08	KMI- 4455	< 0.5	< 10	< 10	< 15	1255 ± 100
09-03-08	KMI- 4723	< 0.5	< 10	< 10	< 15	1396 ± 97
09-16-08	KMI- 4963	< 0.5	< 10	< 10	< 15	1359 ± 174
10-02-08	KMI- 5339	< 0.5	< 10	< 10	< 15	1421 ± 108
10-15-08	KMI- 5668	< 0.5	< 10	< 10	< 15	1395 ± 111
11-04-08	KMI- 6260	< 0.5	< 10	< 10	< 15	1473 ± 201
12-01-08	KMI- 6775	< 0.5	< 10	< 10	< 15	1335 ± 164
K-28						
01-03-08	KMI- 10	< 0.5	< 10	< 10	< 15	1385 ± 103
02-05-08	KMI- 444	< 0.5	< 10	< 10	< 15	1360 ± 96
03-03-08	KMI- 807	< 0.5	< 10	< 10	< 15	1350 ± 113
04-01-08	KMI- 1306	< 0.5	< 10	< 10	< 15	1250 ± 111
05-01-08	KMI- 2056	< 0.5	< 10	< 10	< 15	1365 ± 109
05-13-08	KMI- 2328	< 0.5	< 10	< 10	< 15	1417 ± 119
06-03-08	KMI- 2657	< 0.5	< 10	< 10	< 15	1308 ± 170
06-16-08	KMI- 2990	< 0.5	< 10	< 10	< 15	1478 ± 119
07-02-08	KMI- 3289	< 0.5	< 10	< 10	< 15	1433 ± 148
07-15-08	KMI- 3706	< 0.5	< 10	< 10	< 15	1447 ± 120
08-05-08	KMI- 4052	< 0.5	< 10	< 10	< 15	1448 ± 163
08-18-08	KMI- 4457	< 0.5	< 10	< 10	< 15	1384 ± 116
09-03-08	KMI- 4725	< 0.5	< 10	< 10	< 15	1441 ± 117
09-16-08	KMI- 4965	< 0.5	< 10	< 10	< 15	1369 ± 126
10-02-08	KMI- 5341	< 0.5	< 10	< 10	< 15	1383 ± 113
10-15-08	KMI- 5670	< 0.5	< 10	< 10	< 15	1256 ± 122
11-03-08	KMI- 6262	< 0.5	< 10	< 10	< 15	1392 ± 165
12-01-08	KMI- 6777	< 0.5	< 10	< 10	< 15	1428 ± 156

Table 15. Milk, analyses for strontium-89, strontium-90, stable potassium, stable calcium, and ratios of strontium-90 per gram of calcium and cesium-137 per gram of potassium. Collection: Monthly composites.

Collection Period	Lab Code	Concentration				Ratios	
		Sr-89 (pCi/L)	Sr-90 (pCi/L)	K (g/L)	Ca (g/L)	Sr-90 per gram Ca	Cs-137 per gram K
Indicators							
				K-5			
January	KMI - 8	< 1.1	1.5 ± 0.4	1.61 ± 0.14	1.31	1.15	< 6.21
February	- 442	< 0.9	0.8 ± 0.3	1.54 ± 0.18	1.33	0.60	< 6.49
March	- 805	< 1.3	1.0 ± 0.4	1.57 ± 0.13	1.42	0.70	< 6.37
April	- 1304	< 1.1	0.9 ± 0.4	1.60 ± 0.13	1.16	0.78	< 6.25
May	- 2333	< 0.9	1.0 ± 0.4	1.58 ± 0.19	1.20	0.83	< 6.33
June	- 2995	< 1.0	0.7 ± 0.4	1.58 ± 0.16	1.27	0.55	< 6.33
July	- 3971	< 0.8	0.6 ± 0.3	1.57 ± 0.17	1.06	0.57	< 6.37
August	- 4464	< 0.9	1.2 ± 0.4	1.63 ± 0.17	0.97	1.24	< 6.13
September	- 5082	< 0.9	1.0 ± 0.3	1.54 ± 0.11	1.05	0.95	< 6.49
October	- 6188	< 1.0	0.8 ± 0.4	1.52 ± 0.14	1.00	0.80	< 6.58
November	- 6261	< 1.2	0.9 ± 0.3	1.56 ± 0.16	1.14	0.79	< 6.41
December	- 6776	< 1.0	1.3 ± 0.5	1.68 ± 0.13	1.24	1.05	< 5.95
				K-25			
January	KMI - 9	< 0.9	1.0 ± 0.4	1.52 ± 0.20	1.25	0.80	< 6.58
February	- 443	< 0.8	1.0 ± 0.3	1.58 ± 0.12	1.10	0.91	< 6.33
March	- 806	< 0.9	1.2 ± 0.4	1.53 ± 0.17	1.13	1.06	< 6.54
April	- 1305	< 0.9	0.8 ± 0.4	1.45 ± 0.21	1.11	0.72	< 6.90
May	NS [a]						
June							
July							
August							
September							
October							
November							
December							

[a] NS = No Sample; Farm out of the dairy business.

Table 15. Milk, analyses for strontium-89, strontium-90, stable potassium, stable calcium, and ratios of strontium-90 per gram of calcium and cesium-137 per gram of potassium (continued).

Collection Period	Lab Code	Concentration				Ratios	
		Sr-89 (pCi/L)	Sr-90 (pCi/L)	K (g/L)	Ca (g/L)	Sr-90 per gram Ca	Cs-137 per gram K
Indicators							
				K-34			
January	KMI - 11	< 0.9	0.9 ± 0.3	1.76 ± 0.18	1.30	0.69	< 5.68
February	- 445	< 0.8	0.8 ± 0.3	1.72 ± 0.14	1.23	0.65	< 5.81
March	- 808	< 1.0	0.9 ± 0.3	1.62 ± 0.14	1.23	0.73	< 6.17
April	- 1307	< 0.9	1.0 ± 0.4	1.61 ± 0.15	1.00	1.00	< 6.21
May	- 2335	< 0.7	0.8 ± 0.3	1.60 ± 0.14	1.20	0.67	< 6.25
June	- 2997	< 0.8	0.8 ± 0.3	1.66 ± 0.15	1.20	0.67	< 6.02
July	- 3973	< 0.9	1.0 ± 0.4	1.63 ± 0.14	0.95	1.05	< 6.13
August	- 4466	< 1.0	0.9 ± 0.5	1.71 ± 0.12	1.01	0.89	< 5.85
September	- 5084	< 0.8	< 0.5	1.53 ± 0.14	1.05	< 0.48	< 6.54
October	- 6190	< 1.0	0.7 ± 0.4	1.56 ± 0.16	0.96	0.73	< 6.41
November	- 6263	< 1.4	0.5 ± 0.3	1.69 ± 0.19	1.30	0.38	< 5.92
December	- 6778	< 1.1	0.7 ± 0.4	1.63 ± 0.15	1.36	0.51	< 6.13
				K-35[a]			
January							
February							
March							
April							
May							
June							
July							
August							
September	KMI - 4727	< 1.1	0.7 ± 0.4	1.59 ± 0.11	1.06	0.66	< 6.29
October	- 6191	< 0.9	1.0 ± 0.4	1.51 ± 0.13	1.07	0.93	< 6.62
November	ND[b]						
December	- 6779	< 0.9	0.9 ± 0.4	1.63 ± 0.15	1.31	0.69	< 6.13

[a] K-35, Ducat Farm, replacement for K-25, first collection 09/03/08.

[b] Missed collection.

Table 15. Milk, analyses for strontium-89, strontium-90, stable potassium, stable calcium, and ratios of strontium-90 per gram of calcium and cesium-137 per gram of potassium (continued).

Collection Period	Lab Code	Concentration				Ratios	
		Sr-89 (pCi/L)	Sr-90 (pCi/L)	K (g/L)	Ca (g/L)	Sr-90 per gram Ca	Cs-137 per gram K
Indicators							
				K-38			
January	KMI - 12	< 0.9	0.9 ± 0.4	1.57 ± 0.11	1.34	0.67	< 6.37
February	- 446	< 0.8	1.5 ± 0.4	1.52 ± 0.12	1.18	1.27	< 6.58
March	- 809	< 1.0	1.0 ± 0.4	1.55 ± 0.19	1.37	0.73	< 6.45
April	- 1308	< 1.1	1.7 ± 0.5	1.52 ± 0.13	1.06	1.60	< 6.58
May	- 2336	< 0.7	1.4 ± 0.4	1.66 ± 0.14	1.03	1.36	< 6.02
June	- 2998	< 0.8	1.5 ± 0.4	1.59 ± 0.13	1.00	1.50	< 6.29
July	- 3974	< 0.9	1.0 ± 0.4	1.59 ± 0.17	1.21	0.83	< 6.29
August	- 4467	< 0.6	1.2 ± 0.4	1.63 ± 0.15	1.18	1.02	< 6.13
September	- 5085	< 0.9	1.2 ± 0.5	1.59 ± 0.11	1.04	1.15	< 6.29
October	- 6192	< 0.9	1.7 ± 0.5	1.47 ± 0.13	1.07	1.59	< 6.80
November	- 6264	< 1.0	1.3 ± 0.4	1.60 ± 0.20	1.20	1.08	< 6.25
December	- 6780	< 0.9	1.4 ± 0.4	1.63 ± 0.14	1.35	1.04	< 6.13
				K-39			
January	KMI - 13	< 1.1	0.8 ± 0.4	1.67 ± 0.16	1.25	0.64	< 5.99
February	- 447	< 1.1	1.1 ± 0.4	1.55 ± 0.12	1.19	0.92	< 6.45
March	- 810	< 1.2	< 1.0	1.58 ± 0.13	1.15	< 0.87	< 6.33
April	- 1309	< 1.0	0.8 ± 0.4	1.59 ± 0.13	1.19	0.67	< 6.29
May	- 2337	< 0.9	0.8 ± 0.4	1.56 ± 0.18	1.07	0.75	< 6.41
June	- 2999	< 0.8	0.9 ± 0.3	1.61 ± 0.17	1.07	0.84	< 6.21
July	- 3975	< 1.0	0.7 ± 0.4	1.65 ± 0.16	1.09	0.64	< 6.06
August	- 4468	< 0.8	0.9 ± 0.4	1.57 ± 0.16	1.02	0.88	< 6.37
September	- 5086	< 0.7	0.9 ± 0.3	1.57 ± 0.12	1.24	0.73	< 6.37
October	- 6193	< 1.0	1.1 ± 0.4	1.69 ± 0.21	1.04	1.06	< 5.92
November	- 6265	< 1.0	1.0 ± 0.4	1.71 ± 0.20	1.39	0.72	< 5.85
December	- 6781	< 1.0	1.0 ± 0.4	1.65 ± 0.15	1.30	< 0.77	< 6.06

Table 15. Milk, analyses for strontium-89, strontium-90, stable potassium, stable calcium, and ratios of strontium-90 per gram of calcium and cesium-137 per gram of potassium (continued).

Collection Period	Lab Code	Concentration				Ratios	
		Sr-89 (pCi/L)	Sr-90 (pCi/L)	K (g/L)	Ca (g/L)	Sr-90 per gram Ca	Cs-137 per gram K
Control							
				K-3			
January	KMI - 7	< 1.2	1.0 ± 0.4	1.57 ± 0.13	1.31	0.76	< 6.37
February	- 441	< 0.9	1.7 ± 0.4	1.49 ± 0.18	1.31	1.30	< 6.71
March	- 804	< 1.1	1.8 ± 0.5	1.42 ± 0.19	1.28	1.41	< 7.04
April	- 1303	< 0.9	1.2 ± 0.5	1.53 ± 0.18	1.18	1.02	< 6.54
May	- 2332	< 1.2	0.7 ± 0.4	1.54 ± 0.20	1.19	0.59	< 6.49
June	- 2994	< 0.8	0.8 ± 0.4	1.47 ± 0.15	1.19	0.67	< 6.80
July	- 3970	< 1.5	0.8 ± 0.4	1.54 ± 0.12	1.03	0.78	< 6.49
August	- 4463	< 0.9	1.4 ± 0.5	1.58 ± 0.12	1.05	1.33	< 6.33
September	- 5081	< 0.8	1.1 ± 0.4	1.59 ± 0.16	1.14	0.96	< 6.29
October	- 6187	< 0.9	0.9 ± 0.4	1.63 ± 0.13	1.13	0.80	< 6.13
November	- 6260	< 1.1	1.3 ± 0.4	1.70 ± 0.23	1.10	1.18	< 5.88
December	- 6775	< 1.0	1.5 ± 0.4	1.54 ± 0.19	1.36	1.10	< 6.49
				K-28			
January	KMI - 10	< 0.9	0.5 ± 0.3	1.60 ± 0.12	1.26	0.40	< 6.25
February	- 444	< 0.8	1.6 ± 0.4	1.57 ± 0.11	1.24	1.29	< 6.37
March	- 807	< 1.1	0.9 ± 0.4	1.56 ± 0.13	1.14	0.79	< 6.41
April	- 1306	< 0.8	0.7 ± 0.3	1.45 ± 0.13	1.18	0.59	< 6.90
May	- 2334	< 0.8	0.9 ± 0.4	1.61 ± 0.13	1.10	0.82	< 6.21
June	- 2996	< 0.8	1.2 ± 0.4	1.61 ± 0.17	1.15	1.04	< 6.21
July	- 3972	< 0.8	0.9 ± 0.3	1.66 ± 0.15	0.93	0.97	< 6.02
August	- 4465	< 0.8	1.1 ± 0.4	1.64 ± 0.16	0.99	1.11	< 6.10
September	- 5083	< 0.8	0.6 ± 0.3	1.62 ± 0.14	1.02	0.59	< 6.17
October	- 6189	< 0.8	0.7 ± 0.4	1.53 ± 0.14	0.91	0.77	< 6.54
November	- 6262	< 1.0	0.8 ± 0.4	1.61 ± 0.19	1.29	0.62	< 6.21
December	- 6777	< 0.9	1.3 ± 0.4	1.65 ± 0.18	1.20	1.08	< 6.06

Table 16. Well water, analyses for gross alpha, gross beta, tritium, strontium-89[a], strontium-90[a], potassium-40 and gamma-emitting isotopes.
Collection: Quarterly.

Sample Description and Concentration (pCi/L)				
Indicator				
K-1g				
Date Collected	01-02-08	04-01-08	07-01-08	10-01-08
Lab Code	KWW- 29	KWW- 1338	KWW- 3299	KWW- 5348
Gross alpha	3.6 ± 1.7	3.3 ± 1.3 [b]	< 2.4	< 2.3
Gross beta	2.5 ± 1.1	4.2 ± 2.6	5.0 ± 2.9	2.7 ± 1.3
H-3	< 177	< 166	< 150	< 161
Sr-89	< 0.5	< 0.6	< 0.8	< 1.0
Sr-90	< 0.5	< 0.6	< 0.4	< 0.6
K-40 (ICP)	2.34	2.42	2.16	2.51
Mn-54	< 15	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30	< 30
Co-58	< 15	< 15	< 15	< 15
Co-60	< 15	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15	< 15
K-1h				
Date Collected	01-02-08	04-01-08	07-01-08	10-01-08
Lab Code	KWW- 30	KWW- 1339	KWW- 3300	KWW- 5349
Gross alpha	< 1.9	< 2.6	2.3 ± 1.8	2.6 ± 1.7
Gross beta	2.7 ± 0.9	3.9 ± 2.4	5.5 ± 2.3	2.1 ± 1.2
H-3	< 177	< 166	< 150	< 161
K-40 (ICP)	2.24	2.40	2.42	2.34
Mn-54	< 15	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30	< 30
Co-58	< 15	< 15	< 15	< 15
Co-60	< 15	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15	< 15

[a] Strontium analyses required on samples from K-1g only.
[b] Result of longer sample count.

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Table 17. Well water, analyses for gross beta, tritium, potassium-40, and gamma-emitting isotopes.

Collection: Quarterly.

Sample Description and Concentration (pCi/L)				
Indicator				
K-10				
Date Collected	01-02-08	04-01-08	07-01-08	10-01-08
Lab Code	KWW- 31	KWW- 1340	KWW- 3301	KWW- 5350
Gross beta	< 1.4	7.2 ± 1.7 [a]	3.7 ± 1.6	2.5 ± 0.8
H-3	< 177	< 166	< 150	< 161
K-40 (ICP)	1.21	5.02	2.60	3.11
Mn-54	< 15	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30	< 30
Co-58	< 15	< 15	< 15	< 15
Co-60	< 15	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15	< 15
K-11				
Date Collected	01-02-08	04-01-08	07-01-08	10-01-08
Lab Code	KWW- 32	KWW- 1341	KWW- 3302	KWW- 5351
Gross beta	< 0.8	1.0 ± 0.6	0.8 ± 0.5	0.6 ± 0.3
H-3	< 177	< 166	< 150	< 161
K-40 (ICP)	0.87	0.78	0.87	0.87
Mn-54	< 15	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30	< 30
Co-58	< 15	< 15	< 15	< 15
Co-60	< 15	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15	< 15

[a] A recount of the sample was requested. Result of the recount; 7.66 ± 1.71 pCi/L.

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Table 17. Well water, analyses for gross beta, tritium, potassium-40, and gamma-emitting isotopes.

Sample Description and Concentration (pCi/L)				
Indicator				
K-25	K-25		K-38	
Date Collected	01-02-08	04-01-08	07-02-08	10-01-08
Lab Code	KWW- 34	KWW- 1343	KWW- 3304	KWW- 5353
Gross beta	0.9 ± 0.3	0.8 ± 0.3 [a]	1.0 ± 0.7	0.6 ± 0.4
H-3	< 177	< 166	< 150	< 161
K-40 (ICP)	1.02	1.03	0.69	0.52
Mn-54	< 15	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30	< 30
Co-58	< 15	< 15	< 15	< 15
Co-60	< 15	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15	< 15
Control				
K-13				
Date Collected	01-02-08	04-01-08	07-01-08	10-01-08
Lab Code	KWW- 33	KWW- 1342	KWW- 3303	KWW- 5352
Gross beta	0.6 ± 0.3	1.1 ± 0.6	3.7 ± 0.6	0.8 ± 0.3
H-3	< 177	< 166	< 150	< 161
K-40 (ICP)	0.92	0.91	1.04	0.95
Mn-54	< 15	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30	< 30
Co-58	< 15	< 15	< 15	< 15
Co-60	< 15	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15	< 15

[a] Result of longer sample count.

Note: Page 55 is intentionally left out.

Table 18. Domestic meat samples (chickens), analyses of flesh for gross alpha, gross beta, and gamma-emitting isotopes. Annual collection.

Sample Description and Concentration (pCi/g wet)				
	Indicator			Control
Location	K-24	K-29	K-20	K-32
Date Collected	09-02-08	09-02-08		09-02-08
Lab Code	KME- 4730	KME- 4731		KME- 4732 [a]
Gross Alpha	< 0.050	< 0.052		< 0.036
Gross Beta	3.69 ± 0.14	3.17 ± 0.11		2.86 ± 0.09
Be-7	< 0.27	< 0.47		< 0.50
K-40	3.20 ± 0.40	2.76 ± 0.50		2.44 ± 0.37
Nb-95	< 0.103	< 0.108		< 0.113
Zr-95	< 0.069	< 0.094		< 0.051
Ru-103	< 0.058	< 0.068		< 0.078
Ru-106	< 0.205	< 0.185		< 0.206
Cs-134	< 0.016	< 0.017		< 0.017
Cs-137	< 0.016	< 0.026		< 0.018
Ce-141	< 0.147	< 0.189		< 0.175
Ce-144	< 0.128	< 0.161		< 0.102

[a] Duplicate analyses, refer to Appendix A.

Table 19. Eggs, analyses for gross beta, strontium-89, strontium-90 and gamma emitting isotopes.
Collection: Quarterly

Sample Description and Concentration (pCi/g wet)

Location	K-24			
Date Collected	01-02-08	04-01-08	07-01-08	10-01-08
Lab Code	KE- 14	KE- 1331	KE- 3293	KE- 5346
Gross beta	2.18 ± 0.07	1.81 ± 0.12 [a]	1.52 ± 0.05	1.82 ± 0.08
Sr-89	< 0.011	< 0.012	< 0.006	< 0.013
Sr-90	< 0.005	< 0.005	< 0.002	< 0.004
Be-7	< 0.051	< 0.066	< 0.042	< 0.061
K-40	1.05 ± 0.21	1.25 ± 0.20	1.24 ± 0.12	1.30 ± 0.21
Nb-95	< 0.006	< 0.010	< 0.003	< 0.010
Zr-95	< 0.016	< 0.015	< 0.006	< 0.012
Ru-103	< 0.006	< 0.009	< 0.005	< 0.012
Ru-106	< 0.070	< 0.069	< 0.032	< 0.088
Cs-134	< 0.007	< 0.006	< 0.004	< 0.008
Cs-137	< 0.009	< 0.007	< 0.005	< 0.007
Ce-141	< 0.015	< 0.012	< 0.007	< 0.013
Ce-144	< 0.059	< 0.032	< 0.033	< 0.077

Location	K-32			
Date Collected	01-02-08	04-01-08	07-01-08	10-01-08
Lab Code	KE- 15	KE- 1333	KE- 3294	KE- 5347
Gross beta	1.88 ± 0.06	1.71 ± 0.09	1.50 ± 0.05	1.61 ± 0.07
Sr-89	< 0.009	< 0.010	< 0.006	< 0.016
Sr-90	< 0.004	0.004 ± 0.002	< 0.002	< 0.004
Be-7	< 0.060	< 0.064	< 0.057	< 0.069
K-40	1.23 ± 0.15	1.55 ± 0.27	1.47 ± 0.17	1.13 ± 0.22
Nb-95	< 0.004	< 0.008	< 0.006	< 0.007
Zr-95	< 0.008	< 0.015	< 0.015	< 0.019
Ru-103	< 0.005	< 0.010	< 0.006	< 0.010
Ru-106	< 0.037	< 0.050	< 0.057	< 0.060
Cs-134	< 0.005	< 0.008	< 0.007	< 0.011
Cs-137	< 0.003	< 0.010	< 0.006	< 0.008
Ce-141	< 0.008	< 0.030	< 0.012	< 0.017
Ce-144	< 0.043	< 0.059	< 0.052	< 0.046

[a] Duplicate sample,analyses results listed in Appendix A.

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Table 20. Vegetable and grain samples, analyses for gross beta, strontium-89, strontium-90, and gamma-emitting isotopes. Annual collection.

Sample Description and Concentration (pCi/g wet)			
	Indicator		
Location	K-23		
Date Collected	08-04-08	08-04-08	08-04-08
Lab Code	KVE- 4046 [a]	KVE- 4048	KVE- 4049
Type	Oats	Clover	Clover
Gross beta	8.81 ± 0.36	5.87 ± 0.20	8.78 ± 0.28
Sr-89	< 0.020	< 0.006	< 0.006
Sr-90	< 0.011	< 0.003	< 0.003
Be-7	0.77 ± 0.13	0.79 ± 0.18	0.94 ± 0.29
K-40	5.17 ± 0.34	3.98 ± 0.35	4.65 ± 0.61
Nb-95	< 0.011	< 0.011	< 0.021
Zr-95	< 0.013	< 0.021	< 0.034
Ru-103	< 0.012	< 0.009	< 0.022
Ru-106	< 0.083	< 0.099	< 0.135
Cs-134	< 0.011	< 0.012	< 0.011
Cs-137	< 0.011	< 0.016	< 0.024
Ce-141	< 0.022	< 0.030	< 0.038
Ce-144	< 0.077	< 0.12	< 0.19

Location	K-29[b]	K-38[b]	
Date Collected	09-02-08	09-02-08	09-02-08
Lab Code	KVE- 4741	KVE- 4742	KVE- 4743
Type	Cabbage	Beans	Zucchini
Gross beta	6.21 ± 0.18	3.58 ± 0.07	1.89 ± 0.04
Sr-89	< 0.007	< 0.006	< 0.003
Sr-90	< 0.004	< 0.003	< 0.002
Be-7	0.35 ± 0.177	< 0.093	< 0.059
K-40	4.93 ± 0.37	2.98 ± 0.30	1.46 ± 0.17
Nb-95	< 0.013	< 0.012	< 0.005
Zr-95	< 0.023	< 0.014	< 0.008
Ru-103	< 0.012	< 0.012	< 0.005
Ru-106	< 0.091	< 0.084	< 0.065
Cs-134	< 0.009	< 0.012	< 0.005
Cs-137	< 0.014	< 0.008	< 0.009
Ce-141	< 0.020	< 0.015	< 0.015
Ce-144	< 0.106	< 0.067	< 0.051

[a] Duplicate sample, analyses results listed in Appendix A.

[b] Not required by Technical Specifications.

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Table 20. Vegetable and grain samples, analyses for gross beta, strontium-89, strontium-90, and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/g wet)				
Location	K-26 (control)			
Date Collected	09-03-08	09-03-08	09-03-08	09-03-08
Lab Code	KVE- 4736	KVE- 4737	KVE- 4738	KVE- 4739
Type	Broccoli	Cabbage	Musk Melon	Corn
Gross beta	3.38 ± 0.07	2.26 ± 0.05	4.01 ± 0.08	4.35 ± 0.09
Sr-89	< 0.002	< 0.002	< 0.004	< 0.005
Sr-90	< 0.001	< 0.001	< 0.002	< 0.003
Be-7	< 0.067	< 0.052	< 0.059	< 0.056
K-40	2.50 ± 0.24	1.63 ± 0.17	2.18 ± 0.21	2.80 ± 0.19
Nb-95	< 0.011	< 0.008	< 0.005	< 0.004
Zr-95	< 0.011	< 0.007	< 0.012	< 0.008
Ru-103	< 0.008	< 0.008	< 0.005	< 0.008
Ru-106	< 0.068	< 0.034	< 0.047	< 0.043
Cs-134	< 0.009	< 0.007	< 0.006	< 0.005
Cs-137	< 0.010	< 0.004	< 0.007	< 0.005
Ce-141	< 0.024	< 0.011	< 0.008	< 0.016
Ce-144	< 0.075	< 0.052	< 0.047	< 0.060

Date Collected	09-03-08	10-02-08
Lab Code	KVE- 4740	KVE- 5395
Type	Cauliflower	Pumpkin
Gross beta	3.14 ± 0.06	1.81 ± 0.04
Sr-89	< 0.003	< 0.002
Sr-90	< 0.001	< 0.001
Be-7	< 0.066	< 0.076
K-40	2.18 ± 0.20	1.06 ± 0.18
Nb-95	< 0.006	< 0.007
Zr-95	< 0.012	< 0.011
Ru-103	< 0.007	< 0.007
Ru-106	< 0.082	< 0.039
Cs-134	< 0.005	< 0.008
Cs-137	< 0.007	< 0.007
Ce-141	< 0.016	< 0.015
Ce-144	< 0.052	< 0.064

Table 21. Cattlefeed, analyses for gross beta, strontium-89, strontium-90, and gamma-emitting isotopes.
Collection: First Quarter.

Sample Description and Concentration (pCi/g wet)				
	Control			
Location	K-3	K-3		
Date Collected	01-03-08	01-02-08		
Lab Code	KCF- 35	KCF- 41		
Type	Hay	Silage		
Gross beta	17.23 ± 0.33	5.27 ± 0.13		
Sr-89	< 0.022	< 0.022		
Sr-90	0.015 ± 0.005	0.008 ± 0.005		
Be-7	< 0.17	0.42 ± 0.18		
K-40	10.60 ± 0.46	3.15 ± 0.30		
Nb-95	< 0.019	< 0.012		
Zr-95	< 0.017	< 0.024		
Ru-103	< 0.021	< 0.008		
Ru-106	< 0.113	< 0.106		
Cs-134	< 0.014	< 0.010		
Cs-137	< 0.016	< 0.013		
Ce-141	< 0.038	< 0.039		
Ce-144	< 0.103	< 0.092		
	Indicator			
Location	K-5	K-5	K-25	K-25
Date Collected	01-02-08	01-02-08	01-02-08	01-02-08
Lab Code	KCF- 36	KCF- 42	KCF- 37	KCF- 44
Type	Hay	Silage [a]	Hay	Silage
Gross beta	16.68 ± 0.37	8.88 ± 0.19	11.05 ± 0.31	4.37 ± 0.10
Sr-89	< 0.031	< 0.012	< 0.018	< 0.020
Sr-90	< 0.014	< 0.005	0.009 ± 0.004	< 0.007
Be-7	< 0.12	< 0.11	0.16 ± 0.09	< 0.12
K-40	13.69 ± 0.33	5.08 ± 0.29	10.58 ± 0.31	2.56 ± 0.29 [b]
Nb-95	< 0.010	< 0.012	< 0.015	< 0.015
Zr-95	< 0.023	< 0.017	< 0.021	< 0.017
Ru-103	< 0.009	< 0.009	< 0.011	< 0.008
Ru-106	< 0.078	< 0.068	< 0.090	< 0.056
Cs-134	< 0.009	< 0.006	< 0.009	< 0.008
Cs-137	< 0.011	< 0.006	< 0.011	< 0.008
Ce-141	< 0.027	< 0.022	< 0.027	< 0.012
Ce-144	< 0.066	< 0.064	< 0.057	< 0.050

[a] Duplicate sample, analyses results listed in Appendix A.
[b] Revised result.

Table 21. Cattlefeed, analyses for gross beta, strontium-89, strontium-90, and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/g wet)				
	Indicator			
Location	K-34	K-34	K-38	K-38
Date Collected	01-02-08	01-02-08	01-02-08	01-02-08
Lab Code	KCF- 38	KCF- 45	KCF- 39	KCF- 46
Type	Hay	Silage	Hay	Silage
Gross beta	8.31 ± 0.21	8.66 ± 0.21	34.54 ± 0.72	4.70 ± 0.11
Sr-89	< 0.022	< 0.016	< 0.059	< 0.029
Sr-90	< 0.007	< 0.006	< 0.028	< 0.011
Be-7	0.52 ± 0.24	0.42 ± 0.19	< 0.19	< 0.18
K-40	5.80 ± 0.52	5.61 ± 0.45	15.27 ± 0.41	3.75 ± 0.42
Nb-95	< 0.024	< 0.013	< 0.021	< 0.015
Zr-95	< 0.032	< 0.013	< 0.026	< 0.029
Ru-103	< 0.018	< 0.011	< 0.016	< 0.022
Ru-106	< 0.181	< 0.105	< 0.110	< 0.113
Cs-134	< 0.012	< 0.010	< 0.013	< 0.011
Cs-137	< 0.020	< 0.007	< 0.016	< 0.009
Ce-141	< 0.043	< 0.030	< 0.037	< 0.025
Ce-144	< 0.144	< 0.093	< 0.086	< 0.088

Location	K-39	K-39
Date Collected	01-02-08	01-03-08
Lab Code	KCF- 40	KCF- 41
Type	Hay	Silage
Gross beta	22.49 ± 0.43	8.25 ± 0.18
Sr-89	< 0.048	< 0.014
Sr-90	0.029 ± 0.012	< 0.006
Be-7	< 0.44	0.42 ± 0.18
K-40	15.61 ± 1.09	3.15 ± 0.30
Nb-95	< 0.052	< 0.012
Zr-95	< 0.080	< 0.024
Ru-103	< 0.037	< 0.008
Ru-106	< 0.308	< 0.106
Cs-134	< 0.029	< 0.010
Cs-137	< 0.028	< 0.013
Ce-141	< 0.057	< 0.039
Ce-144	< 0.349	< 0.092

Table 22. Grass, analyses for gross beta, strontium-89, strontium-90, and gamma-emitting isotopes.
Collection: Quarterly, April through December
Units: pCi/g wet

Sample Description and Concentration

	Indicator			
Location	K-1b	K-1f	K-5	K-25 [a]
Date Collected	05-01-08	05-01-08	05-01-08	
Lab Code	KG- 2036	KG- 2037	KG- 2039	
Gross beta	5.58 ± 0.24	7.48 ± 0.16	9.78 ± 0.21	
Sr-89	< 0.013	< 0.011	< 0.014	
Sr-90	< 0.007	0.009 ± 0.004	< 0.009	
Be-7	0.81 ± 0.24	0.93 ± 0.21	1.81 ± 0.15	
K-40	6.19 ± 0.59	7.07 ± 0.59	9.70 ± 0.41	
Mn-54	< 0.014	< 0.013	< 0.011	
Co-58	< 0.022	< 0.025	< 0.006	
Co-60	< 0.011	< 0.017	< 0.014	
Nb-95	< 0.020	< 0.023	< 0.010	
Zr-95	< 0.028	< 0.016	< 0.022	
Ru-103	< 0.022	< 0.020	< 0.012	
Ru-106	< 0.121	< 0.204	< 0.097	
Cs-134	< 0.020	< 0.020	< 0.009	
Cs-137	< 0.022	< 0.019	< 0.010	
Ce-141	< 0.030	< 0.040	< 0.020	
Ce-144	< 0.131	< 0.143	< 0.093	

	Indicator			Control
Location	K-34	K-38	K-39	K-3
Date Collected	05-01-08	05-01-08	05-01-08	05-01-08
Lab Code	KG- 2040	KG- 2041	KG- 2042	KG- 2038
Gross beta	7.68 ± 0.16	11.26 ± 0.22	7.36 ± 0.19	9.94 ± 0.20
Sr-89	< 0.009	< 0.010	< 0.014	< 0.009
Sr-90	< 0.006	< 0.006	< 0.009	< 0.005
Be-7	0.87 ± 0.18	0.79 ± 0.32	4.98 ± 0.38	3.41 ± 0.39
K-40	6.43 ± 0.43	7.45 ± 0.65	6.75 ± 0.53	9.23 ± 0.81
Mn-54	< 0.017	< 0.016	< 0.024	< 0.027
Co-58	< 0.011	< 0.020	< 0.014	< 0.022
Co-60	< 0.015	< 0.015	< 0.011	< 0.026
Nb-95	< 0.009	< 0.020	< 0.024	< 0.024
Zr-95	< 0.026	< 0.025	< 0.038	< 0.030
Ru-103	< 0.009	< 0.012	< 0.030	< 0.020
Ru-106	< 0.111	< 0.144	< 0.177	< 0.145
Cs-134	< 0.010	< 0.020	< 0.026	< 0.021
Cs-137	< 0.014	< 0.016	< 0.030	< 0.031
Ce-141	< 0.016	< 0.037	< 0.044	< 0.032
Ce-144	< 0.074	< 0.121	< 0.149	< 0.143

[a] K-25 dropped from program in April, 2008.

Table 22. Grass samples, analyses for gross beta, strontium-89, strontium-90, and gamma-emitting isotopes (continued).

Sample Description and Concentration				
	Indicator			Control
Location	K-1b	K-1f	K-5	K-35[a]
Date Collected	07-01-08	07-01-08	07-01-08	09-02-08
Lab Code	KG- 3270	KG- 3271	KG- 3273	KG- 4744
Gross beta	8.95 ± 0.23	9.30 ± 0.23	9.14 ± 0.20	12.74 ± 0.46
Sr-89	< 0.011	< 0.011	< 0.011	< 0.015
Sr-90	< 0.007	< 0.008	< 0.008	< 0.008
Be-7	1.26 ± 0.24	0.88 ± 0.34	1.07 ± 0.17	0.35 ± 0.18
K-40	6.75 ± 0.57	6.96 ± 0.72	5.35 ± 0.41	8.81 ± 0.58
Mn-54	< 0.015	< 0.011	< 0.015	< 0.015
Co-58	< 0.008	< 0.020	< 0.010	< 0.015
Co-60	< 0.013	< 0.018	< 0.012	< 0.012
Nb-95	< 0.018	< 0.017	< 0.007	< 0.023
Zr-95	< 0.021	< 0.047	< 0.025	< 0.031
Ru-103	< 0.014	< 0.023	< 0.011	< 0.012
Ru-106	< 0.154	< 0.187	< 0.118	< 0.150
Cs-134	< 0.015	< 0.025	< 0.013	< 0.014
Cs-137	< 0.016	< 0.035	< 0.016	< 0.017
Ce-141	< 0.030	< 0.057	< 0.017	< 0.023
Ce-144	< 0.096	< 0.234	< 0.087	< 0.114
	Indicator			Control
Location	K-34	K-38	K-39	K-3
Date Collected	07-01-08	07-01-08	07-01-08	07-01-08
Lab Code	KG- 3274	KG- 3276	KG- 3277	KG- 3272
Gross beta	7.65 ± 0.24	8.00 ± 0.19	6.96 ± 0.16	8.43 ± 0.20
Sr-89	< 0.015	< 0.011	< 0.011	< 0.014
Sr-90	< 0.006	< 0.004	0.004 ± 0.002	0.018 ± 0.006
Be-7	0.84 ± 0.21	0.96 ± 0.23	0.96 ± 0.18	0.99 ± 0.21
K-40	5.82 ± 0.48	5.34 ± 0.45	5.61 ± 0.49	5.70 ± 0.50
Mn-54	< 0.012	< 0.016	< 0.008	< 0.015
Co-58	< 0.013	< 0.011	< 0.013	< 0.016
Co-60	< 0.020	< 0.014	< 0.014	< 0.011
Nb-95	< 0.018	< 0.019	< 0.017	< 0.020
Zr-95	< 0.023	< 0.021	< 0.030	< 0.023
Ru-103	< 0.017	< 0.020	< 0.021	< 0.019
Ru-106	< 0.148	< 0.092	< 0.117	< 0.132
Cs-134	< 0.013	< 0.011	< 0.015	< 0.013
Cs-137	< 0.020	< 0.014	< 0.014	< 0.016
Ce-141	< 0.035	< 0.032	< 0.047	< 0.042
Ce-144	< 0.112	< 0.149	< 0.138	< 0.147

[a] New location, August, 2008.

Table 22. Grass samples, analyses for gross beta, strontium-89, strontium-90, and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/g wet)				
	Indicator			Control
Location	K-1b	K-1f	K-5	K-35
Date Collected	10-01-08	10-01-08	10-01-08	10-01-08
Lab Code	KG- 5384	KG- 5385	KG- 5387	KG- 5389
Gross beta	7.52 ± 0.20	7.61 ± 0.18	7.13 ± 0.22	10.86 ± 0.24
Sr-89	< 0.019	< 0.017	< 0.035	< 0.025
Sr-90	0.011 ± 0.005	< 0.006	< 0.012	< 0.010
Be-7	2.37 ± 0.25	1.49 ± 0.23	1.76 ± 0.25	1.49 ± 0.32
K-40	5.26 ± 0.45	4.91 ± 0.43	4.35 ± 0.45	7.42 ± 0.67
Mn-54	< 0.018	< 0.015	< 0.015	< 0.027
Co-58	< 0.008	< 0.010	< 0.012	< 0.019
Co-60	< 0.014	< 0.016	< 0.012	< 0.026
Nb-95	< 0.009	< 0.012	< 0.017	< 0.020
Zr-95	< 0.024	< 0.025	< 0.031	< 0.056
Ru-103	< 0.016	< 0.020	< 0.010	< 0.024
Ru-106	< 0.102	< 0.119	< 0.124	< 0.225
Cs-134	< 0.015	< 0.011	< 0.013	< 0.021
Cs-137	< 0.016	< 0.013	< 0.015	< 0.031
Ce-141	< 0.032	< 0.028	< 0.037	< 0.056
Ce-144	< 0.093	< 0.134	< 0.122	< 0.133
	Indicator			Control
Location	K-34	K-38	K-39	K-3
Date Collected	10-01-08	10-01-08	10-01-08	10-01-08
Lab Code	KG- 5388	KG- 5391	KG- 5392	KG- 5386
Gross beta	10.34 ± 0.22	10.17 ± 0.29	10.17 ± 0.23	8.07 ± 0.22
Sr-89	< 0.016	< 0.030	< 0.013	< 0.017
Sr-90	< 0.006	0.013 ± 0.007	< 0.005	< 0.007
Be-7	0.98 ± 0.19	2.02 ± 0.28	0.61 ± 0.15	1.69 ± 0.25
K-40	7.52 ± 0.54	5.88 ± 0.55	8.20 ± 0.57	5.10 ± 0.44
Mn-54	< 0.016	< 0.014	< 0.015	< 0.006
Co-58	< 0.015	< 0.016	< 0.014	< 0.009
Co-60	< 0.019	< 0.017	< 0.016	< 0.016
Nb-95	< 0.017	< 0.021	< 0.017	< 0.015
Zr-95	< 0.023	< 0.022	< 0.023	< 0.027
Ru-103	< 0.019	< 0.015	< 0.011	< 0.017
Ru-106	< 0.090	< 0.183	< 0.077	< 0.119
Cs-134	< 0.012	< 0.019	< 0.010	< 0.013
Cs-137	< 0.018	< 0.024	< 0.017	< 0.015
Ce-141	< 0.032	< 0.048	< 0.030	< 0.027
Ce-144	< 0.142	< 0.113	< 0.126	< 0.102

Table 23. Soil samples, analyses for gross alpha, gross beta, strontium-89, strontium-90, and gamma-emitting isotopes.

Collection: Semiannually

Sample Description and Concentration (pCi/g dry)

	Indicator	
Location	K-1f	K-5
Date Collected	05-01-08	05-01-08
Lab Code	KSO- 2067	KSO- 2069
Gross alpha	4.93 ± 2.57	7.49 ± 2.65
Gross beta	22.76 ± 2.75	36.62 ± 2.93
Sr-89	< 0.059	< 0.075
Sr-90	0.037 ± 0.015	0.035 ± 0.019
Be-7	< 0.12	< 0.33
K-40	17.05 ± 0.79	22.68 ± 1.15
Nb-95	< 0.034	< 0.020
Zr-95	< 0.038	< 0.041
Ru-103	< 0.018	< 0.020
Ru-106	< 0.183	< 0.281
Cs-134	< 0.015	< 0.033
Cs-137	< 0.023	0.064 ± 0.036
Ce-141	< 0.027	< 0.047
Ce-144	< 0.108	< 0.169
Date Collected	10-01-08	10-01-08
Lab Code	KSO- 5508	KSO- 5510
Gross alpha	5.16 ± 2.86	7.54 ± 2.99
Gross beta	31.54 ± 3.67	32.46 ± 3.24
Sr-89	< 0.106	< 0.059
Sr-90	0.104 ± 0.029	0.122 ± 0.022
Be-7	< 0.23	< 0.34
K-40	16.23 ± 0.82	21.65 ± 0.92
Nb-95	< 0.030	< 0.034
Zr-95	< 0.034	< 0.039
Ru-103	< 0.020	< 0.038
Ru-106	< 0.167	< 0.119
Cs-134	< 0.008	< 0.015
Cs-137	0.053 ± 0.022	0.062 ± 0.034
Ce-141	< 0.071	< 0.084
Ce-144	< 0.132	< 0.095

[a] K-25 dropped from program in April, 2008, new location K-35.

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Table 23. Soil samples, analyses for gross alpha, gross beta, strontium-89, strontium-90, and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/g dry)

	Indicator		
Location	K-34	K-38	K-39
Date Collected	05-01-08	05-01-08	05-01-08
Lab Code	KSO- 2070	KSO- 2071	KSO- 2072
Gross alpha	5.52 ± 3.09	7.80 ± 3.19	6.37 ± 3.12
Gross beta	29.57 ± 3.43	31.83 ± 3.24	27.08 ± 3.35
Sr-89	< 0.074	< 0.057	< 0.037
Sr-90	< 0.030	0.077 ± 0.019	0.041 ± 0.017
Be-7	< 0.22	< 0.19	< 0.22
K-40	18.55 ± 0.80	20.74 ± 0.92	20.21 ± 0.87
Nb-95	< 0.021	< 0.012	< 0.012
Zr-95	< 0.039	< 0.028	< 0.027
Ru-103	< 0.020	< 0.020	< 0.018
Ru-106	< 0.111	< 0.082	< 0.080
Cs-134	< 0.014	< 0.017	< 0.013
Cs-137	0.12 ± 0.030	0.15 ± 0.038	0.21 ± 0.045
Ce-141	< 0.022	< 0.043	< 0.040
Ce-144	< 0.118	< 0.171	< 0.123
Date Collected	10-01-08	10-01-08	10-01-08
Lab Code	KSO- 5511	KSO- 5513	KSO- 5514
Gross alpha	8.31 ± 3.33	8.02 ± 3.01	8.16 ± 3.40
Gross beta	30.31 ± 3.53	36.24 ± 3.29	25.16 ± 3.49
Sr-89	< 0.037	< 0.076	< 0.066
Sr-90	< 0.021	0.122 ± 0.025	0.037 ± 0.015
Be-7	< 0.23	< 0.31	< 0.29
K-40	19.32 ± 0.84	21.69 ± 0.95	19.95 ± 0.95
Nb-95	< 0.023	< 0.028	< 0.028
Zr-95	< 0.036	< 0.059	< 0.050
Ru-103	< 0.029	< 0.035	< 0.020
Ru-106	< 0.191	< 0.128	< 0.104
Cs-134	< 0.014	< 0.018	< 0.017
Cs-137	0.119 ± 0.034	0.184 ± 0.032	0.134 ± 0.034
Ce-141	< 0.065	< 0.082	< 0.078
Ce-144	< 0.140	< 0.133	< 0.111

Table 23. Soil samples, analyses for gross alpha, gross beta, strontium-89, strontium-90, and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/g dry)

	Controls	
Location	K-3	K-35 [a]
Date Collected	05-01-08	09-02-08
Lab Code	KSO- 2068	KSO- 4745
Gross alpha	4.68 ± 2.44	8.98 ± 3.06
Gross beta	28.88 ± 2.90	31.83 ± 2.43
Sr-89	< 0.091	< 0.070
Sr-90	0.066 ± 0.024	0.055 ± 0.018
Be-7	< 0.16	< 0.24
K-40	19.37 ± 0.92	16.34 ± 0.78
Nb-95	< 0.012	< 0.012
Zr-95	< 0.039	< 0.021
Ru-103	< 0.015	< 0.027
Ru-106	< 0.095	< 0.136
Cs-134	< 0.015	< 0.017
Cs-137	0.16 ± 0.031	0.15 ± 0.029
Ce-141	< 0.041	< 0.049
Ce-144	< 0.125	< 0.094
Date Collected	10-01-08	10-01-08
Lab Code	KSO- 5509	KSO- 5512
Gross alpha	7.04 ± 2.91	5.66 ± 2.89
Gross beta	32.57 ± 3.16	32.69 ± 3.53
Sr-89	< 0.054	< 0.091
Sr-90	0.036 ± 0.012	0.039 ± 0.018
Be-7	< 0.33	< 0.29
K-40	19.28 ± 0.98	17.16 ± 0.83
Nb-95	< 0.031	< 0.038
Zr-95	< 0.032	< 0.025
Ru-103	< 0.034	< 0.038
Ru-106	< 0.113	< 0.171
Cs-134	< 0.011	< 0.015
Cs-137	0.15 ± 0.043	0.116 ± 0.027
Ce-141	< 0.084	< 0.077
Ce-144	< 0.101	< 0.104

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Table 24. Surface water samples, analyses for gross beta, potassium-40 and gamma-emitting isotopes.
Collection: Monthly

Sample Description and Concentration (pCi/L)			
Indicator			
K-1a			
Date Collected	01-02-08	02-04-08	03-03-08
Lab Code	KSW- 20	KSW- 432	KSW- 796
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.9
Dissolved Solids	12.3 ± 1.2	9.9 ± 1.2	9.2 ± 0.9
Total Residue	12.3 ± 1.2	9.9 ± 1.2	9.2 ± 0.9
K-40 (ICP)	10.29	7.83	8.25
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-1b			
Date Collected	01-02-08	02-04-08	03-03-08
Lab Code	KSW- 21	KSW- 433	KSW- 797
Gross beta			
Suspended Solids	< 1.1	< 0.8	1.2 ± 0.6
Dissolved Solids	3.8 ± 0.8	3.6 ± 0.9	4.0 ± 0.7
Total Residue	3.8 ± 0.8	3.6 ± 0.9	5.2 ± 0.9
K-40 (ICP)	2.73	2.55	4.23
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

Table 24. Surface water samples, analyses for gross beta, potassium-40, and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/L)			
Indicator			
K-1a			
Date Collected	04-01-08	05-01-08	06-02-08
Lab Code	KSW- 1294	KSW- 2044	KSW- 2646
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.8
Dissolved Solids	6.0 ± 0.8	3.9 ± 0.7	4.6 ± 0.8
Total Residue	6.0 ± 0.8	3.9 ± 0.7	4.6 ± 0.8
K-40 (ICP)	6.14	4.84	4.84
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-1b			
Date Collected	04-01-08	05-01-08	06-02-08
Lab Code	KSW- 1295	KSW- 2045	KSW- 2647
Gross beta			
Suspended Solids	< 0.7	< 0.7	< 0.7
Dissolved Solids	3.3 ± 0.7	2.7 ± 1.0	1.8 ± 0.6
Total Residue	3.3 ± 0.7	2.7 ± 1.0	1.8 ± 0.6
K-40 (ICP)	3.06	2.35	1.87
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

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Table 24. Surface water samples, analyses for gross beta, potassium-40, and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/L)			
Indicator			
K-1a			
Date Collected	07-01-08	08-04-08	09-02-08
Lab Code	KSW- 3278	KSW- 4057	KSW- 4695
Gross beta			
Suspended Solids	< 0.8	1.7 ± 0.6	< 1.2
Dissolved Solids	6.3 ± 1.0	7.4 ± 1.0	9.0 ± 0.9
Total Residue	6.3 ± 1.0	9.1 ± 1.2	9.0 ± 0.9
K-40 (ICP)	5.55	6.87	7.62
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-1b			
Date Collected	07-01-08	08-04-08	09-02-08
Lab Code	KSW- 3279	KSW- 4058	KSW- 4696
Gross beta			
Suspended Solids	< 0.8	< 0.8	1.1 ± 0.4
Dissolved Solids	2.0 ± 0.7	4.0 ± 1.1	4.0 ± 0.7
Total Residue	2.0 ± 0.7	4.0 ± 1.1	5.1 ± 0.8
K-40 (ICP)	2.53	1.89	2.22
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

Table 24. Surface water samples, analyses for gross beta, potassium-40, and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/L)			
Indicator			
K-1a			
Date Collected	10-01-08	11-03-08	12-01-08
Lab Code	KSW- 5327	KSW- 6273	KSW- 6766
Gross beta			
Suspended Solids	< 0.8	< 0.7	2.0 ± 0.6
Dissolved Solids	7.5 ± 1.0	10.6 ± 1.4	10.1 ± 1.0
Total Residue	7.5 ± 1.0	10.6 ± 1.4	12.1 ± 1.2
K-40 (ICP)	7.66	8.82	9.00
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-1b			
Date Collected	10-01-08	11-03-08	12-01-08
Lab Code	KSW- 5328	KSW- 6274	KSW- 6767
Gross beta			
Suspended Solids	< 0.7	< 0.8	0.9 ± 0.4
Dissolved Solids	2.0 ± 0.6	5.0 ± 1.3	4.2 ± 1.0
Total Residue	2.0 ± 0.6	5.0 ± 1.3	5.1 ± 1.1
K-40 (ICP)	2.21	2.72	2.27
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

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Table 24. Surface water samples, analyses for gross beta, potassium-40 and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/L)			
Indicator			
K-1d			
Date Collected	01-02-08	02-04-08	03-03-08
Lab Code	KSW- 23	KSW- 434	KSW- 798
Gross beta			
Suspended Solids	< 1.0	1.7 ± 0.5	< 0.7
Dissolved Solids	1.5 ± 0.4	2.3 ± 0.7	1.4 ± 0.4
Total Residue	1.5 ± 0.4	4.0 ± 0.9	1.4 ± 0.4
K-40 (ICP)	1.19	1.54	1.25
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-1e			
Date Collected	01-02-08	02-04-08	03-03-08
Lab Code	KSW- 24	KSW- 435	KSW- 799
Gross beta			
Suspended Solids	< 0.6	1.2 ± 0.5	< 1.2
Dissolved Solids	1.8 ± 1.2	8.4 ± 0.9	4.2 ± 0.9
Total Residue	1.8 ± 1.2	9.6 ± 1.0	4.2 ± 0.9
K-40 (ICP)	1.95	4.88	5.80
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

Table 24. Surface water samples, analyses for gross beta, potassium-40, and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/L)			
Indicator			
K-1d			
Date Collected	04-01-08	05-01-08	06-02-08
Lab Code	KSW- 1296	KSW- 2046	KSW- 2648
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.7
Dissolved Solids	1.8 ± 0.5	2.4 ± 0.7	0.7 ± 0.4
Total Residue	1.8 ± 0.5	2.4 ± 0.7	0.7 ± 0.4
K-40 (ICP)	1.38	1.30	1.12
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-1e			
Date Collected	04-01-08	05-01-08	06-02-08
Lab Code	KSW- 1297	KSW- 2047	KSW- 2649
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.8
Dissolved Solids	3.1 ± 0.9	3.9 ± 1.4	5.7 ± 1.2
Total Residue	3.1 ± 0.9	3.9 ± 1.4	5.7 ± 1.2
K-40 (ICP)	2.93	2.53	6.61
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

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Table 24. Surface water samples, analyses for gross beta, potassium-40, and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/L)			
Indicator			
K-1d			
Date Collected	07-01-08	08-04-08	09-02-08
Lab Code	KSW- 3280	KSW- 4059	KSW- 4697
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 1.3
Dissolved Solids	1.9 ± 0.4	2.2 ± 0.8	2.0 ± 0.6
Total Residue	1.9 ± 0.4	2.2 ± 0.8	2.0 ± 0.6
K-40 (ICP)	1.27	1.18	1.16
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-1e			
Date Collected	07-01-08	08-04-08	09-02-08
Lab Code	KSW- 3281	KSW- 4060	KSW- 4698
Gross beta			
Suspended Solids	< 0.8	< 0.8	0.6 ± 0.4
Dissolved Solids	8.2 ± 1.2	11.1 ± 1.6	18.5 ± 4.4
Total Residue	8.2 ± 1.2	11.1 ± 1.6	19.1 ± 4.4
K-40 (ICP)	5.86	9.34	24.57
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

Table 24. Surface water samples, analyses for gross beta, potassium-40, and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/L)			
Indicator			
K-1d			
Date Collected	10-01-08	11-03-08	12-01-08
Lab Code	KSW- 5329	KSW- 6275	KSW- 6768
Gross beta			
Suspended Solids	< 0.7	< 0.7	0.9 ± 0.5
Dissolved Solids	1.7 ± 0.5	2.6 ± 0.8	3.2 ± 0.6
Total Residue	1.7 ± 0.5	2.6 ± 0.8	4.1 ± 0.8
K-40 (ICP)	1.27	1.31	1.31
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-1e			
Date Collected	10-01-08	11-03-08	12-01-08
Lab Code	KSW- 5330	KSW- 6276	KSW- 6769
Gross beta			
Suspended Solids	< 0.7	< 0.9	< 0.8
Dissolved Solids	21.8 ± 2.2	15.0 ± 2.3	11.9 ± 3.4
Total Residue	21.8 ± 2.2	15.0 ± 2.3	11.9 ± 3.4
K-40 (ICP)	16.87	15.48	10.99
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

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Table 24. Surface water samples, analyses for gross beta, potassium-40 and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/L)			
Indicator			
K-1k			
Date Collected	01-02-08	02-04-08	03-03-08
Lab Code	NS[a]	NS[a]	NS[a]
Gross beta			
Suspended Solids	-	-	-
Dissolved Solids	-	-	-
Total Residue			
K-40 (ICP)			
Mn-54	-	-	-
Fe-59	-	-	-
Co-58	-	-	-
Co-60	-	-	-
Zn-65	-	-	-
Zr-Nb-95	-	-	-
Cs-134	-	-	-
Cs-137	-	-	-
Ba-La-140	-	-	-
Date Collected	04-01-08	05-01-08	06-02-08
Lab Code	KSW- 1298	KSW- 2048	KSW- 2650
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 1.1
Dissolved Solids	2.9 ± 0.5	3.0 ± 0.8	9.1 ± 0.9
Total Residue	2.9 ± 0.5	3.0 ± 0.8	9.1 ± 0.9
K-40 (ICP)	2.66	1.84	7.68
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

[a] NS= No sample; water frozen.

Table 24. Surface water samples, analyses for gross beta, potassium-40, and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/L)			
Indicator			
K-1k			
Date Collected	07-01-08	08-04-08	09-02-08
Lab Code	KSW- 3282	KSW- 4061	KSW- 4699
Gross beta			
Suspended Solids	< 1.3	< 1.5	< 1.2
Dissolved Solids	4.6 ± 0.6	2.9 ± 0.9	2.6 ± 0.6
Total Residue	4.6 ± 0.6	2.9 ± 0.9	2.6 ± 0.6
K-40 (ICP)	4.58	0.61	2.08
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
Date Collected	10-01-08	11-03-08	12-01-08
Lab Code	KSW- 5331	KSW- 6277	KSW- 6770
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 1.2
Dissolved Solids	4.6 ± 0.7	10.6 ± 0.9	6.8 ± 1.1
Total Residue	4.6 ± 0.7	10.6 ± 0.9	6.8 ± 1.1
K-40 (ICP)	4.46	7.08	8.74
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

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Table 24. Surface water samples, analyses for gross beta, potassium-40 and gamma-emitting isotopes.
Collection: Monthly

Sample Description and Concentration (pCi/L)			
Indicator			
K-9 (Raw)			
Date Collected	01-02-08	02-04-08	03-03-08
Lab Code	KSW- 25	KSW- 437	KSW- 800
Gross beta			
Suspended Solids	< 0.6	< 0.8	< 1.3
Dissolved Solids	1.7 ± 0.4	0.7 ± 0.4	1.4 ± 0.4
Total Residue	1.7 ± 0.4	0.7 ± 0.4	1.4 ± 0.4
K-40 (ICP)	1.19	1.13	1.03
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-9 (Tap)			
Date Collected	01-02-08	02-04-08	03-03-08
Lab Code	KSW- 26	KSW- 438	KSW- 801
Gross beta			
Suspended Solids	< 0.6	< 0.8	< 1.3
Dissolved Solids	2.7 ± 0.7	0.8 ± 0.4	1.0 ± 0.4
Total Residue	2.7 ± 0.7	0.8 ± 0.4	1.0 ± 0.4
K-40 (ICP)	1.19	1.29	1.12
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

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Table 24. Surface water samples, analyses for gross beta, potassium-40, and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/L)			
Indicator			
K-9 (Raw)			
Date Collected	04-01-08	05-01-08	06-02-08
Lab Code	KSW- 1299	KSW- 2049	KSW- 2651
Gross beta			
Suspended Solids	< 0.9	< 0.8	< 0.7
Dissolved Solids	1.5 ± 0.4	2.5 ± 0.7	1.9 ± 0.5
Total Residue	1.5 ± 0.4	2.5 ± 0.7	1.9 ± 0.5
K-40 (ICP)	1.12	1.12	1.12
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-9 (Tap)			
Date Collected	04-01-08	05-01-08	06-02-08
Lab Code	KSW- 1300	KSW- 2050	KSW- 2652
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.7
Dissolved Solids	1.7 ± 0.7	1.2 ± 0.6	2.2 ± 0.6
Total Residue	1.7 ± 0.7	1.2 ± 0.6	2.2 ± 0.6
K-40 (ICP)	1.19	1.38	1.12
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

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Table 24. Surface water samples, analyses for gross beta, potassium-40, and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/L)			
Indicator			
K-9 (Raw)			
Date Collected	07-01-08	08-04-08	09-02-08
Lab Code	KSW- 3283	KSW- 4062	KSW- 4700
Gross beta			
Suspended Solids	< 0.8	< 0.9	< 1.4
Dissolved Solids	0.9 ± 0.4	1.6 ± 0.4	1.9 ± 0.6
Total Residue	0.9 ± 0.4	1.6 ± 0.4	1.9 ± 0.6
K-40 (ICP)	1.20	1.23	1.14
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-9 (Tap)			
Date Collected	07-01-08	08-04-08	09-02-08
Lab Code	KSW- 3284	KSW- 4063	KSW- 4701
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 1.3
Dissolved Solids	0.9 ± 0.4	1.1 ± 0.4	1.2 ± 0.4
Total Residue	0.9 ± 0.4	1.1 ± 0.4	1.2 ± 0.4
K-40 (ICP)	1.19	1.25	1.12
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

Table 24. Surface water samples, analyses for gross beta, potassium-40, and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/L)			
Indicator			
K-9 (Raw)			
Date Collected	10-01-08	11-01-08	12-01-08
Lab Code	KSW- 5332	KSW- 6278	KSW- 6771
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.8
Dissolved Solids	1.0 ± 0.4	1.5 ± 0.4	1.0 ± 0.3
Total Residue	1.0 ± 0.4	1.5 ± 0.4	1.0 ± 0.3
K-40 (ICP)	1.14	1.19	1.33
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-9 (Tap)			
Date Collected	10-01-08	11-03-08	12-01-08
Lab Code	KSW- 5333	KSW- 6279	KSW- 6772
Gross beta			
Suspended Solids	< 0.7	< 0.8	< 0.7
Dissolved Solids	1.7 ± 0.7	1.1 ± 0.4	1.1 ± 0.3
Total Residue	1.7 ± 0.7	1.1 ± 0.4	1.1 ± 0.3
K-40 (ICP)	1.14	1.21	1.31
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

Table 24. Surface water, analyses for gross beta, potassium-40 and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/L)			
Indicator			
K-14a			
Date Collected	01-02-08	02-04-08	03-04-08
Lab Code	KSW- 27	KSW- 439	KSW- 802
Gross beta			
Suspended Solids	< 0.6	1.1 ± 0.5	< 1.2
Dissolved Solids	3.9 ± 0.7	1.1 ± 0.4	2.9 ± 0.8
Total Residue	3.9 ± 0.7	2.2 ± 0.6	2.9 ± 0.8
K-40 (ICP)	1.25	1.40	2.32
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-14b			
Date Collected	01-02-08	02-04-08	03-04-08
Lab Code	KSW- 28	KSW- 440	KSW- 803
Gross beta			
Suspended Solids	< 0.7	1.4 ± 0.5	< 1.3
Dissolved Solids	3.4 ± 0.6	1.1 ± 0.4	3.9 ± 0.8
Total Residue	3.4 ± 0.6	2.5 ± 0.6	3.9 ± 0.8
K-40 (ICP)	1.24	1.36	1.88
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

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Table 24. Surface water, analyses for gross beta, potassium-40 and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/L)			
Indicator			
K-14a			
Date Collected	04-01-08	05-01-08	06-02-08
Lab Code	KSW- 1301	KSW- 2051	KSW- 2653
Gross beta			
Suspended Solids	< 0.8	< 0.9	< 0.8
Dissolved Solids	3.5 ± 0.8	2.3 ± 0.7	2.5 ± 0.5
Total Residue	3.5 ± 0.8	2.3 ± 0.7	2.5 ± 0.5
K-40 (ICP)	2.16	1.12	1.21
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-14b			
Date Collected	04-01-08	05-01-08	06-02-08
Lab Code	KSW- 1302	KSW- 2052	KSW- 2654
Gross beta			
Suspended Solids	1.2 ± 0.5	< 0.9	< 0.9
Dissolved Solids	4.9 ± 1.3	2.2 ± 0.6	3.8 ± 0.6
Total Residue	6.1 ± 1.4	2.2 ± 0.6	3.8 ± 0.6
K-40 (ICP)	2.13	1.47	1.12
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

Table 24. Surface water, analyses for gross beta, potassium-40 and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/L)			
Indicator			
K-14a			
Date Collected	07-01-08	08-04-08	09-02-08
Lab Code	KSW- 3285	KSW- 4064	KSW- 4702
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.7
Dissolved Solids	0.9 ± 0.4	2.0 ± 0.5	1.6 ± 0.3
Total Residue	0.9 ± 0.4	2.0 ± 0.5	1.6 ± 0.3
K-40 (ICP)	1.19	1.39	1.31
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-14b			
Date Collected	07-01-08	08-04-08	09-02-08
Lab Code	KSW- 3286	KSW- 4065	KSW- 4703
Gross beta			
Suspended Solids	< 0.8	< 1.1	< 0.8
Dissolved Solids	1.1 ± 0.4	1.2 ± 0.4	1.9 ± 0.3
Total Residue	1.1 ± 0.4	1.2 ± 0.4	1.9 ± 0.3
K-40 (ICP)	1.27	1.40	1.23
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

Table 24. Surface water, analyses for gross beta, potassium-40 and gamma-emitting isotopes (continued).

Sample Description and Concentration (pCi/L)			
Indicator			
K-14a			
Date Collected	10-01-08	11-03-08	12-01-08
Lab Code	KSW- 5334	KSW- 6280	KSW- 6773
Gross beta			
Suspended Solids	< 0.7	< 0.7	< 0.8
Dissolved Solids	3.5 ± 0.8	1.5 ± 0.4	2.5 ± 0.4
Total Residue	3.5 ± 0.8	1.5 ± 0.4	2.5 ± 0.4
K-40 (ICP)	1.19	1.29	1.39
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-14b			
Date Collected	10-01-08	11-03-08	12-01-08
Lab Code	KSW- 5335	KSW- 6281	KSW- 6774
Gross beta			
Suspended Solids	< 0.7	< 0.9	< 0.8
Dissolved Solids	3.8 ± 0.9	1.6 ± 0.4	2.1 ± 0.4
Total Residue	3.8 ± 0.9	1.6 ± 0.4	2.1 ± 0.4
K-40 (ICP)	1.24	1.24	1.27
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

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Table 25. Surface water, analyses for tritium, strontium-89 and strontium-90.
Collection: Quarterly composites of monthly samples.

Location and Collection Period	Lab Code	Concentration pCi/L H-3	Sr-89	Sr-90
Indicator				
K-1a				
1st Quarter	KSW -1013	< 150	< 0.9	< 0.5
2nd Quarter	-2852	< 172	< 0.8	< 0.5
3rd Quarter	-4953	< 158	< 0.9	< 0.5
4th Quarter	-7129	< 169	< 1.0	< 0.6
K-1b				
1st Quarter	KSW -1014	< 150	< 1.1	< 0.6
2nd Quarter	-2853	< 172	< 0.6	< 0.5
3rd Quarter	-4954	< 158	< 1.5	< 0.5
4th Quarter	-7130	< 169	< 1.2	< 0.7
K-1d				
1st Quarter	KSW -1015	< 150	< 0.8	< 0.5
2nd Quarter	-2854	< 172	< 0.7	< 0.5
3rd Quarter	-4955	< 158	< 0.9	< 0.5
4th Quarter	-7131	4347 ± 203 [a]	< 1.0	< 0.5
K-1e				
1st Quarter	KSW -1016	< 150	< 0.7	< 0.4
2nd Quarter	-2855	< 172	< 0.6	< 0.5
3rd Quarter	-4956	234 ± 94 [b]	< 0.9	< 0.4
4th Quarter	-7132	204 ± 109	< 0.9	< 0.5

[a] The analysis was repeated, result of reanalysis 4786 ± 210 pCi/L.
The monthly samples were analyzed individually, results of the analyses (pCi/L):

Oct, 2008	< 174
Nov, 2008	< 173
Dec, 2008	13429 ± 325

[b] Duplicate analyses, refer to Appendix A.

Table 25. Surface water, analyses for tritium, strontium-89 and strontium-90 (continued).

Location and Collection Period		Concentration pCi/L H-3	Sr-89	Sr-90
Indicator				
K-14a				
1st Quarter	KSW -1019	< 150	< 0.9	< 0.5
2nd Quarter	-2859	< 172	< 0.6	< 0.5
3rd Quarter	-4961	< 158	< 0.9	< 0.5
4th Quarter	-7137	265 ± 111	< 1.1	< 0.6
K-14b				
1st Quarter	KSW -1020	< 150	< 1.0	< 0.7
2nd Quarter	-2860	233 ± 96	< 0.6	< 0.5
3rd Quarter	-4962	< 158	< 1.1	< 0.6
4th Quarter	-7138	316 ± 113	< 1.1	< 0.7
K-1k				
1st Quarter	NS[a]	-	-	-
2nd Quarter	KSW -2856	203 ± 94	< 0.7	< 0.6
3rd Quarter	-4958	< 158	< 1.0	0.6 ± 0.3
4th Quarter	-7133	< 169	< 1.0	< 0.6
Control				
K-9				
1st Quarter	KSW -1017 (Raw)	< 150	< 0.9	< 0.5
	-1018 (Tap)	< 150	< 1.1	< 0.8
2nd Quarter	KSW -2857 (Raw)	< 172	< 1.2	< 0.7
	-2858 (Tap)	< 172	< 0.7	< 0.5
3rd Quarter	KSW -4959 (Raw)	< 158	< 1.3	< 0.7
	-4960 (Tap)	< 158	< 0.9	< 0.5
4th Quarter	KSW -7134 (Raw) I [b]	< 169	< 1.1	< 0.7
	-7136 (Tap)	< 169	< 1.0	< 0.6

[a] No data; water frozen.

[b] Duplicate analyses, refer to Appendix A.

Table 26. Fish, collected at K-1d, analyses for gross beta, strontium-89, strontium-90 and gamma-emitting isotopes.
Collection: Three times a year

Sample Description and Concentration (pCi/g wet)				
Collected	05-29-08		06-06-08	
Lab Code	KF- 2661		KF- 3298	
Type	Perch, White Fish		Burbot	
Portion	Flesh	Bones	Flesh	Bones
Gross beta	3.67 ± 0.24	0.87 ± 0.29	2.08 ± 0.05	2.66 ± 0.65
Sr-89	NA[a]	< 0.080	NA[a]	< 0.24
Sr-90	NA	0.071 ± 0.025	NA	0.25 ± 0.056
K-40	2.31 ± 0.33	NA[a]	2.81 ± 0.44	NA[a]
Mn-54	< 0.013	NA	< 0.020	NA
Fe-59	< 0.041	NA	< 0.063	NA
Co-58	< 0.016	NA	< 0.025	NA
Co-60	< 0.009	NA	< 0.008	NA
Cs-134	< 0.013	NA	< 0.019	NA
Cs-137	< 0.019	NA	0.060 ± 0.027	NA

Collected	07-18-08		10-07-08	
Lab Code	KF- 4045		KF- 6266	
Type	Carp		Brown Trout	
Portion	Flesh	Bones	Flesh	Bones
Gross beta	3.14 ± 0.08	1.89 ± 0.64	4.53 ± 0.12	1.40 ± 0.46
Sr-89	NA[a]	< 0.21	NA[a]	< 0.21
Sr-90	NA	0.070 ± 0.034	NA	< 0.052
K-40	2.25 ± 0.44	NA[a]	3.13 ± 0.41	NA[a]
Mn-54	< 0.018	NA	< 0.018	NA
Fe-59	< 0.058	NA	< 0.110	NA
Co-58	< 0.022	NA	< 0.043	NA
Co-60	< 0.017	NA	< 0.014	NA
Cs-134	< 0.019	NA	< 0.018	NA
Cs-137	< 0.018	NA	0.051 ± 0.023	NA

[a] NA = Not analyzed; analyses not required.
Note: Page 89 is intentionally left out.

Table 27. Slime or aquatic vegetation, analyses for gross beta, strontium-89, strontium-90, and gamma-emitting isotopes.
Collection: Semiannually

Sample Description and Concentration

	Indicators			Control
Location	K-1a	K-1b	K-1d	K-9
Date Collected	06-02-08	06-02-08	05-01-08	06-02-08
Lab Code	KSL- 2665 [a]	KSL- 2667	KSL- 2060	KSL- 2670
Gross beta	6.51 ± 0.17	5.66 ± 0.14	5.72 ± 0.81	5.46 ± 0.13
Sr-89	< 0.006	< 0.011	< 0.096	< 0.011
Sr-90	0.007 ± 0.002	< 0.006	0.096 ± 0.026	< 0.006
Be-7	0.48 ± 0.11	< 0.07	0.36 ± 0.09	< 0.07
K-40	4.47 ± 0.30	4.01 ± 0.26	3.29 ± 0.26	3.77 ± 0.25
Mn-54	< 0.010	< 0.006	< 0.006	< 0.005
Co-58	< 0.011	< 0.006	< 0.007	< 0.007
Co-60	< 0.010	< 0.008	< 0.009	< 0.005
Nb-95	< 0.010	< 0.006	< 0.004	< 0.012
Zr-95	< 0.019	< 0.009	< 0.013	< 0.017
Ru-103	< 0.008	< 0.006	< 0.008	< 0.007
Ru-106	< 0.066	< 0.078	< 0.037	< 0.066
Cs-134	< 0.009	< 0.007	< 0.007	< 0.007
Cs-137	< 0.009	< 0.010	< 0.009	< 0.009
Ce-141	< 0.019	< 0.015	< 0.018	< 0.017
Ce-144	< 0.053	< 0.057	< 0.037	< 0.042

Location	K-1e	K-1k	K-14
Date Collected	06-02-08	06-02-08	06-02-08
Lab Code	KSL- 2668	KSL- 2669	KSL- 2671
Gross beta	7.24 ± 0.69	6.36 ± 0.14	6.26 ± 0.32
Sr-89	< 0.073	< 0.005	< 0.027
Sr-90	0.042 ± 0.022	< 0.002	< 0.013
Be-7	0.56 ± 0.14	< 0.11	0.95 ± 0.15
K-40	2.47 ± 0.29	3.95 ± 0.26	2.90 ± 0.23
Mn-54	< 0.014	< 0.012	< 0.007
Co-58	< 0.010	< 0.009	0.022 ± 0.010
Co-60	< 0.017	< 0.010	< 0.009
Nb-95	< 0.009	< 0.006	< 0.008
Zr-95	< 0.019	< 0.020	< 0.023
Ru-103	< 0.013	< 0.009	< 0.010
Ru-106	< 0.104	< 0.060	< 0.046
Cs-134	< 0.010	< 0.008	< 0.007
Cs-137	< 0.010	< 0.011	0.023 ± 0.008
Ce-141	< 0.011	< 0.023	< 0.027
Ce-144	< 0.049	< 0.085	< 0.047

[a] Duplicate sample, analyses results listed in Appendix A.

Table 27. Slime or aquatic vegetation, analyses for gross beta, strontium-89, strontium-90, and gamma-emitting isotopes.
Collection: Semiannually

Sample Description and Concentration

	Indicators			Control
Location	K-1a	K-1b	K-1d	K-9
Date Collected	09-02-08	09-02-08	09-02-08	09-02-08
Lab Code	KSL- 4688	KSL- 4689	KSL- 4690	KSL- 4694
Gross beta	3.47 ± 0.15	5.82 ± 0.16	2.28 ± 0.25	5.39 ± 0.13
Sr-89	< 0.026	< 0.011	< 0.041	< 0.009
Sr-90	< 0.014	< 0.005	0.024 ± 0.013	< 0.004
Be-7	0.64 ± 0.18	0.61 ± 0.14	0.70 ± 0.17	< 0.11
K-40	4.65 ± 0.38	3.28 ± 0.29	1.56 ± 0.26	3.33 ± 0.26
Mn-54	< 0.014	< 0.008	< 0.013	< 0.012
Co-58	< 0.012	< 0.009	< 0.008	< 0.011
Co-60	< 0.013	< 0.008	< 0.010	< 0.011
Nb-95	< 0.018	< 0.013	< 0.009	< 0.013
Zr-95	< 0.033	< 0.013	< 0.014	< 0.025
Ru-103	< 0.015	< 0.009	< 0.012	< 0.015
Ru-106	< 0.128	< 0.091	< 0.069	< 0.097
Cs-134	< 0.011	< 0.010	< 0.006	< 0.011
Cs-137	< 0.016	< 0.009	0.032 ± 0.018	< 0.009
Ce-141	< 0.029	< 0.025	< 0.027	< 0.018
Ce-144	< 0.105	< 0.070	< 0.084	< 0.086

Location	K-1e	K-1k	K-14
Date Collected	07-01-08	09-02-08	07-01-08
Lab Code	KSL- 3295 [a]	KSL- 4693	KSL- 3297
Gross beta	3.76 ± 0.24	6.59 ± 0.15	7.97 ± 0.50 [b]
Sr-89	< 0.025	< 0.005	< 0.054
Sr-90	< 0.015	< 0.003	< 0.034
Be-7	1.17 ± 0.13	0.42 ± 0.14	1.24 ± 0.14
K-40	1.63 ± 0.20	5.06 ± 0.28	2.39 ± 0.22
Mn-54	< 0.007	< 0.011	< 0.008
Co-58	< 0.005	< 0.008	< 0.005
Co-60	< 0.006	< 0.013	< 0.009
Nb-95	< 0.004	< 0.014	< 0.005
Zr-95	< 0.014	< 0.020	< 0.009
Ru-103	< 0.005	< 0.015	< 0.003
Ru-106	< 0.078	< 0.088	< 0.054
Cs-134	< 0.006	< 0.010	< 0.007
Cs-137	0.021 ± 0.012	< 0.010	0.017 ± 0.008
Ce-141	< 0.008	< 0.021	< 0.008
Ce-144	< 0.032	< 0.085	< 0.049

[a] Duplicate sample, analyses results listed in Appendix A.

[b] Corrected value.

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Table 28. Bottom sediment samples, analyses for gross beta, strontium-89, strontium-90, and gamma-emitting isotopes.
Collection: May and November

Sample Description and Concentration (pCi/g dry)

	Indicator				Control
Location	K-1c	K-1d	K-1j	K-14	K-9
Collection Date	05-01-08	05-01-08	05-01-08	05-01-08	05-01-08
Lab Code	KBS- 2061	KBS- 2062	KBS- 2063 [a]	KBS- 2066	KBS- 2065
Gross beta	9.17 ± 2.08	12.64 ± 1.95	13.71 ± 2.06	12.08 ± 1.99	30.35 ± 2.66
Sr-89	< 0.044	< 0.047	< 0.037	< 0.078	< 0.12
Sr-90	0.027 ± 0.010	< 0.018	0.026 ± 0.009	< 0.029	< 0.047
K-40	7.28 ± 0.48	6.87 ± 0.48	6.22 ± 0.40	8.79 ± 0.46	7.43 ± 0.82
Co-58	< 0.012	< 0.012	< 0.008	< 0.010	< 0.026
Co-60	< 0.013	< 0.005	< 0.008	< 0.008	< 0.033
Cs-134	< 0.011	< 0.011	< 0.010	< 0.011	< 0.029
Cs-137	0.029 ± 0.015	< 0.017	0.028 ± 0.017	< 0.012	0.074 ± 0.039
Collection Date	11-03-08	11-03-08	11-03-08	11-03-08	11-03-08
Lab Code	KBS- 6267	KBS- 6268	KBS- 6269	KBS- 6271 [a]	KBS- 6270
Gross beta	14.06 ± 2.09	12.91 ± 1.78	13.79 ± 1.71	12.26 ± 1.69	30.60 ± 2.38
Sr-89	< 0.066	< 0.040	< 0.049	< 0.042	< 0.11
Sr-90	< 0.024	< 0.014	< 0.019	0.017 ± 0.010	0.096 ± 0.026
K-40	8.43 ± 0.66	8.09 ± 0.57	9.16 ± 0.65	9.96 ± 0.52	9.24 ± 0.83
Co-58	< 0.022	< 0.021	< 0.025	< 0.018	< 0.033
Co-60	< 0.015	< 0.018	< 0.021	< 0.013	< 0.023
Cs-134	< 0.019	< 0.017	< 0.016	< 0.011	< 0.013
Cs-137	< 0.023	< 0.020	< 0.019	< 0.013	0.094 ± 0.045

[a] Duplicate sample; analyses results listed in Appendix A.

APPENDIX A

DUPLICATE ANALYSES

D-1. Airborne particulates, duplicate analyses for gross beta.

Units: pCi/m^3

Collection: Continuous, weekly exchange. Required LLD: 0.010

Location	Date Collected	Volume (m^3)	Gross Beta
K-8	01-08-08	241	0.031 ± 0.004
K-2	03-18-08	336	0.018 ± 0.003
K-2	04-15-08	386	0.013 ± 0.003
K-8	04-29-08	302	0.018 ± 0.003
K-8	06-09-08	303	0.012 ± 0.003
K-31	06-16-08	344	0.012 ± 0.003
K-7	09-30-08	364	0.026 ± 0.003
K-31	11-26-08	302	0.019 ± 0.003

D-2. Surface water, duplicate analyses.

Sample Description and Concentration (pCi/L)		
Location	K-1b	K-1e
Date Collected	01-02-08	02-04-08
Lab Code	KSW-22	KSW-436
H-3	-	-
Sr-89	-	-
Sr-90	-	-
Gross beta		
Suspended Solids	< 1.3	1.4 ± 0.5
Dissolved Solids	2.4 ± 0.7	8.6 ± 0.8
Total Residue	2.4 ± 0.7	10.0 ± 0.9
K-40 (ICP)	2.69	4.93
Mn-54	< 15	< 15
Fe-59	< 30	< 30
Co-58	< 15	< 15
Co-60	< 15	< 15
Zn-65	< 30	< 30
Zr-Nb-95	< 15	< 15
Cs-134	< 10	< 10
Cs-137	< 10	< 10
Ba-La-140	< 15	< 15

Location	K-1e	K-09R
Date Collected	09-02-08	12-01-08
Lab Code	KSW-4957	KSW-7135
H-3	< 158	< 169
Sr-89	< 0.8	< 1.2
Sr-90	< 0.5	< 0.7

D-3. Duplicate samples.

Location	K-5	K-24	K-41
Date Collected	01-02-08	04-01-08	1st Qtr.
Lab Code	KCF- 43	KE- 1332	KAP- 1738
Sample Type			
Gross beta	8.99 ± 0.19	1.69 ± 0.11	-
Sr-89	< 0.12	< 0.015	-
Sr-90	0.008 ± 0.003	< 0.005	-
Be-7	< 0.139	< 0.016	0.087 ± 0.015
K-40	5.19 ± 0.302	1.22 ± 0.043	< 0.016
Nb-95	< 0.009	< 0.002	< 0.0011
Zr-95	< 0.012	< 0.003	< 0.0017
Ru-103	< 0.012	< 0.002	< 0.0012
Ru-106	< 0.095	< 0.010	< 0.0042
Cs-134	< 0.009	< 0.001	< 0.0007
Cs-137	< 0.009	< 0.001	< 0.0007
Ce-141	< 0.019	< 0.004	< 0.0013
Ce-144	< 0.075	< 0.006	< 0.0035

Location	K-39	K-1a	K-34
Date Collected	05-01-08	06-02-08	07-01-08
Lab Code	KBS- 2064	KSL- 2666	KG- 3275
Sample Type	Sediment	Aq. Vegetation	Grass
Gross beta	17.60 ± 2.49	5.94 ± 0.15	7.44 ± 0.23
Sr-89	< 0.018	< 0.011	< 0.015
Sr-90	< 0.010	< 0.006	< 0.005
Be-7	< 0.12	0.44 ± 0.11	0.78 ± 0.22
K-40	6.87 ± 0.52	4.25 ± 0.30	5.64 ± 0.53
Nb-95	< 0.020	< 0.012	< 0.013
Zr-95	< 0.019	< 0.016	< 0.022
Ru-103	< 0.019	< 0.009	< 0.021
Ru-106	< 0.19	< 0.09	< 0.135
Cs-134	< 0.010	< 0.011	< 0.018
Cs-137	0.021 ± 0.013	< 0.013	< 0.025
Ce-141	< 0.026	< 0.015	< 0.037
Ce-144	< 0.071	< 0.078	< 0.169

D-3. Duplicate samples.

Location	K-1e	K-23	K-1d
Date Collected	07-01-08	08-04-08	09-02-08
Lab Code	KSL- 3296	KVE- 4047	KSL- 4691
Sample Type			
Gross beta	3.64 ± 0.24	8.34 ± 0.31	2.35 ± 0.24
Sr-89	ND[a]	< 0.033	< 0.074
Sr-90	ND	< 0.013	< 0.041
Be-7	1.15 ± 0.17	0.82 ± 0.188	0.85 ± 0.310
K-40	2.37 ± 0.34	5.33 ± 0.42	1.22 ± 0.37
Nb-95	< 0.016	< 0.010	< 0.024
Zr-95	< 0.018	< 0.019	< 0.039
Ru-103	< 0.013	< 0.011	< 0.027
Ru-106	< 0.115	< 0.159	< 0.211
Cs-134	< 0.013	< 0.011	< 0.013
Cs-137	< 0.017	< 0.015	< 0.023
Ce-141	< 0.018	< 0.030	< 0.058
Ce-144	< 0.080	< 0.092	< 0.080

Location	K-32	K-35	K-14
Date Collected	09-02-08	10-01-08	11-03-08
Lab Code	KME- 4733	KG- 5390	KBS- 6272
Sample Type	Chicken	Grass	Sediment
Gross beta	2.67 ± 0.09	11.18 ± 0.25	13.78 ± 1.84
Sr-89	-	< 0.035	< 0.052
Sr-90	-	< 0.013	< 0.018
Be-7	< 0.41	1.36 ± 0.28	< 0.25
K-40	2.82 ± 0.51	8.06 ± 0.63	10.38 ± 0.72
Nb-95	< 0.112	< 0.022	< 0.038
Zr-95	< 0.051	< 0.039	< 0.049
Ru-103	< 0.078	< 0.020	< 0.021
Ru-106	< 0.143	< 0.187	< 0.170
Cs-134	< 0.016	< 0.021	< 0.015
Cs-137	< 0.026	< 0.019	< 0.024
Ce-141	< 0.188	< 0.047	< 0.053
Ce-144	< 0.172	< 0.149	< 0.116

[a] No data; not enough sample for duplicate analysis.

Dominion®

2008 Annual Environmental Monitoring Report

Kewaunee Power Station
Part III, Corrective Actions written during reporting period

Dominion Energy Kewaunee, Inc.

State Change History

Submit	Draft	Submit	Supervisor Review	Complete	O/R Review	Complete	CRT Review
by GAUGER, DAVID A	1/24/2008 19:25:41 Owner : GAUGER, DAVID A	by GAUGER, DAVID A	1/24/2008 19:30:54 Owner : FAILEY, MICHAEL P	by BUNKELMAN, TIMOTHY J	1/24/2008 20:21:05 Owner : BOWER, RICHARD L	by IRLBECK, DAVID E	1/24/2008 22:59:51 Owner : BOWER, RICHARD L

CA	CRT Assignment Creation	Complete	Assignments Pending
by BARCENAS, GERALYN ANN	1/25/2008 16:36:07 Owner : BOWER, RICHARD L	by BARCENAS, GERALYN ANN	1/31/2008 9:24:19 Owner : BOWER, RICHARD L

Section 1

Applicable to site:	KEWA
Record #:	CR029323
Revision Number:	0
Submitter:	GAUGER, DAVID A
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	8869
Submitter Pager Number:	704-0119
One-Line Description:	Environmental radioactive iodine samples not collected as required by REMM
Description:	Environmental radioactive iodine samples not collected as required by the Kewaunee Radiological Environmental Monitoring Manual (REMM). Kewaunee collects environmental samples in accordance with the requirement contained in the "Kewaunee Power Station Radiological Environmental Monitoring Manual (REMM) Revision 12" step 3.1. REMM Table 2.2.1-A "Radiological Environmental Monitoring Program" section 2 lists the minimum required samples, available sample locations and Table 2.2.1-B lists the type and frequency of collection required. Table 2.2.1-B lists the following samples that are required to be taken Biweekly for airborne iodine: K-1f, K-2, K-7, K-8, K-31, K-41 Samples for airborne iodine should have been collected per SP-63-164 on 1-15-08 but were not. REMM step 2.2.1 Action a states "With the radiological environmental monitoring program not being conducted as specified in Table 2.2.2-A, in lieu of a Licence Event Report, prepare and submit to the Commission, in the Annual Radiological Environmental Monitoring Report required by TS 6.9.b.1 and REMM 2.4.1, a description of the reasons for not conducting the program as required and the plans for preventing recurrence."
Discovery Date:	1/24/2008
Discovery Time:	14:30:00
Method of Discovery:	SEFI (Self Identified)
Literal 1:	**If this CR is associated with the BACC Program, please ensure that the CR Description contains sufficient information to ensure the ability to quickly locate the component, which will ensure ALARA.**
Associated with Boric Acid?:	No
Applicable to unit:	Unit 1
Associated w/ Equipment Location?:	No
System(s):	N/A

Equipment Location Display:	**Equipment Location - Critical Component - PRA Flag - Quality Classification - Component Description**
Equipment Location Links:	
Initial Actions:	N/A
Additional C/A processes req'd?:	Other
Text Question 1:	**Provide details for any Additional C/A processes needed:**
Text Answer 1:	Please create a CA to the REMM owner (HP) to ensure this event is reported in the Annual Radiological Environmental Monitoring Report, a description of the reasons for not conducting the program as required and the plans for preventing recurrence." Please create a CA to chemistry to add the collection of airborne iodine as a separate PM in MAXIMO
C/As Initiated (REA, WR, ETC):	
Tag Hung:	No
Tag Number:	
Additional Contacts:	
Supervisor - CR Review:	FAILEY, MICHAEL P
Question G:	**Is this CR an Operability/Reportability Issue Requiring O/R Review?**
Yes/No G:	Yes
Question H:	**Does this CR affect personnel safety?**
Yes/No H:	Yes
Question I:	**Does this CR affect plant safety?**
Yes/No I:	Yes
Question J:	**Does this CR involve plant equipment?**
Yes/No J:	Yes
Question K:	**Is this CR an environmental concern?**
Yes/No K:	Yes
Literal 2:	**Unit Conditions:**
Unit 1% Pwr:	99.6
Unit 2% Pwr:	NA
Unit 3% Pwr:	NA
Unit 1 Mode:	1 - OPERATING
Unit 2 Mode:	NA
Unit 3 Mode:	NA
OP-AA-102 Review Req'd?:	No
Is a TS SSC Affected?:	No
TS SSC Operability Assessment:	N/A
Text Question 2:	**Basis for operability:**
Text Answer 2:	CR written to document Environmental radioactive iodine samples not being collected as required by the Kewaunee Radiological Environmental Monitoring Manual (REMM). Therefore operability does not apply and a functionality assessment is not required.
Question L:	**Is an Operability Assessment req'd for an SSC, which is Functional for its TRM function, to demonstrate operability for its TS function?**
Yes / No L:	Unknown
Literal 4:	**The basis for establishing IOD can be documented in the "Basis for Operability" field. An IOD assignment does not necessarily need to be**

	created.
Is an IOD Assignment Required?:	No
LCO entered:	No
Applicable LCO:	
Non-TS SSC Functionality Assessment.:	N/A
Literal 5:	**NOTE: *If a RAS is to be assigned to determine the answer to the next* question, select "TBD" (to be determined) for the answer to the next question.**
Does it impact a TS SSC?:	N/A
Literal 6:	**The basis for establishing Non-TS SSC Functionality may be documented in the "Basis for Operability" field. A RAS assignment does not necessarily need to be created in these instances.**
Is a RAS Assignment Needed?:	No
Literal 7:	**If this Condition Report is addressing an SSC, document the qualification status of the SSC in the following field. Otherwise select N/A. NOTE: An SSC can be Operable or Functional and still not be Fully Qualified.**
SSC Qualification Status:	N/A
Reportable condition?:	Yes
Text Question 3:	**Reportability Comments:**
Text Answer 3:	REMM step 2.2.1.a Action a states "With the radiological environmental monitoring program not being conducted as specified in Table 2.2.1-A, in lieu of a Licensee Event Report, prepare and submit to the Commission, in the Annual Radiological Environmental Monitoring Report required by TS 6.9.b.1 and REMM 2.4.1, a description of the reasons for not conducting the program as required and the plans for preventing recurrence."
Can IOD be established?:	(None)
Literal 3:	***If this CR is associated with any system leakage, provide answers to the following:***
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	I agree with the above assessment
Significance:	3
Deficiency Type:	Non-Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	Ref CR 25912 for sample data missing.
CR FLAGS:	Environmental Issue
CRT Report Section(s):	2
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	Sig level 3; -CA to Chemistry to det. & initiate action for HU Clock Reset. -CA to RP [the REMM owner] to initiate action to document in the Annual Radiological Environmental Monitoring Report [required by TS 6.9.b.1 and REMM 2.4.1].
Comments:	
Old Record #:	

⊟ Section 2

Process Code:	EVC (Environmental Controls) RI (Regulatory Interface)	**Activity Codes:**	SAA(Sampling)
Human Error Types:	ERR (Error)	**Process Related Failure:**	(None)
Org. & Mgmt Failure mode:	(None)	**HU Failure modes:**	(None)
Equipment Failure Modes:	(None)	**Primary INPO criteria:**	(None)
Secondary INPO criteria:	(None)	**Operations Hot Buttons:**	(None)
Engineering Hot Buttons:	(None)	**Maintenance Hot Buttons:**	(None)
RP Hot Buttons:	(None)	**Chemistry Hot Buttons:**	(None)
EP Hot Buttons:	(None)	**Training Hot Buttons:**	(None)
Security Hot Buttons:	(None)	**OR Hot Buttons:**	(None)
O&P Hot Buttons:	(None)	**NSS Hot Buttons:**	(None)
Supply Chain Hot Buttons:	(None)	**Other Hot Buttons:**	(None)

⊟ Section 3

Work Order Number(s):

Status Description:

Status Date:

Actual Finish Date:

Work Performed Description:

⊟ Section 5

CR Completed Date: **CR Printed Date:**

CR Validated Date: **CR Who Validated:** (None)

RM Attachment Links:

⊟ Subtasks

⊞ Show Subtasks

Expand All

⊟ Attachments

Principal to: CA025166: KEWA - RP initiate action to document in the Annual Rad Environmental Monitoring Report by **BARCENAS, GERALYN ANN** (1/25/2008 16:37:59)

Principal to: CA025167: KEWA - Chemistry to det. & initiate action for HU Clock Reset (Inactive) by **BARCENAS, GERALYN ANN** (1/25/2008 16:43:19)

⊟ Change History

1/24/2008 19:30:27 by GAUGER, DAVID A
Text Answer 1 Changed From '[Original Text]' To '[Appended:] Please create a CA to chemistry to add the collection of airborne iodine as a separate PM in MAXIMO'
Last Modified Date Changed From 1/24/2008 19:25:41 To 1/24/2008 19:30:27

1/24/2008 19:30:54 by GAUGER, DAVID A
System(s) Changed From (None) To N/A
Initial Actions Changed From '' To 'N/A'
Owner Changed From GAUGER, DAVID A To FAILEY, MICHAEL P

Secondary Owner Changed From FAILEY, MICHAEL P To AITKEN, PAUL C, ALLEN, ROBERT C, BARNETTE, KENNETH R, BARON, LEE C, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BOUCHE, DANNY L, CASTIGLIA, BRAD K, CHARAPATA, DALE W, CORBIN, WILLIAM D, CRIST, MICHAEL D, DRAKE, DARRELL D, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, GAUGER, BRAD R, GINSBERG, ROBERT J, HARTZ, LESLIE N, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOFFNER, WILLIAM J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PATTERSON, DALE A, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHANNON, DANIEL J., SMOKER, CHARLES S, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, SURFACE, J MICHAEL,

WALLEN, CLIFFORD S, WOOD, STEPHEN M
Last Modified Date Changed From 1/24/2008 19:30:27 To 1/24/2008 19:30:54
Last State Change Date Changed From 1/24/2008 19:25:41 To 1/24/2008 19:30:54
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR029323: KEWA - Environmental radioactive iodine samples not collected as required by REMM

1/24/2008 20:21:05 by BUNKELMAN, TIMOTHY J
Owner Changed From FAILEY, MICHAEL P To BOWER, RICHARD L
Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, BARNETTE, KENNETH R, BARON, LEE C, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BOUCHE, DANNY L, CASTIGLIA, BRAD K, CHARAPATA, DALE W, CORBIN, WILLIAM D, CRIST, MICHAEL D, DRAKE, DARRELL D, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, GAUGER, BRAD R, GINSBERG, ROBERT J, HARTZ, LESLIE N, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOFFNER, WILLIAM J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PATTERSON, DALE A, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHANNON, DANIEL J., SMOKER, CHARLES S, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, SURFACE, J MICHAEL, WALLEN, CLIFFORD S, WOOD, STEPHEN M To ALLEN, ROBERT C, ASBEL, DENNIS C, BARON, LEE C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, DRAKE, DARRELL D, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, GILSON, ERIC L, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, HUSS, DUWAYNE G, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, TREPTOW, ETHAN A, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 1/24/2008 19:30:54 To 1/24/2008 20:21:05
Last Modifier Changed From GAUGER, DAVID A To BUNKELMAN, TIMOTHY J
Last State Change Date Changed From 1/24/2008 19:30:54 To 1/24/2008 20:21:05
Last State Changer Changed From GAUGER, DAVID A To BUNKELMAN, TIMOTHY J
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

1/24/2008 20:25:19 by BUNKELMAN, TIMOTHY J
Unit 1% Pwr Changed From " To '99.6'
Unit 1 Mode Changed From (None) To 1 - OPERATING
OP-AA-102 Review Req'd? Changed From (None) To No
Is a TS SSC Affected? Changed From (None) To No
TS SSC Operability Assessment Changed From (None) To N/A
Text Answer 2 Changed From " To 'CR written to document Environmental radioactive iodine samples not being collected as required by the Kewaunee Radiological Environmental Monitoring Manual (REMM). Therefore operability does not apply and a functionality assessment is not required.'
Is an IOD Assignment Required? Changed From (None) To No
LCO entered Changed From (None) To No
Non-TS SSC Functionality Assessment. Changed From (None) To N/A
Does it impact a TS SSC? Changed From (None) To N/A
Is a RAS Assignment Needed? Changed From (None) To No
SSC Qualification Status Changed From (None) To N/A
Reportable condition? Changed From (None) To Yes
Text Answer 3 Changed From " To '[Appended:]REMM step 2.2.1.a Action a states "With the radiological environmental monitoring program not being conducted as specified in Table 2.2.1-A, in lieu of a Licensee Event Report, prepare and submit to the Commission, in the Annual Radiological En[...]'
Last Modified Date Changed From 1/24/2008 20:21:05 To 1/24/2008 20:25:19

1/24/2008 22:59:51 by IRLBECK, DAVID E
O/R Comments Changed From " To 'I agree with the above assessment'
Last Modified Date Changed From 1/24/2008 20:25:19 To 1/24/2008 22:59:51
Last Modifier Changed From BUNKELMAN, TIMOTHY J To IRLBECK, DAVID E
Last State Change Date Changed From 1/24/2008 20:21:05 To 1/24/2008 22:59:51
Last State Changer Changed From BUNKELMAN, TIMOTHY J To IRLBECK, DAVID E
State Changed From O/R Review To CRT Review Via Transition: Complete

1/25/2008 7:10:08 by LANGER JR, JAMES E
Significance Changed From (None) To 3
Deficiency Type Changed From (None) To Non-Equipment
Potential Repeat Changed From (None) To No
Previous Issues (PIs, CRs) Changed From " To 'Ref CR 25912 for sample data missing.'
CR FLAGS Changed From (None) To Environmental Issue
CRT Comments Changed From " To 'Sig level 3; -CA to RP [the REMM owner] to initiate action to document in the Annual Radiological Environmental Monitoring Report [required by TS 6.9.b.1 and REMM 2.4.1].'
Last Modified Date Changed From 1/24/2008 22:59:51 To 1/25/2008 7:10:08
Last Modifier Changed From IRLBECK, DAVID E To LANGER JR, JAMES E

1/25/2008 11:15:49 by ERTMAN, SALLY L
Human Error Types Changed From (None) To ERR (Error)
Last Modified Date Changed From 1/25/2008 7:10:08 To 1/25/2008 11:15:49
Last Modifier Changed From LANGER JR, JAMES E To ERTMAN, SALLY L

1/25/2008 15:03:45 by LANGER JR, JAMES E

Significance Changed From 3 To 2
CRT Comments Changed From 'Sig level 3; -CA to RP [the REMM owner] to initiate action to document in the Annual Radiological Environmental Monitoring Report [required by TS 6.9.b.1 and REMM 2.4.1].' To '[...]2; [-Per 1/25/07 CRT this is changed from Sig 3 to Sig Level 2 , w/ACE to Chemistry, and consider for HU Clock Reset. However this is still under discussion w/ the Directors and Chem. -jel-] -ACE to Chemistry, and consider for HU Clock [more diffs...]'
Last Modified Date Changed From 1/25/2008 11:15:49 To 1/25/2008 15:03:45
Last Modifier Changed From ERTMAN, SALLY L To LANGER JR, JAMES E

1/25/2008 15:04:57 by LANGER JR, JAMES E
Process Code Changed From (None) To EVC (Environmental Controls), RI (Regulatory Interface)
Activity Codes Changed From (None) To SAA(Sampling)
Last Modified Date Changed From 1/25/2008 15:03:45 To 1/25/2008 15:04:57

1/25/2008 16:36:07 by BARCENAS, GERALYN ANN
Last Modified Date Changed From 1/25/2008 15:04:57 To 1/25/2008 16:36:07
Last Modifier Changed From LANGER JR, JAMES E To BARCENAS, GERALYN ANN
Last State Change Date Changed From 1/24/2008 22:59:51 To 1/25/2008 16:36:07
Last State Changer Changed From IRLBECK, DAVID E To BARCENAS, GERALYN ANN
State Changed From CRT Review To CRT Assignment Creation Via Transition: CA

1/25/2008 16:37:59 by BARCENAS, GERALYN ANN
Last Modified Date Changed From 1/25/2008 16:36:07 To 1/25/2008 16:37:59
Attachment Added: CA025166: (None) - RP initiate action to document in the Annual Rad Environmental Monitoring Report

1/25/2008 16:41:31 by BARCENAS, GERALYN ANN
Significance Changed From 2 To 3
CRT Report Section(s) Changed From (None) To 2
CRT Comments Changed From 'Sig level 2; [-Per 1/25/07 CRT this is changed from Sig 3 to Sig Level 2 , w/ACE to Chemistry, and consider for HU Clock Reset. However this is still under discussion w/ the Directors and Chem. -jel-] -ACE to Chemistry, and consider for HU C[...]' To 'Sig level 3; [-Per 1/25/07 CRT this is changed from Sig 3 to Sig Level 3 , w/ACE to Chemistry, and consider for HU Clock Reset. However this is still under discussion w/ the Directors and Chem. -jel-] CA to Chemistry to det. & initiate action[...]'
Last Modified Date Changed From 1/25/2008 16:37:59 To 1/25/2008 16:41:31

1/25/2008 16:42:31 by BARCENAS, GERALYN ANN
CRT Comments Changed From '[...][-Per 1/25/07 CRT this is changed from Sig 3 to Sig Level 3 , w/ACE to Chemistry, and consider for HU Clock Reset. However this is still under discussion w/ the Directors and Chem. -jel-] CA to Chemistry to det. & initiate action for HU Clo[more diffs...]' To 'Sig level 3; -CA to Chemistry to det. & initiate action for HU Clock Reset. -CA to RP [the REMM owner] to initiate action to document in the Annual Radiological Environmental Monitoring Report [required by TS 6.9.b.1 and REMM 2.4.1].'
Last Modified Date Changed From 1/25/2008 16:41:31 To 1/25/2008 16:42:31

1/25/2008 16:42:35 by BARCENAS, GERALYN ANN
Last Modified Date Changed From 1/25/2008 16:42:31 To 1/25/2008 16:42:35

1/25/2008 16:43:19 by BARCENAS, GERALYN ANN
Last Modified Date Changed From 1/25/2008 16:42:35 To 1/25/2008 16:43:19
Attachment Added: CA025167: (None) - Chemistry to det. & initiate action for HU Clock Reset

1/31/2008 9:24:19 by BARCENAS, GERALYN ANN
Secondary Owner Changed From ALLEN, ROBERT C, ASBEL, DENNIS C, BARON, LEE C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, DRAKE, DARRELL D, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, GILSON, ERIC L, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, HUSS, DUWAYNE G, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, TREPTOW, ETHAN A, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A To ALLEN, ROBERT C, ASBEL, DENNIS C, BARON, LEE C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, DRAKE, DARRELL D, EDWARDS, CHARLES K, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, GILSON, ERIC L, HALE, JAMES M., HELFENBERGER, JOHN F, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KUDICK, JESSICA L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, OWENS, JOHN S, PALMER, JOHN A, PATTERSON, DALE A, PECKHAM, KENT K, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, ZASTROW, KRISTIN K
Last Modified Date Changed From 1/25/2008 16:43:19 To 1/31/2008 9:24:19
Last State Change Date Changed From 1/25/2008 16:36:07 To 1/31/2008 9:24:19
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

State Change History

Submit → by HENDRICKSON, CHAD M	**Draft** 6/16/2008 17:06:59 Owner : HENDRICKSON, CHAD M	**Submit** → by HENDRICKSON, CHAD M	**Supervisor Review** 6/16/2008 17:08:42 Owner : GAUGER, DAVID A	**Complete** → by GAUGER, DAVID A	**O/R Review** 6/16/2008 17:58:37 Owner : FICTUM, HOLLY C	**Complete** → by IRLBECK, DAVID E	**CRT Review** 6/16/2008 21:34:15 Owner : FICTUM, HOLLY C
CA → by BARCENAS, GERALYN ANN	**CRT Assignment Creation** 6/18/2008 10:36:03 Owner : FICTUM, HOLLY C	**Complete** → by BARCENAS, GERALYN ANN	**Assignments Pending** 6/18/2008 11:37:47 Owner : FICTUM, HOLLY C	**Assignments Complete** → by ADAMS, RICHARD W	**Trend Review** 6/18/2008 14:35:58 Owner : FICTUM, HOLLY C	**Trend Review Complete** → by FICTUM, HOLLY C	**All Assignments Complete** 6/18/2008 15:03:12 Owner : (None)
Transfer → by RECORDS MGMT	**Transferred** 7/4/2008 17:49:03 Owner : (None)	**Print** → by RECORDS MGMT	**Printed** 7/15/2008 11:30:06 Owner : (None)	**Validate** → by RECORDS MGMT	**Validated** 7/15/2008 11:30:15 Owner : (None)		

Section 1

Applicable to site:	KEWA
Record #:	CR101593
Revision Number:	0
Submitter:	HENDRICKSON, CHAD M
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	7353
Submitter Pager Number:	704-0500
One-Line Description:	GFCI found tripped on environmental air sampler K-7
Description:	During performance of SP-63-164, Environmental Sample Collection the GFCI on air sampler K-7 was found tripped. By the hour meter the sampler had run for 77.6 hours after last being changed on 6/9/08 @1325. The less than expected run time may need to be documented on the annual REMM report. The GFCI was most likely tripped during the severe thunder storm on 6-12-08.
Discovery Date:	6/16/2008
Discovery Time:	8:13:00
Method of Discovery:	SELR (Self-revealing issue)
Literal 1:	**If this CR is associated with the BACC Program, please ensure that the CR Description contains sufficient information to ensure the ability to quickly locate the component, which will ensure ALARA.**
Associated with Boric Acid?:	No
Applicable to unit:	None
Associated w/ Equipment Location?:	Yes
System(s):	63-MET
Equipment Location Display:	**Equipment Location - Critical Component - PRA Flag - Quality Classification - Component Description**
Equipment Location Links:	
Initial Actions:	Reset GFCI notified supervisor

	wrote cr
Additional C/A processes req'd?:	N/A
Text Question 1:	**Provide details for any Additional C/A processes needed:**
Text Answer 1:	
C/As Initiated (REA, WR, ETC):	
Tag Hung:	No
Tag Number:	N/A
Additional Contacts:	
Supervisor - CR Review:	GAUGER, DAVID A
Question G:	**Is this CR an Operability/Reportability Issue Requiring O/R Review?**
Yes/No G:	Yes
Question H:	**Does this CR affect personnel safety?**
Yes/No H:	No
Question I:	**Does this CR affect plant safety?**
Yes/No I:	No
Question J:	**Does this CR involve plant equipment?**
Yes/No J:	No
Question K:	**Is this CR an environmental concern?**
Yes/No K:	No
Literal 2:	**Unit Conditions:**
Unit 1% Pwr:	99.6
Unit 2% Pwr:	NA
Unit 3% Pwr:	NA
Unit 1 Mode:	1 - OPERATING
Unit 2 Mode:	NA
Unit 3 Mode:	NA
OP-AA-102 Review Req'd?:	Yes
Is a TS SSC Affected?:	No
TS SSC Operability Assessment:	N/A
Text Question 2:	**Basis for operability:**
Text Answer 2:	NON-FUNCTIONAL. The K-7 Environmental Air Sampler was NON-FUNCTIONAL at the time of discovery. The K-7 Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Program. Per the Table 2.2.1-A if specimens are unobtainable due to sampling equipment malfunction, reasonable efforts shall be made to correct the problem prior to the next sample period. The K-7 air sampler was not monitoring for approximately 3.5 days. Based on this information the K-7 became non-functional during the sampling period. It has since been returned to a FUNCTIONAL state. REMM Table 2.2.1-A requirements remained satisfied.
Question L:	**Is an Operability Assessment req'd for an SSC, which is Functional for its TRM function, to demonstrate operability for its TS function?**
Yes / No L:	Unknown
Literal 4:	**The basis for establishing IOD can be documented in the "Basis for Operability" field. An IOD assignment does not necessarily need to be created.**
Is an IOD Assignment Required?:	No

LCO entered:	No
Applicable LCO:	
Non-TS SSC Functionality Assessment.:	Non-Functional
Literal 5:	**NOTE: If a RAS is to be assigned to determine the answer to the next question, select "TBD" (to be determined) for the answer to the next question.**
Does it impact a TS SSC?:	No
Literal 6:	**The basis for establishing Non-TS SSC Functionality may be documented in the "Basis for Operability" field. A RAS assignment does not necessarily need to be created in these instances.**
Is a RAS Assignment Needed?:	No
Literal 7:	**If this Condition Report is addressing an SSC, document the qualification status of the SSC in the following field. Otherwise select N/A. NOTE: An SSC can be Operable or Functional and still not be Fully Qualified.**
SSC Qualification Status:	N/A
Reportable condition?:	No
Text Question 3:	**Reportability Comments:**
Text Answer 3:	Per the REMM this item is not immediately reportable. Consideration needs to be given for inclusion in the annual REMM 2.4.1.c report.
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	I agree with the above assessment
Significance:	3
Deficiency Type:	Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	CR13785, 92318
CR FLAGS:	Emergency Planning
CRT Report Section(s):	2
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	CA to Chemistry to update the annual REMM 2.4.1.C report as appropriate.
Comments:	
Old Record #:	

Section 2

Process Code:	UNK (Unknown)	**Activity Codes:**	UNK(Unknown)
Human Error Types:	(None)	**Process Related Failure:**	(None)
Org. & Mgmt Failure mode:	(None)	**HU Failure modes:**	(None)
Equipment Failure Modes:	(None)	**Primary INPO criteria:**	(None)
Secondary INPO criteria:	(None)	**Operations Hot Buttons:**	(None)
Engineering Hot Buttons:	(None)	**Maintenance Hot Buttons:**	(None)
RP Hot Buttons:	(None)	**Chemistry Hot Buttons:**	(None)
EP Hot Buttons:	(None)	**Training Hot Buttons:**	(None)

Security Hot Buttons: (None) **OR Hot Buttons:** (None)

O&P Hot Buttons: (None) **NSS Hot Buttons:** (None)

Supply Chain Hot Buttons: (None) **Other Hot Buttons:** (None)

⊟ Section 3

Work Order Number(s):

Status Description:

Status Date:

Actual Finish Date:

Work Performed Description:

⊟ Section 5

CR Completed Date: 6/18/2008 16:03:13 **CR Printed Date:** 7/15/2008 11:30:06

CR Validated Date: 7/15/2008 11:30:15 **CR Who Validated:** RECORDS MGMT

RM Attachment Links:

⊟ Subtasks

⊞ Show Subtasks

Expand All

⊟ Attachments

Principal to: CA077351: KEWA - Update the annual REMM 2.4.1.C report as appropriate (Inactive) by **BARCENAS, GERALYN ANN** (6/18/2008 10:36:54)

⊟ Change History

6/16/2008 17:08:15 by HENDRICKSON, CHAD M
Initial Actions Changed From " To 'Reset GFCI notified supervisor wrote cr'
Last Modified Date Changed From 6/16/2008 17:06:59 To 6/16/2008 17:08:15

6/16/2008 17:08:42 by HENDRICKSON, CHAD M
Associated w/ Equipment Location? Changed From (None) To Yes
Owner Changed From HENDRICKSON, CHAD M To GAUGER, DAVID A
Secondary Owner Changed From GAUGER, DAVID A To AITKEN, PAUL C, ALLEN, ROBERT C, BARNETTE, KENNETH R, BARON, LEE C, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, DOERING JR, BARRY J, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, FRANSON, DALE M, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHAW, CHAD N, SHIMULUNAS, CORY M, SIERACKI, DIANE J, SMOKER, CHARLES S, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 6/16/2008 17:08:15 To 6/16/2008 17:08:42
Last State Change Date Changed From 6/16/2008 17:06:59 To 6/16/2008 17:08:42
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR101593: KEWA - GFCI found tripped on environmental air sampler K-7 (Inactive)

6/16/2008 17:58:37 by GAUGER, DAVID A
Description Changed From '[Original Text]' To '[Appended:] The GFCI was most likely tripped during the severe thunder storm on 6-12-08.'
Yes/No H Changed From Yes To No
Yes/No I Changed From Yes To No
Yes/No J Changed From Yes To No
Yes/No K Changed From Yes To No
Owner Changed From GAUGER, DAVID A To FICTUM, HOLLY C

Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, BARNETTE, KENNETH R, BARON, LEE C, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, DOERING JR, BARRY J, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, FRANSON, DALE M, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHAW, CHAD N, SHIMULUNAS, CORY M, SIERACKI, DIANE J, SMOKER, CHARLES S, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK,

BRIAN THOMAS To AHRENS, GARY M, ALLEN, ROBERT C, ASBEL, DENNIS C, BARON, LEE C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, HUSS, DUWAYNE G, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TREPTOW, ETHAN A, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 6/16/2008 17:08:42 To 6/16/2008 17:58:37
Last Modifier Changed From HENDRICKSON, CHAD M To GAUGER, DAVID A
Last State Change Date Changed From 6/16/2008 17:08:42 To 6/16/2008 17:58:37
Last State Changer Changed From HENDRICKSON, CHAD M To GAUGER, DAVID A
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

6/16/2008 21:23:02 by AHRENS, GARY M
Unit 1% Pwr Changed From " To '99.6'
Unit 1 Mode Changed From (None) To 1 - OPERATING
OP-AA-102 Review Req'd? Changed From (None) To Yes
Is a TS SSC Affected? Changed From (None) To No
TS SSC Operability Assessment Changed From (None) To N/A
Text Answer 2 Changed From " To '[Appended:]NON-FUNCTIONAL. The K-7 Environmental Air Sampler was NON-FUNCTIONAL at the time of discovery. The K-7 Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Program. Per the Table 2.2.1-A if specimens are[...]'
Is an IOD Assignment Required? Changed From (None) To No
LCO entered Changed From (None) To No
Non-TS SSC Functionality Assessment. Changed From (None) To Non-Functional
Does it impact a TS SSC? Changed From (None) To N/A
Is a RAS Assignment Needed? Changed From (None) To No
SSC Qualification Status Changed From (None) To N/A
Reportable condition? Changed From (None) To No
Text Answer 3 Changed From " To 'Per the REMM this item is not immediately reportable. Consideration needs to be given for inclusion in the annual REMM 2.4.1.c report.'
Last Modified Date Changed From 6/16/2008 17:58:37 To 6/16/2008 21:23:02
Last Modifier Changed From GAUGER, DAVID A To AHRENS, GARY M

6/16/2008 21:34:15 by IRLBECK, DAVID E
Does it impact a TS SSC? Changed From N/A To No
O/R Comments Changed From " To 'I agree with the above assessment'
Last Modified Date Changed From 6/16/2008 21:23:02 To 6/16/2008 21:34:15
Last Modifier Changed From AHRENS, GARY M To IRLBECK, DAVID E
Last State Change Date Changed From 6/16/2008 17:58:37 To 6/16/2008 21:34:15
Last State Changer Changed From GAUGER, DAVID A To IRLBECK, DAVID E
State Changed From O/R Review To CRT Review Via Transition: Complete

6/17/2008 6:13:20 by SMITH III, ROY E
Tag Hung Changed From (None) To No
Tag Number Changed From " To 'N/A'
Significance Changed From (None) To 3
Potential Repeat Changed From (None) To No
Previous Issues (PIs, CRs) Changed From " To 'CR13785, 92318'
CR FLAGS Changed From (None) To Emergency Planning
CRT Comments Changed From " To 'CA to Chemistry to update the annual REMM 2.4.1.c report as appropiate.'
Last Modified Date Changed From 6/16/2008 21:34:15 To 6/17/2008 6:13:20
Last Modifier Changed From IRLBECK, DAVID E To SMITH III, ROY E

6/17/2008 6:18:42 by SMITH III, ROY E
CRT Report Section(s) Changed From (None) To 3
Last Modified Date Changed From 6/17/2008 6:13:20 To 6/17/2008 6:18:42

6/17/2008 7:51:52 by FICTUM, HOLLY C
Process Code Changed From (None) To UNK (Unknown)
Activity Codes Changed From (None) To UNK(Unknown)
Last Modified Date Changed From 6/17/2008 6:18:42 To 6/17/2008 7:51:52
Last Modifier Changed From SMITH III, ROY E To FICTUM, HOLLY C

6/17/2008 9:54:21 by SMITH III, ROY E
Deficiency Type Changed From (None) To Equipment
CRT Report Section(s) Changed From 3 To 1
Last Modified Date Changed From 6/17/2008 7:51:52 To 6/17/2008 9:54:21
Last Modifier Changed From FICTUM, HOLLY C To SMITH III, ROY E

6/18/2008 10:35:57 by BARCENAS, GERALYN ANN
CRT Report Section(s) Changed From 1 To 2
CRT Comments Changed From 'CA to Chemistry to update the annual REMM 2.4.1.c report as appropiate.' To 'CA to Chemistry to update the annual REMM 2.4.1.C report as appropriate.'
Last Modified Date Changed From 6/17/2008 9:54:21 To 6/18/2008 10:35:57
Last Modifier Changed From SMITH III, ROY E To BARCENAS, GERALYN ANN

6/18/2008 10:36:03 by BARCENAS, GERALYN ANN
Last Modified Date Changed From 6/18/2008 10:35:57 To 6/18/2008 10:36:03
Last State Change Date Changed From 6/16/2008 21:34:15 To 6/18/2008 10:36:03
Last State Changer Changed From IRLBECK, DAVID E To BARCENAS, GERALYN ANN
State Changed From CRT Review To CRT Assignment Creation Via Transition: CA

6/18/2008 10:36:54 by BARCENAS, GERALYN ANN
Last Modified Date Changed From 6/18/2008 10:36:03 To 6/18/2008 10:36:54
Attachment Added: CA077351: (None) - Update the annual REMM 2.4.1.C report as appropriate

6/18/2008 11:37:47 by BARCENAS, GERALYN ANN
Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ASBEL, DENNIS C, BARON, LEE C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, HUSS, DUWAYNE G, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TREPTOW, ETHAN A, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A To AHRENS, GARY M, ALLEN, ROBERT C, ASBEL, DENNIS C, BARON, LEE C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, EDWARDS, CHARLES K, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, HALE, JAMES M., HELFENBERGER, JOHN F, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KUDICK, JESSICA L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, OWENS, JOHN S, PALMER, JOHN A, PATTERSON, DALE A, PECKHAM, KENT K, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 6/18/2008 10:36:54 To 6/18/2008 11:37:47
Last State Change Date Changed From 6/18/2008 10:36:03 To 6/18/2008 11:37:47
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

6/18/2008 14:35:58 by ADAMS, RICHARD W
Last Modified Date Changed From 6/18/2008 11:37:47 To 6/18/2008 14:35:58
Last Modifier Changed From BARCENAS, GERALYN ANN To ADAMS, RICHARD W
Last State Change Date Changed From 6/18/2008 11:37:47 To 6/18/2008 14:35:58
Last State Changer Changed From BARCENAS, GERALYN ANN To ADAMS, RICHARD W
State Changed From Assignments Pending To Trend Review Via Transition: Assignments Complete

6/18/2008 15:03:12 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 6/18/2008 16:03:13
RM Attachment Links Changed From '' To '<table width=100% border=1 cellspacing=2 cellpadding=2></table>'
Owner Changed From FICTUM, HOLLY C To (None)
Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ASBEL, DENNIS C, BARON, LEE C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, EDWARDS, CHARLES K, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, HALE, JAMES M., HELFENBERGER, JOHN F, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KUDICK, JESSICA L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, OWENS, JOHN S, PALMER, JOHN A, PATTERSON, DALE A, PECKHAM, KENT K, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, ZICH, CHRISTY L
Last Modified Date Changed From 6/18/2008 14:35:58 To 6/18/2008 15:03:12
Last Modifier Changed From ADAMS, RICHARD W To FICTUM, HOLLY C
Close Date Changed From Unassigned To 6/18/2008 15:03:12
Last State Change Date Changed From 6/18/2008 14:35:58 To 6/18/2008 15:03:13
Last State Changer Changed From ADAMS, RICHARD W To FICTUM, HOLLY C
Active/Inactive Changed From Active To Inactive
State Changed From Trend Review To All Assignments Complete Via Transition: Trend Review Complete

7/4/2008 17:49:03 by RECORDS MGMT
Last Modified Date Changed From 6/18/2008 15:03:12 To 7/4/2008 17:49:03
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 6/18/2008 15:03:13 To 7/4/2008 17:49:03
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

7/15/2008 11:30:06 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 7/15/2008 11:30:06
Secondary Owner Changed From KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, ZICH, CHRISTY L To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 7/4/2008 17:49:03 To 7/15/2008 11:30:06
Last State Change Date Changed From 7/4/2008 17:49:03 To 7/15/2008 11:30:06
State Changed From Transferred To Printed Via Transition: Print

7/15/2008 11:30:15 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 7/15/2008 11:30:15
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)
Last Modified Date Changed From 7/15/2008 11:30:06 To 7/15/2008 11:30:15
Last State Change Date Changed From 7/15/2008 11:30:06 To 7/15/2008 11:30:15
State Changed From Printed To Validated Via Transition: Validate

State Change History

Submit by WAAK, GREGORY D	**Draft** 10/28/2008 13:18:33 Owner : WAAK, GREGORY D	**Submit** by WAAK, GREGORY D	**Supervisor Review** 10/28/2008 13:20:33 Owner : SNIDER, TIMOTHY JAY	**Complete** by SNIDER, TIMOTHY JAY	**O/R Review** 10/28/2008 15:43:30 Owner : FICTUM, HOLLY C	**Complete** by TREPTOW, ETHAN A	**CRT Review** 10/28/2008 21:43:17 Owner : FICTUM, HOLLY C
Complete by ERICSON, JANICE L	**Trend Review** 10/29/2008 10:05:12 Owner : FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 11/3/2008 7:46:56 Owner : (None)	**Transfer** by RECORDS MGMT	**Transferred** 11/3/2008 18:01:30 Owner : (None)	**Print** by RECORDS MGMT	**Printed** 11/4/2008 15:03:34 Owner : (None)
Validate by RECORDS MGMT	**Validated** 11/4/2008 15:03:46 Owner : (None)						

Section 1

Applicable to site:	KEWA
Record #:	CR116348
Revision Number:	0
Submitter:	WAAK, GREGORY D
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	7630
Submitter Pager Number:	218-3368
One-Line Description:	K-7 air sampler found not running.
Description:	When doing the weekly air sampler filter change, the K-7 sampler was found tripped off. I reset the GFCI and the sampler started running. After doing the checks and changing the filters the sampler was running normally.The sample run time was approximately 56 hours short of the normal run.
Discovery Date:	10/28/2008
Discovery Time:	10:10:00
Method of Discovery:	SEFI (Self Identified)
Literal 1:	**If this CR is associated with the BACC Program, please ensure that the CR Description contains sufficient information to ensure the ability to quickly locate the component, which will ensure ALARA.**
Associated with Boric Acid?:	No
Applicable to unit:	None
Associated w/ Equipment Location?:	No
System(s):	63-MET
Equipment Location Display:	**Equipment Location - Critical Component - PRA Flag - Quality Classification - Component Description**
Equipment Location Links:	
Initial Actions:	Reset the GFCI and the problem seemed to be resolved.
Additional C/A processes req'd?:	N/A
Text Question 1:	**Provide details for any Additional C/A processes needed:**
Text Answer 1:	

C/As Initiated (REA, WR, ETC):	
Tag Hung:	(None)
Tag Number:	
Additional Contacts:	
Supervisor - CR Review:	SNIDER, TIMOTHY JAY
Question G:	**Is this CR an Operability/Reportability Issue Requiring O/R Review?**
Yes/No G:	No
Question H:	**Does this CR affect personnel safety?**
Yes/No H:	No
Question I:	**Does this CR affect plant safety?**
Yes/No I:	No
Question J:	**Does this CR involve plant equipment?**
Yes/No J:	No
Question K:	**Is this CR an environmental concern?**
Yes/No K:	Yes
Literal 2:	**Unit Conditions:**
Unit 1% Pwr:	100
Unit 2% Pwr:	NA
Unit 3% Pwr:	NA
Unit 1 Mode:	1 - OPERATING
Unit 2 Mode:	NA
Unit 3 Mode:	NA
OP-AA-102 Review Req'd?:	Yes
Is a TS SSC Affected?:	No
TS SSC Operability Assessment:	N/A
Text Question 2:	**Basis for operability:**
Text Answer 2:	NON-FUNCTIONAL. K-7 Environmental Air Sampler was non-functional at the time of discovery. The K-7 Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Program. Per the Table 2.2.1-A if specimens are unobtainable due to sampling equipment malfunction, reasonable efforts shall be made to correct the problem prior to the next sample period. In this case the K-7 air sampler was monitoring for 56 hours short of the required run. Based on this information the K-7 became non-functional at some point during the sampling period. K-7 has since been returned to a FUNCTIONAL state. REMM Table 2.2.1-A requirements remained satisfied.
Question L:	**Is an Operability Assessment req'd for an SSC, which is Functional for its TRM function, to demonstrate operability for its TS function?**
Yes / No L:	No
Literal 4:	**The basis for establishing IOD can be documented in the "Basis for Operability" field. An IOD assignment does not necessarily need to be created.**
Is an IOD Assignment Required?:	No
LCO entered:	No
Applicable LCO:	
Non-TS SSC Functionality Assessment.:	Functional

Literal 5:	**NOTE: If a RAS is to be assigned to determine the answer to the next question, select "TBD" (to be determined) for the answer to the next question.**
Does it impact a TS SSC?:	N/A
Literal 6:	**The basis for establishing Non-TS SSC Functionality may be documented in the "Basis for Operability" field. A RAS assignment does *not necessarily need to be created in these instances.***
Is a RAS Assignment Needed?:	No
Literal 7:	**If this Condition Report is addressing an SSC, document the qualification status of the SSC in the following field. Otherwise select N/A. NOTE: An SSC can be Operable or Functional and still not be Fully Qualified.**
SSC Qualification Status:	N/A
Reportable condition?:	No
Text Question 3:	**Reportability Comments:**
Text Answer 3:	
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	I agree with the above assessment.
Significance:	3
Deficiency Type:	Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	CR13785, 101593, 92318
CR FLAGS:	Emergency Planning
CRT Report Section(s):	2
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	Reset the GFCI & K-7 Sampler is running. CA to Chemistry to update the annual REMM 2.4.1.C report as appropriate. Per 10/29/08 CRT, CA not needed. Reference/close to CA25166, which tracks items that need to be updated in the annual effluent report.
Comments:	10/28/2008 15:38:16 - SNIDER, TIMOTHY JAY: Recommend to incorporate CR with Annual Environmental Report.- Entered by [SNIDER, TIMOTHY JAY] from [CR] [Supervisor Review] 10/28/2008 15:43:30 - SNIDER, TIMOTHY JAY: Assign CA to CR25166 for tracking of CA's associated with Annual Environmental Report. Electrical breaker has re-set. Close to trend.- Entered by [SNIDER, TIMOTHY JAY] from [CR] [Supervisor Review]
Old Record #:	

⊟ Section 2

Process Code:	UNK (Unknown)	**Activity Codes:**	UNK(Unknown)
Human Error Types:	(None)	**Process Related Failure:**	(None)
Org. & Mgmt Failure mode:	(None)	**HU Failure modes:**	(None)
Equipment Failure Modes:	EFN (Fails to stay energized)	**Primary INPO criteria:**	(None)

Secondary INPO criteria:	(None)	**Operations Hot Buttons:**	(None)
Engineering Hot Buttons:	(None)	**Maintenance Hot Buttons:**	(None)
RP Hot Buttons:	(None)	**Chemistry Hot Buttons:**	(None)
EP Hot Buttons:	(None)	**Training Hot Buttons:**	(None)
Security Hot Buttons:	(None)	**OR Hot Buttons:**	(None)
O&P Hot Buttons:	(None)	**NSS Hot Buttons:**	(None)
Supply Chain Hot Buttons:	(None)	**Other Hot Buttons:**	(None)

⊟ Section 3

Work Order Number(s):

Status Description:

Status Date:

Actual Finish Date:

Work Performed Description:

⊟ Section 5

CR Completed Date: 11/3/2008 8:46:56 **CR Printed Date:** 11/4/2008 15:03:34

CR Validated Date: 11/4/2008 15:03:46 **CR Who Validated:** RECORDS MGMT

RM Attachment Links:

⊟ Change History

10/28/2008 13:20:33 by WAAK, GREGORY D
Associated w/ Equipment Location? Changed From (None) To No
Additional C/A processes req'd? Changed From (None) To N/A
Owner Changed From WAAK, GREGORY D To SNIDER, TIMOTHY JAY
Secondary Owner Changed From SNIDER, TIMOTHY JAY To AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHAW, CHAD N, SHIMULUNAS, CORY M, SIERACKI, DIANE J, SMOKER, CHARLES S, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 10/28/2008 13:18:33 To 10/28/2008 13:20:33
Last State Change Date Changed From 10/28/2008 13:18:33 To 10/28/2008 13:20:33
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR116348: KEWA - K-7 air sampler found not running. (Inactive)

10/28/2008 15:38:16 by SNIDER, TIMOTHY JAY
Yes/No G Changed From Yes To No
Yes/No H Changed From Yes To No
Yes/No I Changed From Yes To No
Yes/No J Changed From Yes To No
Comments Changed From '' To '[Appended:] Recommend to incorporate CR with Annual Environmental Report.- Entered by [SNIDER, TIMOTHY JAY] from [CR] [Supervisor Review]'
Last Modified Date Changed From 10/28/2008 13:20:33 To 10/28/2008 15:38:16
Last Modifier Changed From WAAK, GREGORY D To SNIDER, TIMOTHY JAY

10/28/2008 15:43:30 by SNIDER, TIMOTHY JAY
Comments Changed From '[Original Text]' To '[Appended:] Assign CA to CR25166 for tracking of CA's associated with Annual Environmental Report. Electrical breaker has re-set. Close to trend.- Entered by [SNIDER, TIMOTHY JAY] from [CR] [Supervisor Review]'
Owner Changed From SNIDER, TIMOTHY JAY To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHAW, CHAD N, SHIMULUNAS, CORY M, SIERACKI, DIANE J, SMOKER, CHARLES S, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J,

WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS To ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 10/28/2008 15:38:16 To 10/28/2008 15:43:30
Last State Change Date Changed From 10/28/2008 13:20:33 To 10/28/2008 15:43:31
Last State Changer Changed From WAAK, GREGORY D To SNIDER, TIMOTHY JAY
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

10/28/2008 16:35:43 by AHRENS, GARY M
Unit 1% Pwr Changed From " To '100'
Unit 1 Mode Changed From (None) To 1 - OPERATING
OP-AA-102 Review Req'd? Changed From (None) To Yes
Is a TS SSC Affected? Changed From (None) To No
TS SSC Operability Assessment Changed From (None) To N/A
Text Answer 2 Changed From " To '[Appended:]NON-FUNCTIONAL. K-7 Environmental Air Sampler was non-functional at the time of discovery. The K-7 Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Program. Per the Table 2.2.1-A if specimens are[...]'
Yes / No L Changed From (None) To No
Is an IOD Assignment Required? Changed From (None) To No
LCO entered Changed From (None) To No
Non-TS SSC Functionality Assessment. Changed From (None) To Functional
Does it impact a TS SSC? Changed From (None) To N/A
Is a RAS Assignment Needed? Changed From (None) To No
SSC Qualification Status Changed From (None) To N/A
Reportable condition? Changed From (None) To No
Last Modified Date Changed From 10/28/2008 15:43:30 To 10/28/2008 16:35:43
Last Modifier Changed From SNIDER, TIMOTHY JAY To AHRENS, GARY M

10/28/2008 19:16:08 by KARST JR, DAVID A
Text Answer 2 Changed From '[...] to correct the problem prior to the next sample period. In this case the K-7 air sampler was not monitoring for 56 hours. Based on this information the K-7 became non-functional at some point during the sampling period. K-7 has since been[...]' To '[...] to correct the problem prior to the next sample period. In this case the K-7 air sampler was monitoring for 56 hours, short of the required run. Based on this information the K-7 became non-functional at some point during the sampling peri[...]'
Last Modified Date Changed From 10/28/2008 16:35:43 To 10/28/2008 19:16:08
Last Modifier Changed From AHRENS, GARY M To KARST JR, DAVID A

10/28/2008 21:43:17 by TREPTOW, ETHAN A
Text Answer 2 Changed From '[...]oring for 56 hours, short of the required run. Based on this information the K-7 became non-functional at some point during the sampling period. K-7 has since been returned to a FUNCTIONAL state. REMM Table 2.2.1-A requirements remained satisfied.' To '[...]toring for 56 hours short of the required run. Based on this information the K-7 became non-functional at some point during the sampling period. K-7 has since been returned to a FUNCTIONAL state. REMM Table 2.2.1-A requirements remained satisfied.'
O/R Comments Changed From " To 'I agree with the above assessment.'
Last Modified Date Changed From 10/28/2008 19:16:08 To 10/28/2008 21:43:17
Last Modifier Changed From KARST JR, DAVID A To TREPTOW, ETHAN A
Last State Change Date Changed From 10/28/2008 15:43:31 To 10/28/2008 21:43:17
Last State Changer Changed From SNIDER, TIMOTHY JAY To TREPTOW, ETHAN A
State Changed From O/R Review To CRT Review Via Transition: Complete

10/29/2008 6:13:48 by SMITH III, ROY E
Significance Changed From (None) To 3
Deficiency Type Changed From (None) To Equipment
Potential Repeat Changed From (None) To No
Previous Issues (PIs, CRs) Changed From " To 'CR13785, 101593, 92318'
CR FLAGS Changed From (None) To Emergency Planning
CRT Comments Changed From " To 'Reset the GFCI & K-7 Sampler is running. CA to Chemistry to update the annual REMM 2.4.1.C report as appropriate.'
Last Modified Date Changed From 10/28/2008 21:43:17 To 10/29/2008 6:13:48
Last Modifier Changed From TREPTOW, ETHAN A To SMITH III, ROY E

10/29/2008 6:14:34 by SMITH III, ROY E
Process Code Changed From (None) To UNK (Unknown)
Activity Codes Changed From (None) To UNK(Unknown)
Last Modified Date Changed From 10/29/2008 6:13:48 To 10/29/2008 6:14:34

10/29/2008 10:04:27 by ERICSON, JANICE L
CRT Report Section(s) Changed From (None) To 2
CRT Comments Changed From 'Reset the GFCI & K-7 Sampler is running. CA to Chemistry to update the annual REMM 2.4.1.C report as appropriate.' To 'Reset the GFCI & K-7 Sampler is running. CA to Chemistry to update the annual REMM 2.4.1.C report as appropriate. Per 10/29/08 CRT, CA not needed. Reference/close to CA25166, which tracks items that need to be updated in the annual effluent report.'

Last Modified Date Changed From 10/29/2008 6:14:34 To 10/29/2008 10:04:27
Last Modifier Changed From SMITH III, ROY E To ERICSON, JANICE L

10/29/2008 10:05:12 by ERICSON, JANICE L
Secondary Owner Changed From ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, WALESH, DEBRA J, WHITE, DARYN A To AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, HALE, JAMES M., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 10/29/2008 10:04:27 To 10/29/2008 10:05:12
Last State Change Date Changed From 10/28/2008 21:43:17 To 10/29/2008 10:05:12
Last State Changer Changed From TREPTOW, ETHAN A To ERICSON, JANICE L
State Changed From CRT Review To Trend Review Via Transition: Complete

11/3/2008 7:45:51 by FICTUM, HOLLY C
Equipment Failure Modes Changed From (None) To EFN (Fails to stay energized)
Last Modified Date Changed From 10/29/2008 10:05:12 To 11/3/2008 7:45:51
Last Modifier Changed From ERICSON, JANICE L To FICTUM, HOLLY C

11/3/2008 7:46:56 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 11/3/2008 8:46:56
RM Attachment Links Changed From '' To '<table width=100% border=1 cellspacing=2 cellpadding=2></table>'
Owner Changed From FICTUM, HOLLY C To (None)
Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, HALE, JAMES M., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 11/3/2008 7:45:51 To 11/3/2008 7:46:56
Close Date Changed From Unassigned To 11/3/2008 7:46:56
Last State Change Date Changed From 10/29/2008 10:05:12 To 11/3/2008 7:46:56
Last State Changer Changed From ERICSON, JANICE L To FICTUM, HOLLY C
Active/Inactive Changed From Active To Inactive
State Changed From Trend Review To All Assignments Complete Via Transition: Trend Review Complete

11/3/2008 18:01:30 by RECORDS MGMT
Last Modified Date Changed From 11/3/2008 7:46:56 To 11/3/2008 18:01:30
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 11/3/2008 7:46:56 To 11/3/2008 18:01:30
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

11/4/2008 15:03:34 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 11/4/2008 15:03:34
Last Modified Date Changed From 11/3/2008 18:01:30 To 11/4/2008 15:03:34
Last State Change Date Changed From 11/3/2008 18:01:30 To 11/4/2008 15:03:34
State Changed From Transferred To Printed Via Transition: Print

11/4/2008 15:03:46 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 11/4/2008 15:03:46
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)
Last Modified Date Changed From 11/4/2008 15:03:34 To 11/4/2008 15:03:46
Last State Change Date Changed From 11/4/2008 15:03:34 To 11/4/2008 15:03:46
State Changed From Printed To Validated Via Transition: Validate

State Change History

Submit by ADAMS, RICHARD W	**Draft** 4/29/2008 7:36:55 Owner : ADAMS, RICHARD W	**Submit** by ADAMS, RICHARD W	**Supervisor Review** 4/29/2008 7:52:21 Owner : OLSON, CHERYL L	**Complete** by OLSON, CHERYL L	**O/R Review** 4/29/2008 8:03:31 Owner : BOWER, RICHARD L	**Complete** by MCMAHON, BRADLY J	**CRT Review** 4/29/2008 10:50:19 Owner : BOWER, RICHARD L
CA by BARCENAS, GERALYN ANN	**CRT Assignment Creation** 5/1/2008 13:39:28 Owner : BOWER, RICHARD L	**Complete** by BARCENAS, GERALYN ANN	**Assignments Pending** 5/1/2008 14:48:47 Owner : BOWER, RICHARD L	**Assignments Complete** by ADAMS, RICHARD W	**Trend Review** 4/14/2009 11:59:24 Owner : FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 4/15/2009 7:05:39 Owner : (None)

Section 1

Applicable to site:	KEWA
Record #:	CR097171
Revision Number:	0
Submitter:	ADAMS, RICHARD W
Submitter Dept.:	KEWA - Rad Protection
Submitter Phone Number:	8360
Submitter Pager Number:	7040501
One-Line Description:	Milk sample location, K-25 selling its cows.
Description:	The owner of the REMM sampling location, K-25 called to inform us they have sold their milking herd as of 4/26/2008. In addition to milk sampling, the location is one for TLD, grain, cattle feed, well water, grain and soil. K-25 is an indicator location, one of three. The loss of this location as a sampling site can be accounted for by the alternate location of K-38. Additional sampling locations should be considered and added when arrangements have been made. The REMM and Chemistry sampling procedures need to be updated indicating the loss of this location. The contracted vendor was notified of the loss of this site.
Discovery Date:	4/29/2008
Discovery Time:	7:00:00
Method of Discovery:	SELR (Self-revealing issue)
Literal 1:	**If this CR is associated with the BACC Program, please ensure that the CR Description contains sufficient information to ensure the ability to quickly locate the component, which will ensure ALARA.**
Associated with Boric Acid?:	No
Applicable to unit:	None
Associated w/ Equipment Location?:	No
System(s):	N/A
Equipment Location Display:	**Equipment Location - Critical Component - PRA Flag - Quality Classification - Component Description**
Equipment Location Links:	
Initial Actions:	Reviewed REMM and confirmed there is no immediate response needed. There are adequate numbers of other milk sampling locations available to

	meet REMM requirements. Additional locations for sampling should be researched and added to the program as possible.
Additional C/A processes req'd?:	N/A
Text Question 1:	**Provide details for any Additional C/A processes needed:**
Text Answer 1:	
C/As Initiated (REA, WR, ETC):	
Tag Hung:	(None)
Tag Number:	
Additional Contacts:	
Supervisor - CR Review:	OLSON, CHERYL L
Question G:	**Is this CR an Operability/Reportability Issue Requiring O/R Review?**
Yes/No G:	Yes
Question H:	**Does this CR affect personnel safety?**
Yes/No H:	No
Question I:	**Does this CR affect plant safety?**
Yes/No I:	No
Question J:	**Does this CR involve plant equipment?**
Yes/No J:	No
Question K:	**Is this CR an environmental concern?**
Yes/No K:	No
Literal 2:	**Unit Conditions:**
Unit 1% Pwr:	0
Unit 2% Pwr:	NA
Unit 3% Pwr:	NA
Unit 1 Mode:	7 - REFUELING
Unit 2 Mode:	NA
Unit 3 Mode:	NA
OP-AA-102 Review Req'd?:	No
Is a TS SSC Affected?:	No
TS SSC Operability Assessment:	N/A
Text Question 2:	**Basis for operability:**
Text Answer 2:	N/A: Location K-25 is not available in support of REMM Table 2.2.1-A for Milk. Alternate sites are available and no action statements are required to be entered.
Question L:	**Is an Operability Assessment req'd for an SSC, which is Functional for its TRM function, to demonstrate operability for its TS function?**
Yes / No L:	Unknown
Literal 4:	**The basis for establishing IOD can be documented in the "Basis for Operability" field. An IOD assignment does not necessarily need to be created.**
Is an IOD Assignment Required?:	No
LCO entered:	No
Applicable LCO:	
Non-TS SSC Functionality Assessment.:	N/A
Literal 5:	**NOTE: If a RAS is to be assigned to determine the answer to the next question, select "TBD" (to be determined) for the answer to the next question.**

Does it impact a TS SSC?:	N/A
Literal 6:	**The basis for establishing Non-TS SSC Functionality may be documented in the "Basis for Operability" field. A RAS assignment does not necessarily need to be created in these instances.**
Is a RAS Assignment Needed?:	No
Literal 7:	**If this Condition Report is addressing an SSC, document the qualification status of the SSC in the following field. Otherwise select N/A. NOTE: An SSC can be Operable or Functional and still not be Fully Qualified.**
SSC Qualification Status:	N/A
Reportable condition?:	No
Text Question 3:	**Reportability Comments:**
Text Answer 3:	none- sufficient locations exist for sample.
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	
Significance:	4
Deficiency Type:	Non-Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	No history needed for Sig 4 items.
CR FLAGS:	zz - reviewed / none selected
CRT Report Section(s):	2
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	Significance Level -4-; -CA to RP to determine if new sample location is needed as replacement. If so, make necessary changes. -CA to Chemistry to make corrections to their sampling procedure(s). -CA to RP to update REMM with the removal of the K-25 location and addition (if made) of a replacement location.
Comments:	
Old Record #:	

Section 2

Process Code:	UNK (Unknown)	Activity Codes:	UNK(Unknown)
Human Error Types:	(None)	Process Related Failure:	(None)
Org. & Mgmt Failure mode:	(None)	HU Failure modes:	(None)
Equipment Failure Modes:	(None)	Primary INPO criteria:	(None)
Secondary INPO criteria:	(None)	Operations Hot Buttons:	(None)
Engineering Hot Buttons:	(None)	Maintenance Hot Buttons:	(None)
RP Hot Buttons:	(None)	Chemistry Hot Buttons:	(None)
EP Hot Buttons:	(None)	Training Hot Buttons:	(None)
Security Hot Buttons:	(None)	OR Hot Buttons:	(None)

O&P Hot Buttons: (None) **NSS Hot Buttons:** (None)

Supply Chain Hot Buttons: (None) **Other Hot Buttons:** (None)

Section 3

Work Order Number(s):

Status Description:

Status Date:

Actual Finish Date:

Work Performed Description:

Section 5

CR Completed Date: 4/15/2009 8:05:40 **CR Printed Date:**

CR Validated Date: **CR Who Validated:** (None)

RM Attachment Links:

Subtasks

Show Subtasks

Expand All

Attachments

Principal to: CA074116: KEWA - Determine if new sample location is needed as replacement; make necessary chgs (Inactive) by **BARCENAS, GERALYN ANN** (5/1/2008 13:40:57)

Principal to: CA074117: KEWA - Make corrections to sampling procedure(s) (Inactive) by **BARCENAS, GERALYN ANN** (5/1/2008 13:42:42)

Principal to: CA074118: KEWA - Update REMM w/removal of the K-25 location & addition of replacement location (Inactive) by **BARCENAS, GERALYN ANN** (5/1/2008 13:45:07)

Change History

4/29/2008 7:52:04 by ADAMS, RICHARD W
Description Changed From '[Original Text]' To '[Appended:] K-25 is an indicator location, one of three. The loss of this location as a sampling site can be accounted for by the alternate location of K-38. Additional sampling locations should be considered and added when arrangements have been made[...]'
Initial Actions Changed From '' To '[Appended:]Reviewed REMM and confirmed there is no immediate response needed. There are adequate numbers of other milk sampling locations available to meet REMM requirements. Additional locations for sampling should be researched and added to the program[...]'
Last Modified Date Changed From 4/29/2008 7:36:55 To 4/29/2008 7:52:04

4/29/2008 7:52:21 by ADAMS, RICHARD W
Associated w/ Equipment Location? Changed From (None) To No
Owner Changed From ADAMS, RICHARD W To OLSON, CHERYL L
Secondary Owner Changed From OLSON, CHERYL L To AITKEN, PAUL C, ALLEN, ROBERT C, BARNETTE, KENNETH R, BARON, LEE C, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CHARAPATA, DALE W, CORBIN, WILLIAM D, CRIST, MICHAEL D, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, FRANSON, DALE M, GAUGER, BRAD R, HARTZ, LESLIE N, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOFFNER, WILLIAM J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PATTERSON, DALE A, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHANNON, DANIEL J., SHIMULUNAS, CORY M, SMOKER, CHARLES S, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, SURFACE, J MICHAEL, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M
Last Modified Date Changed From 4/29/2008 7:52:04 To 4/29/2008 7:52:21
Last State Change Date Changed From 4/29/2008 7:36:55 To 4/29/2008 7:52:21
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR097171: KEWA - Milk sample location, K-25 selling its cows. (Inactive)

4/29/2008 8:03:31 by OLSON, CHERYL L
Yes/No H Changed From Yes To No
Yes/No I Changed From Yes To No
Yes/No J Changed From Yes To No
Yes/No K Changed From Yes To No

Owner Changed From OLSON, CHERYL L To BOWER, RICHARD L
Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, BARNETTE, KENNETH R, BARON, LEE C, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CHARAPATA, DALE W, CORBIN, WILLIAM D, CRIST, MICHAEL D, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, FRANSON, DALE M, GAUGER, BRAD R, HARTZ, LESLIE N, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOFFNER, WILLIAM J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PATTERSON, DALE A, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHANNON, DANIEL J., SHIMULUNAS, CORY M, SMOKER, CHARLES S, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, SURFACE, J MICHAEL, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M To ALLEN, ROBERT C, ASBEL, DENNIS C, BARON, LEE C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, DRAKE, DARRELL D, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, GILSON, ERIC L, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, HUSS, DUWAYNE G, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 4/29/2008 7:52:21 To 4/29/2008 8:03:31
Last Modifier Changed From ADAMS, RICHARD W To OLSON, CHERYL L
Last State Change Date Changed From 4/29/2008 7:52:21 To 4/29/2008 8:03:31
Last State Changer Changed From ADAMS, RICHARD W To OLSON, CHERYL L
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

4/29/2008 10:13:54 by BUNKELMAN, TIMOTHY J
Unit 1% Pwr Changed From " To '0'
Unit 1 Mode Changed From (None) To 7 - REFUELING
OP-AA-102 Review Req'd? Changed From (None) To Yes
Is a TS SSC Affected? Changed From (None) To No
TS SSC Operability Assessment Changed From (None) To N/A
Text Answer 2 Changed From " To 'NON-FUNCTIONAL: Location K-25 is non-functional in support of the REMM. Alternate sites are available and no action statements are required to be entered.'
Is an IOD Assignment Required? Changed From (None) To No
LCO entered Changed From (None) To No
Non-TS SSC Functionality Assessment. Changed From (None) To Non-Functional
Does it impact a TS SSC? Changed From (None) To No
Is a RAS Assignment Needed? Changed From (None) To No
SSC Qualification Status Changed From (None) To Not Fully Qualified
Reportable condition? Changed From (None) To No
Last Modified Date Changed From 4/29/2008 8:03:31 To 4/29/2008 10:13:54
Last Modifier Changed From OLSON, CHERYL L To BUNKELMAN, TIMOTHY J

4/29/2008 10:19:33 by BUNKELMAN, TIMOTHY J
Text Answer 2 Changed From 'NON-FUNCTIONAL: Location K-25 is non-functional in support of the REMM. Alternate sites are available and no action statements are required to be entered.' To 'NON-FUNCTIONAL: Location K-25 is non-functional in support of REMM Table 2.2.1-A for Milk. Alternate sites are available and no action statements are required to be entered.'
Last Modified Date Changed From 4/29/2008 10:13:54 To 4/29/2008 10:19:33

4/29/2008 10:43:54 by BUNKELMAN, TIMOTHY J
Text Answer 2 Changed From 'NON-FUNCTIONAL: Location K-25 is non-functional in support of REMM Table 2.2.1-A for Milk. Alternate sites are available and no action statements are required to be entered.' To 'N/A: Location K-25 is not available in support of REMM Table 2.2.1-A for Milk. Alternate sites are available and no action statements are required to be entered.'
Non-TS SSC Functionality Assessment. Changed From Non-Functional To N/A
Last Modified Date Changed From 4/29/2008 10:19:33 To 4/29/2008 10:43:54

4/29/2008 10:50:19 by MCMAHON, BRADLY J
OP-AA-102 Review Req'd? Changed From Yes To No
Does it impact a TS SSC? Changed From No To N/A
SSC Qualification Status Changed From Not Fully Qualified To N/A
Text Answer 3 Changed From " To 'none- sufficient locations exist for sample.'
Last Modified Date Changed From 4/29/2008 10:43:54 To 4/29/2008 10:50:19
Last Modifier Changed From BUNKELMAN, TIMOTHY J To MCMAHON, BRADLY J
Last State Change Date Changed From 4/29/2008 8:03:31 To 4/29/2008 10:50:19
Last State Changer Changed From OLSON, CHERYL L To MCMAHON, BRADLY J
State Changed From O/R Review To CRT Review Via Transition: Complete

4/30/2008 10:35:18 by ADAMS, RICHARD W
Significance Changed From (None) To 4
Potential Repeat Changed From (None) To No
Previous Issues (PIs, CRs) Changed From " To 'No history needed for Sig 4 items.'
CR FLAGS Changed From (None) To zz - reviewed / none selected
CRT Report Section(s) Changed From (None) To 1
CRT Comments Changed From " To '[Appended:]Sig 4 CA to RP to determine if new sample location is needed as replacement. If so, make necessary changes. CA to Chemistry to make corrections to their sampling procedure(s). CA to RP to update REMM with the removal of the K-25 locati[...]'
Last Modified Date Changed From 4/29/2008 10:50:19 To 4/30/2008 10:35:18

Last Modifier Changed From MCMAHON, BRADLY J To ADAMS, RICHARD W

4/30/2008 10:35:31 by ADAMS, RICHARD W
Process Code Changed From (None) To UNK (Unknown)
Activity Codes Changed From (None) To UNK(Unknown)
Last Modified Date Changed From 4/30/2008 10:35:18 To 4/30/2008 10:35:31

5/1/2008 7:35:28 by BARCENAS, GERALYN ANN
Deficiency Type Changed From (None) To Non-Equipment
CRT Comments Changed From 'Sig 4 CA to RP to determine if new sample location is needed as replacement. If so, make necessary changes. CA to Chemistry to make corrections to their sampling procedure(s). CA to RP to update REMM with the removal of the K-25 location an[...]' To 'Significance Level -4-; -CA to RP to determine if new sample location is needed as replacement. If so, make necessary changes. -CA to Chemistry to make corrections to their sampling procedure(s). -CA to RP to update REMM with the removal of[...]'
Last Modified Date Changed From 4/30/2008 10:35:31 To 5/1/2008 7:35:28
Last Modifier Changed From ADAMS, RICHARD W To BARCENAS, GERALYN ANN

5/1/2008 13:39:28 by BARCENAS, GERALYN ANN
Last Modified Date Changed From 5/1/2008 7:35:28 To 5/1/2008 13:39:28
Last State Change Date Changed From 4/29/2008 10:50:19 To 5/1/2008 13:39:28
Last State Changer Changed From MCMAHON, BRADLY J To BARCENAS, GERALYN ANN
State Changed From CRT Review To CRT Assignment Creation Via Transition: CA

5/1/2008 13:40:57 by BARCENAS, GERALYN ANN
Last Modified Date Changed From 5/1/2008 13:39:28 To 5/1/2008 13:40:57
Attachment Added: CA074116: (None) - Determine if new sample location is needed as replacement; make necessary chgs

5/1/2008 13:41:26 by BARCENAS, GERALYN ANN
Last Modified Date Changed From 5/1/2008 13:40:57 To 5/1/2008 13:41:26

5/1/2008 13:42:42 by BARCENAS, GERALYN ANN
Last Modified Date Changed From 5/1/2008 13:41:26 To 5/1/2008 13:42:42
Attachment Added: CA074117: (None) - Make corrections to sampling procedure(s)

5/1/2008 13:43:38 by BARCENAS, GERALYN ANN
CRT Report Section(s) Changed From 1 To 2
Last Modified Date Changed From 5/1/2008 13:42:42 To 5/1/2008 13:43:38

5/1/2008 13:43:45 by BARCENAS, GERALYN ANN
Last Modified Date Changed From 5/1/2008 13:43:38 To 5/1/2008 13:43:45

5/1/2008 13:45:08 by BARCENAS, GERALYN ANN
Last Modified Date Changed From 5/1/2008 13:43:45 To 5/1/2008 13:45:08
Attachment Added: CA074118: (None) - Update REMM w/removal of the K-25 location & addition of replacement location

5/1/2008 14:48:47 by BARCENAS, GERALYN ANN
Secondary Owner Changed From ALLEN, ROBERT C, ASBEL, DENNIS C, BARON, LEE C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, DRAKE, DARRELL D, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, GILSON, ERIC L, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, HUSS, DUWAYNE G, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A To AHRENS, GARY M, ALLEN, ROBERT C, ASBEL, DENNIS C, BARON, LEE C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, DRAKE, DARRELL D, EDWARDS, CHARLES K, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, GILSON, ERIC L, HALE, JAMES M., HELFENBERGER, JOHN F, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KUDICK, JESSICA L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, OWENS, JOHN S, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 5/1/2008 13:45:08 To 5/1/2008 14:48:47
Last State Change Date Changed From 5/1/2008 13:39:28 To 5/1/2008 14:48:47
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

4/14/2009 11:59:24 by ADAMS, RICHARD W
Owner Changed From BOWER, RICHARD L To FICTUM, HOLLY C

Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ASBEL, DENNIS C, BARON, LEE C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, DRAKE, DARRELL D, EDWARDS, CHARLES K, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, GILSON, ERIC L, HALE, JAMES M., HELFENBERGER, JOHN F, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KUDICK, JESSICA L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, OWENS, JOHN S, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A To AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT

J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 5/1/2008 14:48:47 To 4/14/2009 11:59:24
Last Modifier Changed From BARCENAS, GERALYN ANN To ADAMS, RICHARD W
Last State Change Date Changed From 5/1/2008 14:48:47 To 4/14/2009 11:59:24
Last State Changer Changed From BARCENAS, GERALYN ANN To ADAMS, RICHARD W
State Changed From Assignments Pending To Trend Review Via Transition: Assignments Complete

4/15/2009 7:05:39 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 4/15/2009 8:05:40
RM Attachment Links Changed From '' To '<table width=100% border=1 cellspacing=2 cellpadding=2></table>'
Owner Changed From FICTUM, HOLLY C To (None)
Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 4/14/2009 11:59:24 To 4/15/2009 7:05:39
Last Modifier Changed From ADAMS, RICHARD W To FICTUM, HOLLY C
Close Date Changed From Unassigned To 4/15/2009 7:05:39
Last State Change Date Changed From 4/14/2009 11:59:24 To 4/15/2009 7:05:40
Last State Changer Changed From ADAMS, RICHARD W To FICTUM, HOLLY C
Active/Inactive Changed From Active To Inactive
State Changed From Trend Review To All Assignments Complete Via Transition: Trend Review Complete

State Change History

Submit by MALY, AZIZ A	**Draft** 7/22/2008 8:46:49 Owner : MALY, AZIZ A	**Submit** by MALY, AZIZ A	**Supervisor Review** 7/22/2008 8:49:34 Owner : OLSON, CHERYL L	**Complete** by OLSON, CHERYL L	**O/R Review** 7/22/2008 9:21:05 Owner : FICTUM, HOLLY C	**Complete** by PROKASH, ALVIN I	**CRT Review** 7/22/2008 10:47:29 Owner : FICTUM, HOLLY C
CA by OWENS, CYRENA JEAN	**CRT Assignment Creation** 7/24/2008 12:26:54 Owner : FICTUM, HOLLY C	**Complete** by OWENS, CYRENA JEAN	**Assignments Pending** 7/24/2008 12:27:57 Owner : FICTUM, HOLLY C	**Assignments Complete** by ADAMS, RICHARD W	**Trend Review** 3/18/2009 9:57:32 Owner : FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 3/19/2009 7:46:02 Owner : (None)

Section 1

Applicable to site:	KEWA
Record #:	CR104172
Revision Number:	0
Submitter:	MALY, AZIZ A
Submitter Dept.:	KEWA - Rad Protection
Submitter Phone Number:	8731
Submitter Pager Number:	na
One-Line Description:	change the location of K-39 in the map at the REMM
Description:	K39 is 4 miles north of the plants , K-10 is 1.5 NNE of the plant , the two points exist at the same location on the map , K-39 is too close to the plant and is not consistent with the SCALE . K-39 need to be moved up on the REMM's map
Discovery Date:	7/22/2008
Discovery Time:	8:00:00
Method of Discovery:	SEFI (Self Identified)
Literal 1:	**If this CR is associated with the BACC Program, please ensure that the CR Description contains sufficient information to ensure the ability to quickly locate the component, which will ensure ALARA.**
Associated with Boric Acid?:	No
Applicable to unit:	None
Associated w/ Equipment Location?:	No
System(s):	N/A
Equipment Location Display:	**Equipment Location - Critical Component - PRA Flag - Quality Classification - Component Description**
Equipment Location Links:	
Initial Actions:	NA
Additional C/A processes req'd?:	DCR - Drawing Change Request
Text Question 1:	**Provide details for any Additional C/A processes needed:**
Text Answer 1:	
C/As Initiated (REA, WR, ETC):	
Tag Hung:	No
Tag Number:	N/A

Additional Contacts:	
Supervisor - CR Review:	OLSON, CHERYL L
Question G:	Is this CR an Operability/Reportability Issue Requiring O/R Review?
Yes/No G:	Yes
Question H:	Does this CR affect personnel safety?
Yes/No H:	No
Question I:	Does this CR affect plant safety?
Yes/No I:	No
Question J:	Does this CR involve plant equipment?
Yes/No J:	No
Question K:	Is this CR an environmental concern?
Yes/No K:	No
Literal 2:	Unit Conditions:
Unit 1% Pwr:	100
Unit 2% Pwr:	NA
Unit 3% Pwr:	NA
Unit 1 Mode:	1 - OPERATING
Unit 2 Mode:	NA
Unit 3 Mode:	NA
OP-AA-102 Review Req'd?:	No
Is a TS SSC Affected?:	No
TS SSC Operability Assessment:	N/A
Text Question 2:	Basis for operability:
Text Answer 2:	N/A
Question L:	Is an Operability Assessment req'd for an SSC, which is Functional for its TRM function, to demonstrate operability for its TS function?
Yes / No L:	No
Literal 4:	The basis for establishing IOD can be documented in the "Basis for Operability" field. An IOD assignment does not necessarily need to be created.
Is an IOD Assignment Required?:	No
LCO entered:	No
Applicable LCO:	
Non-TS SSC Functionality Assessment.:	N/A
Literal 5:	NOTE: If a RAS is to be assigned to determine the answer to the next question, select "TBD" (to be determined) for the answer to the next question.
Does it impact a TS SSC?:	N/A
Literal 6:	The basis for establishing Non-TS SSC Functionality may be documented in the "Basis for Operability" field. A RAS assignment does not necessarily need to be created in these instances.
Is a RAS Assignment Needed?:	No
Literal 7:	If this Condition Report is addressing an SSC, document the qualification status of the SSC in the following field. Otherwise select N/A. NOTE: An SSC can be Operable or Functional and still not be Fully Qualified.
SSC Qualification Status:	N/A

Reportable condition?:	No
Text Question 3:	Reportability Comments:
Text Answer 3:	None
Can IOD be established?:	(None)
Literal 3:	If this CR is associated with any system leakage, provide answers to the following:
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	
Significance:	4
Deficiency Type:	Non-Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	No history needed for Sig 4 items.
CR FLAGS:	Administrative Procedure Issues
CRT Report Section(s):	2
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	Sig 4. CA to RP determineand document any other discrepancies in sample locations in the REMM map and correct them as needed.
Comments:	
Old Record #:	

Section 2

Process Code:	UNK (Unknown)	Activity Codes:	UNK(Unknown)
Human Error Types:	(None)	Process Related Failure:	(None)
Org. & Mgmt Failure mode:	(None)	HU Failure modes:	(None)
Equipment Failure Modes:	(None)	Primary INPO criteria:	(None)
Secondary INPO criteria:	(None)	Operations Hot Buttons:	(None)
Engineering Hot Buttons:	(None)	Maintenance Hot Buttons:	(None)
RP Hot Buttons:	(None)	Chemistry Hot Buttons:	(None)
EP Hot Buttons:	(None)	Training Hot Buttons:	(None)
Security Hot Buttons:	(None)	OR Hot Buttons:	(None)
O&P Hot Buttons:	(None)	NSS Hot Buttons:	(None)
Supply Chain Hot Buttons:	(None)	Other Hot Buttons:	(None)

Section 3

Work Order Number(s):	
Status Description:	
Status Date:	
Actual Finish Date:	
Work Performed Description:	

Section 5

CR Completed Date:	3/19/2009 8:46:03	CR Printed Date:	
CR Validated Date:		CR Who Validated:	(None)

RM Attachment Links:

⊟ Subtasks

⊞ Show Subtasks

Expand All

⊟ Attachments

Principal to: CA079543: KEWA - Det and doc any other discrepancies in sample locations in the REMM map (Inactive) by **OWENS, CYRENA JEAN** (7/24/2008 12:27:32)

⊟ Change History

7/22/2008 8:49:34 by MALY, AZIZ A
Method of Discovery Changed From (None) To SEFI (Self Identified)
Associated w/ Equipment Location? Changed From (None) To No
System(s) Changed From (None) To N/A
Initial Actions Changed From " To 'NA'
Additional C/A processes req'd? Changed From (None) To DCR - Drawing Change Request
Owner Changed From MALY, AZIZ A To OLSON, CHERYL L
Secondary Owner Changed From OLSON, CHERYL L To AITKEN, PAUL C, ALLEN, ROBERT C, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, DOERING JR, BARRY J, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, FRANSON, DALE M, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PATTERSON, DALE A, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHAW, CHAD N, SHIMULUNAS, CORY M, SIERACKI, DIANE J, SMOKER, CHARLES S, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 7/22/2008 8:46:49 To 7/22/2008 8:49:34
Last State Change Date Changed From 7/22/2008 8:46:49 To 7/22/2008 8:49:34
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR104172: KEWA - change the location of K-39 in the map at the REMM (Inactive)

7/22/2008 9:21:05 by OLSON, CHERYL L
Yes/No H Changed From Yes To No
Yes/No I Changed From Yes To No
Yes/No J Changed From Yes To No
Yes/No K Changed From Yes To No
Owner Changed From OLSON, CHERYL L To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, DOERING JR, BARRY J, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, FRANSON, DALE M, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PATTERSON, DALE A, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHAW, CHAD N, SHIMULUNAS, CORY M, SIERACKI, DIANE J, SMOKER, CHARLES S, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS To AHRENS, GARY M, ALLEN, ROBERT C, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, HUSS, DUWAYNE G, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TREPTOW, ETHAN A, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 7/22/2008 8:49:34 To 7/22/2008 9:21:05
Last Modifier Changed From MALY, AZIZ A To OLSON, CHERYL L
Last State Change Date Changed From 7/22/2008 8:49:34 To 7/22/2008 9:21:05
Last State Changer Changed From MALY, AZIZ A To OLSON, CHERYL L
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

7/22/2008 10:47:29 by PROKASH, ALVIN I
Tag Hung Changed From (None) To No
Tag Number Changed From " To 'N/A'
Unit 1% Pwr Changed From " To '100'
Unit 1 Mode Changed From (None) To 1 - OPERATING
OP-AA-102 Review Req'd? Changed From (None) To No
Is a TS SSC Affected? Changed From (None) To No
TS SSC Operability Assessment Changed From (None) To N/A

Text Answer 2 Changed From " To 'N/A'
Yes / No L Changed From (None) To No
Is an IOD Assignment Required? Changed From (None) To No
LCO entered Changed From (None) To No
Non-TS SSC Functionality Assessment. Changed From (None) To N/A
Does it impact a TS SSC? Changed From (None) To N/A
Is a RAS Assignment Needed? Changed From (None) To No
SSC Qualification Status Changed From (None) To N/A
Reportable condition? Changed From (None) To No
Text Answer 3 Changed From " To 'None'
Last Modified Date Changed From 7/22/2008 9:21:05 To 7/22/2008 10:47:29
Last Modifier Changed From OLSON, CHERYL L To PROKASH, ALVIN I
Last State Change Date Changed From 7/22/2008 9:21:05 To 7/22/2008 10:47:29
Last State Changer Changed From OLSON, CHERYL L To PROKASH, ALVIN I
State Changed From O/R Review To CRT Review Via Transition: Complete

7/23/2008 11:54:07 by ADAMS, RICHARD W
Significance Changed From (None) To 4
Deficiency Type Changed From (None) To Non-Equipment
Potential Repeat Changed From (None) To No
Previous Issues (PIs, CRs) Changed From " To 'No history needed for Sig 4 items.'
CR FLAGS Changed From (None) To Administrative Procedure Issues
CRT Report Section(s) Changed From (None) To 1
CRT Comments Changed From " To 'Sig 4. CA to RP to have the map updated to sow correct location of the sample location. The descriptions of the location are correct, and describe the site's actual location.'
Last Modified Date Changed From 7/22/2008 10:47:29 To 7/23/2008 11:54:07
Last Modifier Changed From PROKASH, ALVIN I To ADAMS, RICHARD W

7/23/2008 11:54:21 by ADAMS, RICHARD W
Process Code Changed From (None) To UNK (Unknown)
Activity Codes Changed From (None) To UNK(Unknown)
Last Modified Date Changed From 7/23/2008 11:54:07 To 7/23/2008 11:54:21

7/23/2008 14:15:12 by ADAMS, RICHARD W
CRT Comments Changed From 'Sig 4. CA to RP to have the map updated to sow correct location of the sample location. The descriptions of the location are correct, and describe the site's actual location.' To 'Sig 4. CA to RP determineand document any other discrepancies in sample locations in the REMM map and correct them as needed.'
Last Modified Date Changed From 7/23/2008 11:54:21 To 7/23/2008 14:15:12

7/24/2008 12:26:51 by OWENS, CYRENA JEAN
CRT Report Section(s) Changed From 1 To 2
Last Modified Date Changed From 7/23/2008 14:15:12 To 7/24/2008 12:26:51
Last Modifier Changed From ADAMS, RICHARD W To OWENS, CYRENA JEAN

7/24/2008 12:26:54 by OWENS, CYRENA JEAN
Last Modified Date Changed From 7/24/2008 12:26:51 To 7/24/2008 12:26:54
Last State Change Date Changed From 7/22/2008 10:47:29 To 7/24/2008 12:26:54
Last State Changer Changed From PROKASH, ALVIN I To OWENS, CYRENA JEAN
State Changed From CRT Review To CRT Assignment Creation Via Transition: CA

7/24/2008 12:27:32 by OWENS, CYRENA JEAN
Last Modified Date Changed From 7/24/2008 12:26:54 To 7/24/2008 12:27:32
Attachment Added: CA079543: (None) - Det and doc any other discrepancies in sample locations in the REMM map

7/24/2008 12:27:57 by OWENS, CYRENA JEAN
Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, HUSS, DUWAYNE G, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TREPTOW, ETHAN A, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A To AHRENS, GARY M, ALLEN, ROBERT C, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, EDWARDS, CHARLES K, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, HALE, JAMES M., HELFENBERGER, JOHN F, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KUDICK, JESSICA L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, OWENS, JOHN S, PALMER, JOHN A, PATTERSON, DALE A, PECKHAM, KENT K, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, ZASTROW, KRISTIN K
Last Modified Date Changed From 7/24/2008 12:27:32 To 7/24/2008 12:27:57
Last State Change Date Changed From 7/24/2008 12:26:54 To 7/24/2008 12:27:57
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

3/18/2009 9:57:32 by ADAMS, RICHARD W

Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, EDWARDS,

CHARLES K, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, HALE, JAMES M., HELFENBERGER, JOHN F, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KUDICK, JESSICA L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, OWENS, JOHN S, PALMER, JOHN A, PATTERSON, DALE A, PECKHAM, KENT K, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, ZASTROW, KRISTIN K To AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 7/24/2008 12:27:57 To 3/18/2009 9:57:32
Last Modifier Changed From OWENS, CYRENA JEAN To ADAMS, RICHARD W
Last State Change Date Changed From 7/24/2008 12:27:57 To 3/18/2009 9:57:32
Last State Changer Changed From OWENS, CYRENA JEAN To ADAMS, RICHARD W
State Changed From Assignments Pending To Trend Review Via Transition: Assignments Complete

3/19/2009 7:46:02 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 3/19/2009 8:46:03
RM Attachment Links Changed From '' To '<table width=100% border=1 cellspacing=2 cellpadding=2></table>'
Owner Changed From FICTUM, HOLLY C To (None)
Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 3/18/2009 9:57:32 To 3/19/2009 7:46:02
Last Modifier Changed From ADAMS, RICHARD W To FICTUM, HOLLY C
Close Date Changed From Unassigned To 3/19/2009 7:46:02
Last State Change Date Changed From 3/18/2009 9:57:32 To 3/19/2009 7:46:03
Last State Changer Changed From ADAMS, RICHARD W To FICTUM, HOLLY C
Active/Inactive Changed From Active To Inactive
State Changed From Trend Review To All Assignments Complete Via Transition: Trend Review Complete

⊟ State Change History

Submit	Draft	Submit	Supervisor Review	Complete	O/R Review	Complete	CRT Review
by MALY, AZIZ A	1/12/2009 17:14:36 Owner : MALY, AZIZ A	by MALY, AZIZ A	1/12/2009 17:15:34 Owner : OLSON, CHERYL L	by OLSON, CHERYL L	1/12/2009 17:18:29 Owner : FICTUM, HOLLY C	by IRLBECK, DAVID E	1/13/2009 0:41:02 Owner : FICTUM, HOLLY C

CA	CRT Assignment Creation	Complete	Assignments Pending
by ERICSON, JANICE L	1/14/2009 11:28:32 Owner : FICTUM, HOLLY C	by ERICSON, JANICE L	1/14/2009 11:35:52 Owner : FICTUM, HOLLY C

⊟ Section 1

Applicable to site:	KEWA
Record #:	CR319712
Revision Number:	0
Submitter:	MALY, AZIZ A
Submitter Dept.:	KEWA - Rad Protection
Submitter Phone Number:	8731
Submitter Pager Number:	7741
One-Line Description:	December Tritium result shows higher level
Description:	The Contracted Vender (performing REMM) has Reported that December level of Tritium at K-1d is 13,429 pCi/L , which makes Tritium Activity for the last quarter of 2008 4,347 pCi/L. The average for the quarter does not exceed the NRCreporting levels of 20000 pCi/L, so this is not reportable . There is no effect on Public health . CA to RP to investigate the cause for this Elevated Level.
Discovery Date:	1/12/2009
Discovery Time:	16:12:00
Method of Discovery:	TEST (Surveillance / Performance Test)
Literal 1:	**If this CR is associated with the BACC Program, please ensure that the CR Description contains sufficient information to ensure the ability to quickly locate the component, which will ensure ALARA.**
Associated with Boric Acid?:	No
Applicable to unit:	None
Associated w/ Equipment Location?:	No
System(s):	N/A
Equipment Location Display:	**Equipment Location - Critical Component - PRA Flag - Quality Classification - Component Description**
Equipment Location Links:	
Initial Actions:	Inform supervisor and RP manager
Additional C/A processes req'd?:	N/A
Text Question 1:	**Provide details for any Additional C/A processes needed:**
Text Answer 1:	
C/As Initiated (REA, WR, ETC):	
Tag Hung:	No
Tag Number:	

Additional Contacts:	
Supervisor - CR Review:	OLSON, CHERYL L
Question G:	**Is this CR an Operability/Reportability Issue Requiring O/R Review?**
Yes/No G:	Yes
Question H:	**Does this CR affect personnel safety?**
Yes/No H:	No
Question I:	**Does this CR affect plant safety?**
Yes/No I:	No
Question J:	**Does this CR involve plant equipment?**
Yes/No J:	No
Question K:	**Is this CR an environmental concern?**
Yes/No K:	No
Literal 2:	**Unit Conditions:**
Unit 1% Pwr:	100
Unit 2% Pwr:	NA
Unit 3% Pwr:	NA
Unit 1 Mode:	1 - OPERATING
Unit 2 Mode:	NA
Unit 3 Mode:	NA
OP-AA-102 Review Req'd?:	No
Is a TS SSC Affected?:	No
TS SSC Operability Assessment:	N/A
Text Question 2:	**Basis for operability:**
Text Answer 2:	N/A
Question L:	**Is an Operability Assessment req'd for an SSC, which is Functional for its TRM function, to demonstrate operability for its TS function?**
Yes / No L:	No
Literal 4:	**The basis for establishing IOD can be documented in the "Basis for Operability" field. An IOD assignment does not necessarily need to be created.**
Is an IOD Assignment Required?:	No
LCO entered:	No
Applicable LCO:	
Non-TS SSC Functionality Assessment.:	N/A
Literal 5:	**NOTE: If a RAS is to be assigned to determine the answer to the next question, select "TBD" (to be determined) for the answer to the next question.**
Does it impact a TS SSC?:	N/A
Literal 6:	**The basis for establishing Non-TS SSC Functionality may be documented in the "Basis for Operability" field. A RAS assignment does not necessarily need to be created in these instances.**
Is a RAS Assignment Needed?:	No
Literal 7:	**If this Condition Report is addressing an SSC, document the qualification status of the SSC in the following field. Otherwise select N/A. NOTE: An SSC can be Operable or Functional and still not be Fully Qualified.**
SSC Qualification Status:	N/A

Reportable condition?:	No
Text Question 3:	**Reportability Comments:**
Text Answer 3:	Tritium Activity for the last quarter of 2008 4,347 pCi/L. The average for the quarter does not exceed the NRCreporting levels of 20000 pCi/L, so this is not reportable
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	I agree with the above assessment
Significance:	3
Deficiency Type:	Non-Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	No history found of elevated H-3 in enviornmental sample locations.
CR FLAGS:	Environmental Issue
CRT Report Section(s):	2
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	Sig 3. RP has confirmed that the sample was taken at the time of a liquid discharge with H-3 in relative concentrations to account for the results seen. CA to RP to document in the 2008 Annual Environmental Monitoring Report the appropriate results, e.g., the high results were due to the sample timing, or make proper adjustments to the results for the month. CA to RP to determine method to ensure samples are not taken during liquid discharges. CA to RP to review the K-1d location for appropriateness/need of the sample point.
Comments:	
Old Record #:	

Section 2

Process Code:	UNK (Unknown)	**Activity Codes:**	UNK(Unknown)
Human Error Types:	(None)	**Process Related Failure:**	(None)
Org. & Mgmt Failure mode:	(None)	**HU Failure modes:**	(None)
Equipment Failure Modes:	(None)	**Primary INPO criteria:**	(None)
Secondary INPO criteria:	(None)	**Operations Hot Buttons:**	(None)
Engineering Hot Buttons:	(None)	**Maintenance Hot Buttons:**	(None)
RP Hot Buttons:	Environmental Monitoring (REMP) Liquid Effluents	**Chemistry Hot Buttons:**	(None)
EP Hot Buttons:	(None)	**Training Hot Buttons:**	(None)
Security Hot Buttons:	(None)	**OR Hot Buttons:**	(None)
O&P Hot Buttons:	(None)	**NSS Hot Buttons:**	(None)
Supply Chain Hot Buttons:	(None)	**Other Hot Buttons:**	(None)

Section 3

Work Order Number(s):

Status Description:

Status Date:

Actual Finish Date:

Work Performed Description:

Section 5

CR Completed Date: **CR Printed Date:**

CR Validated Date: **CR Who Validated:** (None)

RM Attachment Links:

Subtasks

Show Subtasks

Expand All

Attachments

Principal to: CA126359: KEWA - Document in 2008 Annual Environmental Monitoring Report the appropriate results by **ERICSON, JANICE L** (1/14/2009 11:32:02)

Principal to: CA126360: KEWA - Determine method to ensure samples are not taken during liquid discharges by **ERICSON, JANICE L** (1/14/2009 11:33:12)

Principal to: CA126361: KEWA - Review the K-1d location for appropriateness/need of the sample point by **ERICSON, JANICE L** (1/14/2009 11:34:43)

Change History

1/12/2009 17:15:34 by MALY, AZIZ A
Associated w/ Equipment Location? Changed From (None) To No
System(s) Changed From (None) To N/A
Initial Actions Changed From " To 'Inform supervisor and RP manager'
Owner Changed From MALY, AZIZ A To OLSON, CHERYL L
Secondary Owner Changed From OLSON, CHERYL L To AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHAW, CHAD N, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 1/12/2009 17:14:36 To 1/12/2009 17:15:34
Last State Change Date Changed From 1/12/2009 17:14:36 To 1/12/2009 17:15:34
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR319712: KEWA - December Tritium result shows higher level

1/12/2009 17:18:29 by OLSON, CHERYL L
Yes/No H Changed From Yes To No
Yes/No I Changed From Yes To No
Yes/No J Changed From Yes To No
Yes/No K Changed From Yes To No
Owner Changed From OLSON, CHERYL L To FICTUM, HOLLY C

Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHAW, CHAD N, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J,

WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS To ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 1/12/2009 17:15:34 To 1/12/2009 17:18:29
Last Modifier Changed From MALY, AZIZ A To OLSON, CHERYL L
Last State Change Date Changed From 1/12/2009 17:15:34 To 1/12/2009 17:18:29
Last State Changer Changed From MALY, AZIZ A To OLSON, CHERYL L
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

1/12/2009 22:21:36 by AHRENS, GARY M
Tag Hung Changed From (None) To No
Unit 1% Pwr Changed From " To '100'
Unit 1 Mode Changed From (None) To 1 - OPERATING
OP-AA-102 Review Req'd? Changed From (None) To No
Is a TS SSC Affected? Changed From (None) To No
TS SSC Operability Assessment Changed From (None) To N/A
Text Answer 2 Changed From " To 'N/A'
Yes / No L Changed From (None) To No
Is an IOD Assignment Required? Changed From (None) To No
LCO entered Changed From (None) To No
Non-TS SSC Functionality Assessment. Changed From (None) To N/A
Does it impact a TS SSC? Changed From (None) To N/A
Is a RAS Assignment Needed? Changed From (None) To No
SSC Qualification Status Changed From (None) To N/A
Reportable condition? Changed From (None) To No
Last Modified Date Changed From 1/12/2009 17:18:29 To 1/12/2009 22:21:36
Last Modifier Changed From OLSON, CHERYL L To AHRENS, GARY M

1/13/2009 0:41:02 by IRLBECK, DAVID E
Text Answer 3 Changed From " To 'Tritium Activity for the last quarter of 2008 4,347 pCi/L. The average for the quarter does not exceed the NRCreporting levels of 20000 pCi/L, so this is not reportable'
O/R Comments Changed From " To 'I agree with the above assessment'
Last Modified Date Changed From 1/12/2009 22:21:36 To 1/13/2009 0:41:02
Last Modifier Changed From AHRENS, GARY M To IRLBECK, DAVID E
Last State Change Date Changed From 1/12/2009 17:18:29 To 1/13/2009 0:41:02
Last State Changer Changed From OLSON, CHERYL L To IRLBECK, DAVID E
State Changed From O/R Review To CRT Review Via Transition: Complete

1/13/2009 8:14:10 by ADAMS, RICHARD W
Significance Changed From (None) To 3
Deficiency Type Changed From (None) To Non-Equipment
Potential Repeat Changed From (None) To No
Previous Issues (PIs, CRs) Changed From " To 'No history found of elevated H-3 in enviornmental sample locations.'
CR FLAGS Changed From (None) To Environmental Issue
CRT Report Section(s) Changed From (None) To 1
CRT Comments Changed From " To 'Sig 3. CA to RP to determine (as possible) and document cause of increased H-3 results from this location. As needed, initate corrective actions.'
Last Modified Date Changed From 1/13/2009 0:41:02 To 1/13/2009 8:14:10
Last Modifier Changed From IRLBECK, DAVID E To ADAMS, RICHARD W

1/13/2009 8:14:54 by ADAMS, RICHARD W
Process Code Changed From (None) To UNK (Unknown)
Activity Codes Changed From (None) To UNK(Unknown)
Last Modified Date Changed From 1/13/2009 8:14:10 To 1/13/2009 8:14:54

1/13/2009 8:15:19 by ADAMS, RICHARD W
RP Hot Buttons Changed From (None) To Environmental Monitoring (REMP)
Last Modified Date Changed From 1/13/2009 8:14:54 To 1/13/2009 8:15:19

1/13/2009 8:15:32 by ADAMS, RICHARD W
RP Hot Buttons Changed From Environmental Monitoring (REMP) To Environmental Monitoring (REMP), Liquid Effluents
Last Modified Date Changed From 1/13/2009 8:15:19 To 1/13/2009 8:15:32

1/14/2009 7:08:22 by FICTUM, HOLLY C
Process Code Changed From UNK (Unknown) To EVC (Environmental Controls)
Last Modified Date Changed From 1/13/2009 8:15:32 To 1/14/2009 7:08:22
Last Modifier Changed From ADAMS, RICHARD W To FICTUM, HOLLY C

1/14/2009 10:27:56 by ADAMS, RICHARD W

CRT Comments Changed From 'Sig 3. CA to RP to determine (as possible) and document cause of increased H-3 results from this location. As needed, initate corrective actions.' To '[...]RP has confirmed that the sample was taken at the time of a liquid discharge with H-3 in relative concentrations to account for the results seen. CA to RP to document in the 2008 Annual Environmental Monitoring Report

the appropriate results,[more diffs...]'
Last Modified Date Changed From 1/14/2009 7:08:22 To 1/14/2009 10:27:56
Last Modifier Changed From FICTUM, HOLLY C To ADAMS, RICHARD W

1/14/2009 10:28:19 by ADAMS, RICHARD W
Process Code Changed From EVC (Environmental Controls) To UNK (Unknown)
Last Modified Date Changed From 1/14/2009 10:27:56 To 1/14/2009 10:28:19

1/14/2009 10:28:31 by ADAMS, RICHARD W
Last Modified Date Changed From 1/14/2009 10:28:19 To 1/14/2009 10:28:31

1/14/2009 10:40:41 by LANGER JR, JAMES E - power
One-Line Description Changed From 'December Tritiunm result shows higher level' To 'December Tritium result shows higher level'
Last Modified Date Changed From 1/14/2009 10:28:31 To 1/14/2009 10:40:41
Last Modifier Changed From ADAMS, RICHARD W To LANGER JR, JAMES E - power

1/14/2009 11:28:27 by ERICSON, JANICE L
CRT Report Section(s) Changed From 1 To 2
Last Modified Date Changed From 1/14/2009 10:40:41 To 1/14/2009 11:28:27
Last Modifier Changed From LANGER JR, JAMES E - power To ERICSON, JANICE L

1/14/2009 11:28:32 by ERICSON, JANICE L
Last Modified Date Changed From 1/14/2009 11:28:27 To 1/14/2009 11:28:32
Last State Change Date Changed From 1/13/2009 0:41:02 To 1/14/2009 11:28:32
Last State Changer Changed From IRLBECK, DAVID E To ERICSON, JANICE L
State Changed From CRT Review To CRT Assignment Creation Via Transition: CA

1/14/2009 11:32:02 by ERICSON, JANICE L
Last Modified Date Changed From 1/14/2009 11:28:32 To 1/14/2009 11:32:02
Attachment Added: CA126359: (None) - Document in 2008 Annual Environmental Monitoring Report the appropriate results

1/14/2009 11:32:25 by ERICSON, JANICE L
Last Modified Date Changed From 1/14/2009 11:32:02 To 1/14/2009 11:32:25

1/14/2009 11:33:12 by ERICSON, JANICE L
Last Modified Date Changed From 1/14/2009 11:32:25 To 1/14/2009 11:33:12
Attachment Added: CA126360: (None) - Determine method to ensure samples are not taken during liquid discharges

1/14/2009 11:34:04 by ERICSON, JANICE L
Last Modified Date Changed From 1/14/2009 11:33:12 To 1/14/2009 11:34:04

1/14/2009 11:34:44 by ERICSON, JANICE L
Last Modified Date Changed From 1/14/2009 11:34:04 To 1/14/2009 11:34:44
Attachment Added: CA126361: (None) - Review the K-1d location for appropriateness/need of the sample point

1/14/2009 11:35:52 by ERICSON, JANICE L
Secondary Owner Changed From ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, WALESH, DEBRA J, WHITE, DARYN A To AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, HALE, JAMES M., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 1/14/2009 11:34:44 To 1/14/2009 11:35:52
Last State Change Date Changed From 1/14/2009 11:28:32 To 1/14/2009 11:35:52
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

State Change History

Submit	Draft	Submit	Supervisor Review	Complete	O/R Review	Complete	CRT Review
by ADAMS, RICHARD W	3/26/2009 15:11:20 Owner : ADAMS, RICHARD W	by ADAMS, RICHARD W	3/26/2009 15:11:27 Owner : OLSON, CHERYL L	by OLSON, CHERYL L	3/26/2009 15:14:54 Owner : FICTUM, HOLLY C	by KARST JR, DAVID A	3/26/2009 20:56:56 Owner : FICTUM, HOLLY C

CA	CRT Assignment Creation	Complete	Assignments Pending
by ERICSON, JANICE L	3/30/2009 9:57:17 Owner : FICTUM, HOLLY C	by ERICSON, JANICE L	3/30/2009 9:58:34 Owner : FICTUM, HOLLY C

Section 1

Applicable to site:	KEWA
Record #:	CR328678
Revision Number:	0
Submitter:	ADAMS, RICHARD W
Submitter Dept.:	KEWA - Rad Protection
Submitter Phone Number:	8360
Submitter Pager Number:	7040501
One-Line Description:	Revision 12 of the REMM not included in 2007 Annual Environmental Monitor Report
Description:	Step 6.8.1 of SP-63-280 requires submission of revisions to the REMM done during a year as part of the Annual Environmental Monitoring Report for that year. Contrary to this requirement, the 2007 submission of the Annual Environmental Monitoring Report did not contain a copy of Revision 12 of the REMM which was approved by PORC 2/20/2007. This revision changed the location of the EOF monitoring point from the WPS Service Center to the Dominion operated EOF.
Discovery Date:	3/26/2008
Discovery Time:	15:00:00
Method of Discovery:	SEFI (Self Identified)
Literal 1:	**If this CR is associated with the BACC Program, please ensure that the CR Description contains sufficient information to ensure the ability to quickly locate the component, which will ensure ALARA.**
Associated with Boric Acid?:	No
Applicable to unit:	None
Associated w/ Equipment Location?:	No
System(s):	N/A
Equipment Location Display:	**Equipment Location - Critical Component - PRA Flag - Quality Classification - Component Description**
Equipment Location Links:	
Initial Actions:	Licensing personnel prompted review and were made aware upon confirmation of this situation.
Additional C/A processes req'd?:	N/A
Text Question 1:	**Provide details for any Additional C/A processes needed:**
Text Answer 1:	

C/As Initiated (REA, WR, ETC):	
Tag Hung:	No
Tag Number:	n/a
Additional Contacts:	
Supervisor - CR Review:	OLSON, CHERYL L
Question G:	Is this CR an Operability/Reportability Issue Requiring O/R Review?
Yes/No G:	Yes
Question H:	Does this CR affect personnel safety?
Yes/No H:	No
Question I:	Does this CR affect plant safety?
Yes/No I:	No
Question J:	Does this CR involve plant equipment?
Yes/No J:	No
Question K:	Is this CR an environmental concern?
Yes/No K:	No
Literal 2:	Unit Conditions:
Unit 1% Pwr:	100
Unit 2% Pwr:	NA
Unit 3% Pwr:	NA
Unit 1 Mode:	1 - OPERATING
Unit 2 Mode:	NA
Unit 3 Mode:	NA
OP-AA-102 Review Req'd?:	No
Is a TS SSC Affected?:	No
TS SSC Operability Assessment:	N/A
Text Question 2:	Basis for operability:
Text Answer 2:	N/A.
Question L:	Is an Operability Assessment req'd for an SSC, which is Functional for its TRM function, to demonstrate operability for its TS function?
Yes / No L:	No
Literal 4:	The basis for establishing IOD can be documented in the "Basis for Operability" field. An IOD assignment does not necessarily need to be created.
Is an IOD Assignment Required?:	No
LCO entered:	No
Applicable LCO:	
Non-TS SSC Functionality Assessment.:	N/A
Literal 5:	NOTE: If a RAS is to be assigned to determine the answer to the next question, select "TBD" (to be determined) for the answer to the next question.
Does it impact a TS SSC?:	N/A
Literal 6:	The basis for establishing Non-TS SSC Functionality may be documented in the "Basis for Operability" field. A RAS assignment does not necessarily need to be created in these instances.
Is a RAS Assignment Needed?:	No
Literal 7:	If this Condition Report is addressing an SSC, document the

	qualification status of the SSC in the following field. Otherwise select N/A. NOTE: An SSC can be Operable or Functional and still not be Fully Qualified.
SSC Qualification Status:	N/A
Reportable condition?:	No
Text Question 3:	**Reportability Comments:**
Text Answer 3:	
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	
Significance:	3
Deficiency Type:	Non-Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	No history
CR FLAGS:	Reviewed / None Selected
CRT Report Section(s):	2
License Renewal Flags:	(None)
Affected Department:	KEWA - Rad Protection
CRT Comments:	CA to RP to review issue of Revision 12 of the REMM not included in 2007 Annual Environmental Monitor Report and correct as appropriate.
Comments:	
Old Record #:	

Section 2

Process Code:	RP (Personnel Radiation Control)	**Activity Codes:**	DP(Document Preparation & Revision)
Human Error Types:	ERR (Error)	**Process Related Failure:**	(None)
Org. & Mgmt Failure mode:	(None)	**HU Failure modes:**	(None)
Equipment Failure Modes:	(None)	**Primary INPO criteria:**	(None)
Secondary INPO criteria:	(None)	**Operations Hot Buttons:**	(None)
Engineering Hot Buttons:	(None)	**Maintenance Hot Buttons:**	(None)
RP Hot Buttons:	(None)	**Chemistry Hot Buttons:**	(None)
EP Hot Buttons:	(None)	**Training Hot Buttons:**	(None)
Security Hot Buttons:	(None)	**OR Hot Buttons:**	(None)
O&P Hot Buttons:	(None)	**NSS Hot Buttons:**	(None)
Supply Chain Hot Buttons:	(None)	**Other Hot Buttons:**	(None)

Section 3

Work Order Number(s):	
Status Description:	
Status Date:	
Actual Finish Date:	
Work Performed Description:	

Section 5

CR Completed Date: **CR Printed Date:**

CR Validated Date: **CR Who Validated:** (None)

RM Attachment Links:

⊟ Subtasks

⊞ Show Subtasks

Expand All

⊟ Notes

Previous History by **ADAMS, RICHARD W** (3/26/2009 15:21:45)
This situation is similar to that noted in CR 103668, which had the same type issue relative to not submitting a revision of the ODCM with the Annual Effluent Release Report for 2007. That CR was screened a level 3. CA 79063 was issued to licensing to determine whether the situation was reportable under 10 CFR 50.9, within 2-days. The result of that CA was that a 2-day report was not needed.

⊟ Attachments

Principal to: CA132511: KEWA - Review issue of Rev. 12 of REMM not included in 2007 Annual Env. Monitor Report by **ERICSON, JANICE L** (3/30/2009 9:58:15)

⊟ Change History

3/26/2009 15:11:27 by ADAMS, RICHARD W
Owner Changed From ADAMS, RICHARD W To OLSON, CHERYL L
Secondary Owner Changed From OLSON, CHERYL L To AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 3/26/2009 15:11:20 To 3/26/2009 15:11:27
Last State Change Date Changed From 3/26/2009 15:11:20 To 3/26/2009 15:11:27
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR328678: KEWA - Revision 12 of the REMM not included in 2007 Annual Environmental Monitor Report

3/26/2009 15:14:54 by OLSON, CHERYL L
Yes/No H Changed From Yes To No
Yes/No I Changed From Yes To No
Yes/No J Changed From Yes To No
Yes/No K Changed From Yes To No
Owner Changed From OLSON, CHERYL L To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS To ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 3/26/2009 15:11:27 To 3/26/2009 15:14:54
Last Modifier Changed From ADAMS, RICHARD W To OLSON, CHERYL L
Last State Change Date Changed From 3/26/2009 15:11:27 To 3/26/2009 15:14:54
Last State Changer Changed From ADAMS, RICHARD W To OLSON, CHERYL L
State Changed From Supervisor Review To O/R Review Via Transition: Complete

NewCR Changed From Yes To No

3/26/2009 15:21:45 by ADAMS, RICHARD W
Last Modified Date Changed From 3/26/2009 15:14:54 To 3/26/2009 15:21:45
Last Modifier Changed From OLSON, CHERYL L To ADAMS, RICHARD W
Attachment Added: Previous History

3/26/2009 20:56:56 by KARST JR, DAVID A
Tag Hung Changed From (None) To No
Tag Number Changed From " To 'n/a'
Unit 1% Pwr Changed From " To '100'
Unit 1 Mode Changed From (None) To 1 - OPERATING
OP-AA-102 Review Req'd? Changed From (None) To No
Is a TS SSC Affected? Changed From (None) To No
TS SSC Operability Assessment Changed From (None) To N/A
Text Answer 2 Changed From " To 'N/A.'
Yes / No L Changed From (None) To No
Is an IOD Assignment Required? Changed From (None) To No
LCO entered Changed From (None) To No
Non-TS SSC Functionality Assessment. Changed From (None) To N/A
Does it impact a TS SSC? Changed From (None) To N/A
Is a RAS Assignment Needed? Changed From (None) To No
SSC Qualification Status Changed From (None) To N/A
Reportable condition? Changed From (None) To No
Last Modified Date Changed From 3/26/2009 15:21:45 To 3/26/2009 20:56:56
Last Modifier Changed From ADAMS, RICHARD W To KARST JR, DAVID A
Last State Change Date Changed From 3/26/2009 15:14:54 To 3/26/2009 20:56:56
Last State Changer Changed From OLSON, CHERYL L To KARST JR, DAVID A
State Changed From O/R Review To CRT Review Via Transition: Complete

3/27/2009 4:29:23 by PRIBEK, BARBARA A
Significance Changed From (None) To 3
Last Modified Date Changed From 3/26/2009 20:56:56 To 3/27/2009 4:29:23
Last Modifier Changed From KARST JR, DAVID A To PRIBEK, BARBARA A

3/27/2009 10:47:54 by SMITH III, ROY E
Deficiency Type Changed From (None) To Non-Equipment
Potential Repeat Changed From (None) To No
Previous Issues (PIs, CRs) Changed From " To 'No history'
CR FLAGS Changed From (None) To Reviewed / None Selected
CRT Report Section(s) Changed From (None) To 1
CRT Comments Changed From " To 'CA to RP to review issue of Revision 12 of the REMM not included in 2007 Annual Environmental Monitor Report and correct as appropriate.'
Last Modified Date Changed From 3/27/2009 4:29:23 To 3/27/2009 10:47:54
Last Modifier Changed From PRIBEK, BARBARA A To SMITH III, ROY E

3/30/2009 7:00:20 by FICTUM, HOLLY C
Affected Department Changed From (None) To KEWA - Rad Protection
Process Code Changed From (None) To RP (Personnel Radiation Control)
Activity Codes Changed From (None) To DP(Document Preparation & Revision)
Human Error Types Changed From (None) To ERR (Error)
Last Modified Date Changed From 3/27/2009 10:47:54 To 3/30/2009 7:00:20
Last Modifier Changed From SMITH III, ROY E To FICTUM, HOLLY C

3/30/2009 9:57:07 by ERICSON, JANICE L
CRT Report Section(s) Changed From 1 To 2
Last Modified Date Changed From 3/30/2009 7:00:20 To 3/30/2009 9:57:07
Last Modifier Changed From FICTUM, HOLLY C To ERICSON, JANICE L

3/30/2009 9:57:17 by ERICSON, JANICE L
Last Modified Date Changed From 3/30/2009 9:57:07 To 3/30/2009 9:57:17
Last State Change Date Changed From 3/26/2009 20:56:56 To 3/30/2009 9:57:17
Last State Changer Changed From KARST JR, DAVID A To ERICSON, JANICE L
State Changed From CRT Review To CRT Assignment Creation Via Transition: CA

3/30/2009 9:58:15 by ERICSON, JANICE L
Last Modified Date Changed From 3/30/2009 9:57:17 To 3/30/2009 9:58:15
Attachment Added: CA132511: (None) - Review issue of Rev. 12 of REMM not included in 2007 Annual Env. Monitor Report

3/30/2009 9:58:34 by ERICSON, JANICE L
Secondary Owner Changed From ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K,

CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 3/30/2009 9:58:15 To 3/30/2009 9:58:34
Last State Change Date Changed From 3/30/2009 9:57:17 To 3/30/2009 9:58:34
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

State Change History

Submit by NEUENFELDT, GRETA ANN	**Draft** 9/9/2008 12:43:26 Owner : NEUENFELDT, GRETA ANN	**Submit** by NEUENFELDT, GRETA ANN	**Supervisor Review** 9/9/2008 12:43:29 Owner : GAUGER, DAVID A	**Complete** by GAUGER, DAVID A	**O/R Review** 9/9/2008 14:50:34 Owner : FICTUM, HOLLY C	**Complete** by IRLBECK, DAVID E	**CRT Review** 9/9/2008 19:22:40 Owner : FICTUM, HOLLY C
Complete by OWENS, CYRENA JEAN	**Trend Review** 9/12/2008 10:39:36 Owner : FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 9/15/2008 13:17:06 Owner : (None)	**Transfer** by RECORDS MGMT	**Transferred** 9/15/2008 17:10:34 Owner : (None)	**Print** by RECORDS MGMT	**Printed** 9/24/2008 14:46:37 Owner : (None)
Validate by RECORDS MGMT	**Validated** 9/24/2008 14:46:46 Owner : (None)						

Section 1

Applicable to site:	KEWA
Record #:	CR108736
Revision Number:	0
Submitter:	NEUENFELDT, GRETA ANN
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	7629
Submitter Pager Number:	704-0290
One-Line Description:	Holes found in 2 air filters during environmental air sample collection
Description:	Holes found in 2 air filters during environmental air sample collection While removing air filters from K-1f and K-41 sample locations, found a hole in each air filter. The color distribution on the air filter was uniform, indicating uniform air flow through the filter. The holes in the filter are documented on Form SP-63-164, which is sent with the filters to the environmental vendor laboratory for analysis. Unsure of the cause of the holes in the filter, but could be caused by performing the Pre-Filter change air leak check per SP-63-164 step 6.1.1.
Discovery Date:	9/9/2008
Discovery Time:	11:00:00
Method of Discovery:	SEFI (Self Identified)
Literal 1:	**If this CR is associated with the BACC Program, please ensure that the CR Description contains sufficient information to ensure the ability to quickly locate the component, which will ensure ALARA.**
Associated with Boric Acid?:	No
Applicable to unit:	Unit 1
Associated w/ Equipment Location?:	No
System(s):	63-MET
Equipment Location Display:	**Equipment Location - Critical Component - PRA Flag - Quality Classification - Component Description**

Equipment Location Links:	
Initial Actions:	Notified chemistry supervisor.
Additional C/A processes req'd?:	N/A
Text Question 1:	**Provide details for any Additional C/A processes needed:**
Text Answer 1:	
C/As Initiated (REA, WR, ETC):	
Tag Hung:	No
Tag Number:	Not required
Additional Contacts:	
Supervisor - CR Review:	GAUGER, DAVID A
Question G:	**Is this CR an Operability/Reportability Issue Requiring O/R Review?**
Yes/No G:	Yes
Question H:	**Does this CR affect personnel safety?**
Yes/No H:	No
Question I:	**Does this CR affect plant safety?**
Yes/No I:	No
Question J:	**Does this CR involve plant equipment?**
Yes/No J:	No
Question K:	**Is this CR an environmental concern?**
Yes/No K:	No
Literal 2:	**Unit Conditions:**
Unit 1% Pwr:	100
Unit 2% Pwr:	NA
Unit 3% Pwr:	NA
Unit 1 Mode:	1 - OPERATING
Unit 2 Mode:	NA
Unit 3 Mode:	NA
OP-AA-102 Review Req'd?:	No
Is a TS SSC Affected?:	No
TS SSC Operability Assessment:	N/A
Text Question 2:	**Basis for operability:**
Text Answer 2:	N/A
	Per Chemistry the holes will not impact sample results to be included in the annual REMM report.
Question L:	**Is an Operability Assessment req'd for an SSC, which is Functional for its TRM function, to demonstrate operability for its TS function?**
Yes / No L:	No
Literal 4:	**The basis for establishing IOD can be documented in the "Basis for Operability" field. An IOD assignment does not necessarily need to be created.**
Is an IOD Assignment Required?:	No
LCO entered:	No
Applicable LCO:	
Non-TS SSC Functionality Assessment.:	N/A
Literal 5:	**NOTE: If a RAS is to be assigned to determine the answer to the next**

	question, select "TBD" (to be determined) for the answer to the next question.
Does it impact a TS SSC?:	N/A
Literal 6:	**The basis for establishing Non-TS SSC Functionality may be documented in the "Basis for Operability" field. A RAS assignment does not necessarily need to be created in these instances.**
Is a RAS Assignment Needed?:	No
Literal 7:	**If this Condition Report is addressing an SSC, document the qualification status of the SSC in the following field. Otherwise select N/A. NOTE: An SSC can be Operable or Functional and still not be Fully Qualified.**
SSC Qualification Status:	N/A
Reportable condition?:	No
Text Question 3:	**Reportability Comments:**
Text Answer 3:	None
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	I agree with the above assessment
Significance:	3
Deficiency Type:	Non-Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	No history of air environmental air sample media being compromised.
CR FLAGS:	zz - reviewed / none selected
CRT Report Section(s):	2
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	Sig 3. The fact of having possibly compromised air sample media for this week needs to be documented in the Annual Environmental Monitoring Report. Reference CA 25166 that is open to collect all of these sorts of minor report needs for the year 2008. Close to trend.
Comments:	
Old Record #:	

Section 2

Process Code:	UNK (Unknown)	**Activity Codes:**	UNK(Unknown)
Human Error Types:	(None)	**Process Related Failure:**	(None)
Org. & Mgmt Failure mode:	(None)	**HU Failure modes:**	(None)
Equipment Failure Modes:	(None)	**Primary INPO criteria:**	(None)
Secondary INPO criteria:	(None)	**Operations Hot Buttons:**	(None)
Engineering Hot Buttons:	(None)	**Maintenance Hot Buttons:**	(None)
RP Hot Buttons:	Environmental Monitoring (REMP)	**Chemistry Hot Buttons:**	(None)
EP Hot Buttons:	(None)	**Training Hot Buttons:**	(None)

Security Hot Buttons: (None)
OR Hot Buttons: (None)
O&P Hot Buttons: (None)
NSS Hot Buttons: (None)
Supply Chain Hot Buttons: (None)
Other Hot Buttons: (None)

⊟ Section 3

Work Order Number(s):

Status Description:

Status Date:

Actual Finish Date:

Work Performed Description:

⊟ Section 5

CR Completed Date: 9/15/2008 14:17:06 **CR Printed Date:** 9/24/2008 14:46:37

CR Validated Date: 9/24/2008 14:46:46 **CR Who Validated:** RECORDS MGMT

RM Attachment Links:

⊟ Change History

9/9/2008 12:43:29 by NEUENFELDT, GRETA ANN
Owner Changed From NEUENFELDT, GRETA ANN To GAUGER, DAVID A
Secondary Owner Changed From GAUGER, DAVID A To AITKEN, PAUL C, ALLEN, ROBERT C, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHAW, CHAD N, SHIMULUNAS, CORY M, SIERACKI, DIANE J, SMOKER, CHARLES S, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 9/9/2008 12:43:26 To 9/9/2008 12:43:29
Last State Change Date Changed From 9/9/2008 12:43:26 To 9/9/2008 12:43:29
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR108736: KEWA - Holes found in 2 air filters during environmental air sample collection (Inactive)

9/9/2008 14:50:34 by GAUGER, DAVID A
Yes/No H Changed From Yes To No
Yes/No I Changed From Yes To No
Yes/No J Changed From Yes To No
Yes/No K Changed From Yes To No
Owner Changed From GAUGER, DAVID A To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHAW, CHAD N, SHIMULUNAS, CORY M, SIERACKI, DIANE J, SMOKER, CHARLES S, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS To ALLEN, ROBERT C, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, HUSS, DUWAYNE G, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 9/9/2008 12:43:29 To 9/9/2008 14:50:34
Last Modifier Changed From NEUENFELDT, GRETA ANN To GAUGER, DAVID A
Last State Change Date Changed From 9/9/2008 12:43:29 To 9/9/2008 14:50:34
Last State Changer Changed From NEUENFELDT, GRETA ANN To GAUGER, DAVID A
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

9/9/2008 16:35:51 by PROKASH, ALVIN I
Unit 1% Pwr Changed From " To '100'

Unit 1 Mode Changed From (None) To 1 - OPERATING
OP-AA-102 Review Req'd? Changed From (None) To No
Is a TS SSC Affected? Changed From (None) To No
TS SSC Operability Assessment Changed From (None) To N/A
Text Answer 2 Changed From " To 'N/A Per Chemistry the holes will not impact sample results to be included in the annual REMM report.'
Yes / No L Changed From (None) To No
Is an IOD Assignment Required? Changed From (None) To No
LCO entered Changed From (None) To No
Non-TS SSC Functionality Assessment. Changed From (None) To N/A
Does it impact a TS SSC? Changed From (None) To N/A
Is a RAS Assignment Needed? Changed From (None) To No
SSC Qualification Status Changed From (None) To N/A
Reportable condition? Changed From (None) To No
Text Answer 3 Changed From " To 'None'
Last Modified Date Changed From 9/9/2008 14:50:34 To 9/9/2008 16:35:51
Last Modifier Changed From GAUGER, DAVID A To PROKASH, ALVIN I

9/9/2008 19:22:40 by IRLBECK, DAVID E
O/R Comments Changed From " To 'I agree with the above assessment'
Last Modified Date Changed From 9/9/2008 16:35:51 To 9/9/2008 19:22:40
Last Modifier Changed From PROKASH, ALVIN I To IRLBECK, DAVID E
Last State Change Date Changed From 9/9/2008 14:50:34 To 9/9/2008 19:22:40
Last State Changer Changed From GAUGER, DAVID A To IRLBECK, DAVID E
State Changed From O/R Review To CRT Review Via Transition: Complete

9/10/2008 11:54:36 by ADAMS, RICHARD W
Significance Changed From (None) To 3
Deficiency Type Changed From (None) To Non-Equipment
Potential Repeat Changed From (None) To No
Previous Issues (PIs, CRs) Changed From " To 'No history of air environmental air sample media being compromised.'
CR FLAGS Changed From (None) To zz - reviewed / none selected
CRT Comments Changed From " To '[Appended:]Sig 3. The fact of having possibly compromised air sample media for this week needs to be documented in the Annual Environmental Monitoring Report. CA 25166 is open to collect all of these sorts of minor report needs for the year 2008. Link[...]'
Last Modified Date Changed From 9/9/2008 19:22:40 To 9/10/2008 11:54:36
Last Modifier Changed From IRLBECK, DAVID E To ADAMS, RICHARD W

9/10/2008 11:55:14 by ADAMS, RICHARD W
Process Code Changed From (None) To UNK (Unknown)
Activity Codes Changed From (None) To UNK(Unknown)
Last Modified Date Changed From 9/10/2008 11:54:36 To 9/10/2008 11:55:14

9/10/2008 11:55:32 by ADAMS, RICHARD W
RP Hot Buttons Changed From (None) To Environmental Monitoring (REMP)
Last Modified Date Changed From 9/10/2008 11:55:14 To 9/10/2008 11:55:32

9/11/2008 6:44:24 by ADAMS, RICHARD W
CRT Report Section(s) Changed From (None) To 1
Last Modified Date Changed From 9/10/2008 11:55:32 To 9/11/2008 6:44:24

9/12/2008 10:39:33 by OWENS, CYRENA JEAN
CRT Report Section(s) Changed From 1 To 2
CRT Comments Changed From '[...]s to be documented in the Annual Environmental Monitoring Report. CA 25166 is open to collect all of these sorts of minor report needs for the year 2008. Link this CR to that CR with note added to CA to ensure this issue is addressed in the report.' To '[...] having possibly compromised air sample media for this week needs to be documented in the Annual Environmental Monitoring Report. Reference CA 25166 that is open to collect all of these sorts of minor report needs for the year 2008. Close to trend.'
Last Modified Date Changed From 9/11/2008 6:44:24 To 9/12/2008 10:39:33
Last Modifier Changed From ADAMS, RICHARD W To OWENS, CYRENA JEAN

9/12/2008 10:39:36 by OWENS, CYRENA JEAN
Secondary Owner Changed From ALLEN, ROBERT C, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, HUSS, DUWAYNE G, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A To AHRENS, GARY M, ALLEN, ROBERT C, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, EDWARDS, CHARLES K, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, HALE, JAMES M., HELFENBERGER, JOHN F, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KUDICK, JESSICA L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, OWENS, JOHN S, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 9/12/2008 10:39:33 To 9/12/2008 10:39:36

Last State Change Date Changed From 9/9/2008 19:22:40 To 9/12/2008 10:39:36
Last State Changer Changed From IRLBECK, DAVID E To OWENS, CYRENA JEAN
State Changed From CRT Review To Trend Review Via Transition: Complete

9/15/2008 13:17:06 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 9/15/2008 14:17:06
RM Attachment Links Changed From '' To '<table width=100% border=1 cellspacing=2 cellpadding=2></table>'
Owner Changed From FICTUM, HOLLY C To (None)
Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, EDWARDS, CHARLES K, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, HALE, JAMES M., HELFENBERGER, JOHN F, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KUDICK, JESSICA L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, OWENS, JOHN S, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 9/12/2008 10:39:36 To 9/15/2008 13:17:06
Last Modifier Changed From OWENS, CYRENA JEAN To FICTUM, HOLLY C
Close Date Changed From Unassigned To 9/15/2008 13:17:06
Last State Change Date Changed From 9/12/2008 10:39:36 To 9/15/2008 13:17:06
Last State Changer Changed From OWENS, CYRENA JEAN To FICTUM, HOLLY C
Active/Inactive Changed From Active To Inactive
State Changed From Trend Review To All Assignments Complete Via Transition: Trend Review Complete

9/15/2008 17:10:34 by RECORDS MGMT
Last Modified Date Changed From 9/15/2008 13:17:06 To 9/15/2008 17:10:34
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 9/15/2008 13:17:06 To 9/15/2008 17:10:34
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

9/24/2008 14:46:37 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 9/24/2008 14:46:37
Last Modified Date Changed From 9/15/2008 17:10:34 To 9/24/2008 14:46:37
Last State Change Date Changed From 9/15/2008 17:10:34 To 9/24/2008 14:46:37
State Changed From Transferred To Printed Via Transition: Print

9/24/2008 14:46:46 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 9/24/2008 14:46:46
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)
Last Modified Date Changed From 9/24/2008 14:46:37 To 9/24/2008 14:46:46
Last State Change Date Changed From 9/24/2008 14:46:37 To 9/24/2008 14:46:46
State Changed From Printed To Validated Via Transition: Validate

⊟ State Change History

Submit by NEUENFELDT, GRETA ANN	**Draft** 9/16/2008 13:37:42 Owner : NEUENFELDT, GRETA ANN	**Submit** by NEUENFELDT, GRETA ANN	**Supervisor Review** 9/16/2008 13:37:48 Owner : GAUGER, DAVID A	**Complete** by GAUGER, DAVID A	**O/R Review** 9/16/2008 18:37:21 Owner : FICTUM, HOLLY C	**Complete** by TREPTOW, ETHAN A	**CRT Review** 9/16/2008 19:04:51 Owner : FICTUM, HOLLY C
CA by OWENS, CYRENA JEAN	**CRT Assignment Creation** 9/19/2008 11:27:46 Owner : FICTUM, HOLLY C	**Complete** by OWENS, CYRENA JEAN	**Assignments Pending** 9/19/2008 11:28:26 Owner : FICTUM, HOLLY C	**Assignments Complete** by ADAMS, RICHARD W	**Trend Review** 11/10/2008 19:43:59 Owner : FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 11/14/2008 13:47:41 Owner : (None)
Transfer by RECORDS MGMT	**Transferred** 11/14/2008 17:48:52 Owner : (None)	**Print** by RECORDS MGMT	**Printed** 11/17/2008 12:11:34 Owner : (None)	**Validate** by RECORDS MGMT	**Validated** 11/17/2008 12:11:43 Owner : (None)		

⊟ Section 1

Applicable to site:	KEWA
Record #:	CR109791
Revision Number:	0
Submitter:	NEUENFELDT, GRETA ANN
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	7629
Submitter Pager Number:	704-0290
One-Line Description:	Environmental Air Sample Filter K-1f damaged
Description:	Environmental Air Sample Filter K-1f damaged Upon removal of weekly environmental air sample filter for location K-1f, found the filter damaged with numerous tears around the edge of the filter housing. Information concerning the damage to the filter paper will be recorded in the 2008 Annual Environmental Monitoring Report. Unable to locate equipment number for sampler K-1f.
Discovery Date:	9/16/2008
Discovery Time:	11:30:00
Method of Discovery:	SEFI (Self Identified)
Literal 1:	**If this CR is associated with the BACC Program, please ensure that the CR Description contains sufficient information to ensure the ability to quickly locate the component, which will ensure ALARA.**
Associated with Boric Acid?:	No
Applicable to unit:	Unit 1
Associated w/ Equipment Location?:	Yes
System(s):	63-MET
Equipment Location Display:	**Equipment Location - Critical Component - PRA Flag - Quality Classification - Component Description**
Equipment Location Links:	

Initial Actions:	Notified chemistry supervisor. Made note in paperwork provided to vendor.
Additional C/A processes req'd?:	N/A
Text Question 1:	**Provide details for any Additional C/A processes needed:**
Text Answer 1:	
C/As Initiated (REA, WR, ETC):	
Tag Hung:	No
Tag Number:	Not required
Additional Contacts:	
Supervisor - CR Review:	GAUGER, DAVID A
Question G:	**Is this CR an Operability/Reportability Issue Requiring O/R Review?**
Yes/No G:	Yes
Question H:	**Does this CR affect personnel safety?**
Yes/No H:	No
Question I:	**Does this CR affect plant safety?**
Yes/No I:	No
Question J:	**Does this CR involve plant equipment?**
Yes/No J:	No
Question K:	**Is this CR an environmental concern?**
Yes/No K:	Yes
Literal 2:	**Unit Conditions:**
Unit 1% Pwr:	100
Unit 2% Pwr:	NA
Unit 3% Pwr:	NA
Unit 1 Mode:	1 - OPERATING
Unit 2 Mode:	NA
Unit 3 Mode:	NA
OP-AA-102 Review Req'd?:	No
Is a TS SSC Affected?:	No
TS SSC Operability Assessment:	N/A
Text Question 2:	**Basis for operability:**
Text Answer 2:	N/A. Not safety related and no safeguards support functions.
Question L:	**Is an Operability Assessment req'd for an SSC, which is Functional for its TRM function, to demonstrate operability for its TS function?**
Yes / No L:	No
Literal 4:	**The basis for establishing IOD can be documented in the "Basis for Operability" field. An IOD assignment does not necessarily need to be created.**
Is an IOD Assignment Required?:	No
LCO entered:	No
Applicable LCO:	
Non-TS SSC Functionality Assessment.:	N/A
Literal 5:	**NOTE: If a RAS is to be assigned to determine the answer to the next question, select "TBD" (to be determined) for the answer to the next question.**
Does it impact a TS SSC?:	N/A

Literal 6:	**The basis for establishing Non-TS SSC Functionality may be documented in the "Basis for Operability" field. A RAS assignment does not necessarily need to be created in these instances.**
Is a RAS Assignment Needed?:	No
Literal 7:	**If this Condition Report is addressing an SSC, document the qualification status of the SSC in the following field. Otherwise select N/A. NOTE: An SSC can be Operable or Functional and still not be Fully Qualified.**
SSC Qualification Status:	N/A
Reportable condition?:	No
Text Question 3:	**Reportability Comments:**
Text Answer 3:	Not immediately reportable. Based on the information provided above this will be included in the 2008 Annual Environmental Monitoring Report.
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	
Significance:	3
Deficiency Type:	Non-Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	CR 108736 identified holes in two air sample filters.
CR FLAGS:	zz - reviewed / none selected
CRT Report Section(s):	2
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	Sig 3. CA to CY to investigate possible causes of damaged filters. The fact of having possibly compromised air sample media for this week needs to be documented in the Annual Environmental Monitoring Report. Reference CA 25166 that is open to collect all of these sorts of minor report needs for the year 2008. Note added to that CA to ensure this issue is noted in the Annual Report.
Comments:	
Old Record #:	

Section 2

Process Code:	UNK (Unknown)	**Activity Codes:**	UNK(Unknown)
Human Error Types:	(None)	**Process Related Failure:**	(None)
Org. & Mgmt Failure mode:	(None)	**HU Failure modes:**	(None)
Equipment Failure Modes:	(None)	**Primary INPO criteria:**	(None)
Secondary INPO criteria:	(None)	**Operations Hot Buttons:**	(None)
Engineering Hot Buttons:	(None)	**Maintenance Hot Buttons:**	(None)
RP Hot Buttons:	(None)	**Chemistry Hot Buttons:**	(None)
EP Hot Buttons:	(None)	**Training Hot Buttons:**	(None)
Security Hot Buttons:	(None)	**OR Hot Buttons:**	(None)

O&P Hot Buttons: (None) **NSS Hot Buttons:** (None)

Supply Chain Hot Buttons: (None) **Other Hot Buttons:** (None)

Section 3

Work Order Number(s):

Status Description:

Status Date:

Actual Finish Date:

Work Performed Description:

Section 5

CR Completed Date: 11/14/2008 14:47:41 **CR Printed Date:** 11/17/2008 12:11:34

CR Validated Date: 11/17/2008 12:11:43 **CR Who Validated:** RECORDS MGMT

RM Attachment Links:

Subtasks

Show Subtasks

Expand All

Attachments

Principal to: CA084288: KEWA - Investigate possible causes of damaged filters. (Inactive) by **OWENS, CYRENA JEAN** (9/19/2008 11:28:07)

Change History

9/16/2008 13:37:48 by NEUENFELDT, GRETA ANN
Owner Changed From NEUENFELDT, GRETA ANN To GAUGER, DAVID A
Secondary Owner Changed From GAUGER, DAVID A To AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHAW, CHAD N, SHIMULUNAS, CORY M, SIERACKI, DIANE J, SMOKER, CHARLES S, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 9/16/2008 13:37:42 To 9/16/2008 13:37:48
Last State Change Date Changed From 9/16/2008 13:37:42 To 9/16/2008 13:37:48
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR109791: KEWA - Environmental Air Sample Filter K-1f damaged (Inactive)

9/16/2008 18:37:21 by GAUGER, DAVID A
Description Changed From '[...]tal Air Sample Filter K-1f damaged Upon removal of weekly environmental air sample filter for location K-1f, found the filter damaged with numerous tears around the edge of the filter housing. Unable to locate equipment number for sampler K-1f.' To '[...]r damaged with numerous tears around the edge of the filter housing. Information concerning the damage to the filter paper will be recorded in the 2008 Annual Environmental Monitoring Report. Unable to locate equipment number for sampler K-1f.'
Yes/No H Changed From Yes To No
Yes/No I Changed From Yes To No
Yes/No J Changed From Yes To No
Owner Changed From GAUGER, DAVID A To FICTUM, HOLLY C

Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHAW, CHAD N, SHIMULUNAS, CORY M, SIERACKI, DIANE J, SMOKER, CHARLES S, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS To ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, HUSS, DUWAYNE G, IRLBECK, DAVID E, KARST

JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 9/16/2008 13:37:48 To 9/16/2008 18:37:21
Last Modifier Changed From NEUENFELDT, GRETA ANN To GAUGER, DAVID A
Last State Change Date Changed From 9/16/2008 13:37:48 To 9/16/2008 18:37:22
Last State Changer Changed From NEUENFELDT, GRETA ANN To GAUGER, DAVID A
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

9/16/2008 18:55:16 by KARST JR, DAVID A
Unit 1% Pwr Changed From " To '100'
Unit 1 Mode Changed From (None) To 1 - OPERATING
OP-AA-102 Review Req'd? Changed From (None) To No
Is a TS SSC Affected? Changed From (None) To No
TS SSC Operability Assessment Changed From (None) To N/A
Text Answer 2 Changed From " To 'N/A. Not safety related and no safeguards support functions.'
Yes / No L Changed From (None) To No
Is an IOD Assignment Required? Changed From (None) To No
LCO entered Changed From (None) To No
Non-TS SSC Functionality Assessment. Changed From (None) To N/A
Does it impact a TS SSC? Changed From (None) To N/A
Is a RAS Assignment Needed? Changed From (None) To No
SSC Qualification Status Changed From (None) To N/A
Reportable condition? Changed From (None) To No
Text Answer 3 Changed From " To 'Not immediately reportable. Based on the information provided above this will be included in the 2008 Annual Environmental Monitoring Report.'
Last Modified Date Changed From 9/16/2008 18:37:21 To 9/16/2008 18:55:16
Last Modifier Changed From GAUGER, DAVID A To KARST JR, DAVID A

9/16/2008 19:04:51 by TREPTOW, ETHAN A
Last Modified Date Changed From 9/16/2008 18:55:16 To 9/16/2008 19:04:51
Last Modifier Changed From KARST JR, DAVID A To TREPTOW, ETHAN A
Last State Change Date Changed From 9/16/2008 18:37:22 To 9/16/2008 19:04:51
Last State Changer Changed From GAUGER, DAVID A To TREPTOW, ETHAN A
State Changed From O/R Review To CRT Review Via Transition: Complete

9/17/2008 12:40:46 by ADAMS, RICHARD W
Significance Changed From (None) To 3
Deficiency Type Changed From (None) To Non-Equipment
Potential Repeat Changed From (None) To No
Previous Issues (PIs, CRs) Changed From " To 'CR 108736 identified holes in two air sample filters.'
CR FLAGS Changed From (None) To zz - reviewed / none selected
CRT Comments Changed From " To '[Appended:]Sig 3. CA to CY to investigate possible causes of damaged filters. The fact of having possibly compromised air sample media for this week needs to be documented in the Annual Environmental Monitoring Report. Reference CA 25166 that is o[...]'
Last Modified Date Changed From 9/16/2008 19:04:51 To 9/17/2008 12:40:46
Last Modifier Changed From TREPTOW, ETHAN A To ADAMS, RICHARD W

9/17/2008 12:41:26 by ADAMS, RICHARD W
Process Code Changed From (None) To UNK (Unknown)
Activity Codes Changed From (None) To UNK(Unknown)
Last Modified Date Changed From 9/17/2008 12:40:46 To 9/17/2008 12:41:26

9/18/2008 6:49:42 by ADAMS, RICHARD W
CRT Report Section(s) Changed From (None) To 1
Last Modified Date Changed From 9/17/2008 12:41:26 To 9/18/2008 6:49:42

9/19/2008 11:27:42 by OWENS, CYRENA JEAN
CRT Report Section(s) Changed From 1 To 2
Last Modified Date Changed From 9/18/2008 6:49:42 To 9/19/2008 11:27:42
Last Modifier Changed From ADAMS, RICHARD W To OWENS, CYRENA JEAN

9/19/2008 11:27:46 by OWENS, CYRENA JEAN
Last Modified Date Changed From 9/19/2008 11:27:42 To 9/19/2008 11:27:46
Last State Change Date Changed From 9/16/2008 19:04:51 To 9/19/2008 11:27:46
Last State Changer Changed From TREPTOW, ETHAN A To OWENS, CYRENA JEAN
State Changed From CRT Review To CRT Assignment Creation Via Transition: CA

9/19/2008 11:28:07 by OWENS, CYRENA JEAN
Last Modified Date Changed From 9/19/2008 11:27:46 To 9/19/2008 11:28:07
Attachment Added: CA084288: (None) - Investigate possible causes of damaged filters.

9/19/2008 11:28:26 by OWENS, CYRENA JEAN
Secondary Owner Changed From ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, HUSS, DUWAYNE G, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER,

ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, WALESH, DEBRA J, WHITE, DARYN A To AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, EDWARDS, CHARLES K, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, HALE, JAMES M., HELFENBERGER, JOHN F, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KUDICK, JESSICA L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 9/19/2008 11:28:07 To 9/19/2008 11:28:26
Last State Change Date Changed From 9/19/2008 11:27:46 To 9/19/2008 11:28:26
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

11/10/2008 19:43:59 by ADAMS, RICHARD W
Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, EDWARDS, CHARLES K, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, HALE, JAMES M., HELFENBERGER, JOHN F, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KUDICK, JESSICA L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A To AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, HALE, JAMES M., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 9/19/2008 11:28:26 To 11/10/2008 19:43:59
Last Modifier Changed From OWENS, CYRENA JEAN To ADAMS, RICHARD W
Last State Change Date Changed From 9/19/2008 11:28:26 To 11/10/2008 19:43:59
Last State Changer Changed From OWENS, CYRENA JEAN To ADAMS, RICHARD W
State Changed From Assignments Pending To Trend Review Via Transition: Assignments Complete

11/14/2008 13:47:41 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 11/14/2008 14:47:41
RM Attachment Links Changed From " To '<table width=100% border=1 cellspacing=2 cellpadding=2></table>'
Owner Changed From FICTUM, HOLLY C To (None)
Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, HALE, JAMES M., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 11/10/2008 19:43:59 To 11/14/2008 13:47:41
Last Modifier Changed From ADAMS, RICHARD W To FICTUM, HOLLY C
Close Date Changed From Unassigned To 11/14/2008 13:47:41
Last State Change Date Changed From 11/10/2008 19:43:59 To 11/14/2008 13:47:41
Last State Changer Changed From ADAMS, RICHARD W To FICTUM, HOLLY C
Active/Inactive Changed From Active To Inactive
State Changed From Trend Review To All Assignments Complete Via Transition: Trend Review Complete

11/14/2008 17:48:52 by RECORDS MGMT
Last Modified Date Changed From 11/14/2008 13:47:41 To 11/14/2008 17:48:52
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 11/14/2008 13:47:41 To 11/14/2008 17:48:52
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

11/17/2008 12:11:34 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 11/17/2008 12:11:34
Last Modified Date Changed From 11/14/2008 17:48:52 To 11/17/2008 12:11:34
Last State Change Date Changed From 11/14/2008 17:48:52 To 11/17/2008 12:11:34
State Changed From Transferred To Printed Via Transition: Print

11/17/2008 12:11:43 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 11/17/2008 12:11:43
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)
Last Modified Date Changed From 11/17/2008 12:11:34 To 11/17/2008 12:11:43
Last State Change Date Changed From 11/17/2008 12:11:34 To 11/17/2008 12:11:43
State Changed From Printed To Validated Via Transition: Validate

State Change History

Submit by NEUENFELDT, GRETA ANN	**Draft** 9/9/2008 12:43:26 Owner : NEUENFELDT, GRETA ANN	**Submit** by NEUENFELDT, GRETA ANN	**Supervisor Review** 9/9/2008 12:43:29 Owner : GAUGER, DAVID A	**Complete** by GAUGER, DAVID A	**O/R Review** 9/9/2008 14:50:34 Owner : FICTUM, HOLLY C	**Complete** by IRLBECK, DAVID E	**CRT Review** 9/9/2008 19:22:40 Owner : FICTUM, HOLLY C
Complete by OWENS, CYRENA JEAN	**Trend Review** 9/12/2008 10:39:36 Owner : FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 9/15/2008 13:17:06 Owner : (None)	**Transfer** by RECORDS MGMT	**Transferred** 9/15/2008 17:10:34 Owner : (None)	**Print** by RECORDS MGMT	**Printed** 9/24/2008 14:46:37 Owner : (None)
Validate by RECORDS MGMT	**Validated** 9/24/2008 14:46:46 Owner : (None)						

Section 1

Applicable to site:	KEWA
Record #:	CR108736
Revision Number:	0
Submitter:	NEUENFELDT, GRETA ANN
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	7629
Submitter Pager Number:	704-0290
One-Line Description:	Holes found in 2 air filters during environmental air sample collection
Description:	Holes found in 2 air filters during environmental air sample collection While removing air filters from K-1f and K-41 sample locations, found a hole in each air filter. The color distribution on the air filter was uniform, indicating uniform air flow through the filter. The holes in the filter are documented on Form SP-63-164, which is sent with the filters to the environmental vendor laboratory for analysis. Unsure of the cause of the holes in the filter, but could be caused by performing the Pre-Filter change air leak check per SP-63-164 step 6.1.1.
Discovery Date:	9/9/2008
Discovery Time:	11:00:00
Method of Discovery:	SEFI (Self Identified)
Literal 1:	**If this CR is associated with the BACC Program, please ensure that the CR Description contains sufficient information to ensure the ability to quickly locate the component, which will ensure ALARA.**
Associated with Boric Acid?:	No
Applicable to unit:	Unit 1
Associated w/ Equipment Location?:	No
System(s):	63-MET
Equipment Location Display:	**Equipment Location - Critical Component - PRA Flag - Quality Classification - Component Description**

Equipment Location Links:	
Initial Actions:	Notified chemistry supervisor.
Additional C/A processes req'd?:	N/A
Text Question 1:	**Provide details for any Additional C/A processes needed:**
Text Answer 1:	
C/As Initiated (REA, WR, ETC):	
Tag Hung:	No
Tag Number:	Not required
Additional Contacts:	
Supervisor - CR Review:	GAUGER, DAVID A
Question G:	**Is this CR an Operability/Reportability Issue Requiring O/R Review?**
Yes/No G:	Yes
Question H:	**Does this CR affect personnel safety?**
Yes/No H:	No
Question I:	**Does this CR affect plant safety?**
Yes/No I:	No
Question J:	**Does this CR involve plant equipment?**
Yes/No J:	No
Question K:	**Is this CR an environmental concern?**
Yes/No K:	No
Literal 2:	**Unit Conditions:**
Unit 1% Pwr:	100
Unit 2% Pwr:	NA
Unit 3% Pwr:	NA
Unit 1 Mode:	1 - OPERATING
Unit 2 Mode:	NA
Unit 3 Mode:	NA
OP-AA-102 Review Req'd?:	No
Is a TS SSC Affected?:	No
TS SSC Operability Assessment:	N/A
Text Question 2:	**Basis for operability:**
Text Answer 2:	N/A Per Chemistry the holes will not impact sample results to be included in the annual REMM report.
Question L:	**Is an Operability Assessment req'd for an SSC, which is Functional for its TRM function, to demonstrate operability for its TS function?**
Yes / No L:	No
Literal 4:	**The basis for establishing IOD can be documented in the "Basis for Operability" field. An IOD assignment does not necessarily need to be created.**
Is an IOD Assignment Required?:	No
LCO entered:	No
Applicable LCO:	
Non-TS SSC Functionality Assessment.:	N/A
Literal 5:	**NOTE: If a RAS is to be assigned to determine the answer to the next**

	question, select "TBD" (to be determined) for the answer to the next question.
Does it impact a TS SSC?:	N/A
Literal 6:	**The basis for establishing Non-TS SSC Functionality may be documented in the "Basis for Operability" field. A RAS assignment does not necessarily need to be created in these instances.**
Is a RAS Assignment Needed?:	No
Literal 7:	***If this Condition Report is addressing an SSC, document the qualification status of the SSC in the following field. Otherwise select N/A. NOTE: An SSC can be Operable or Functional and still not be Fully Qualified.***
SSC Qualification Status:	N/A
Reportable condition?:	No
Text Question 3:	***Reportability Comments:***
Text Answer 3:	None
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	I agree with the above assessment
Significance:	3
Deficiency Type:	Non-Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	No history of air environmental air sample media being compromised.
CR FLAGS:	zz - reviewed / none selected
CRT Report Section(s):	2
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	Sig 3. The fact of having possibly compromised air sample media for this week needs to be documented in the Annual Environmental Monitoring Report. Reference CA 25166 that is open to collect all of these sorts of minor report needs for the year 2008. Close to trend.
Comments:	
Old Record #:	

⊟ Section 2

Process Code:	UNK (Unknown)	**Activity Codes:**	UNK(Unknown)
Human Error Types:	(None)	**Process Related Failure:**	(None)
Org. & Mgmt Failure mode:	(None)	**HU Failure modes:**	(None)
Equipment Failure Modes:	(None)	**Primary INPO criteria:**	(None)
Secondary INPO criteria:	(None)	**Operations Hot Buttons:**	(None)
Engineering Hot Buttons:	(None)	**Maintenance Hot Buttons:**	(None)
RP Hot Buttons:	Environmental Monitoring (REMP)	**Chemistry Hot Buttons:**	(None)
EP Hot Buttons:	(None)	**Training Hot Buttons:**	(None)

Security Hot Buttons: (None)
OR Hot Buttons: (None)
O&P Hot Buttons: (None)
NSS Hot Buttons: (None)
Supply Chain Hot Buttons: (None)
Other Hot Buttons: (None)

⊟ Section 3

Work Order Number(s):

Status Description:

Status Date:

Actual Finish Date:

Work Performed Description:

⊟ Section 5

CR Completed Date: 9/15/2008 14:17:06 **CR Printed Date:** 9/24/2008 14:46:37

CR Validated Date: 9/24/2008 14:46:46 **CR Who Validated:** RECORDS MGMT

RM Attachment Links:

⊟ Change History

9/9/2008 12:43:29 by NEUENFELDT, GRETA ANN
Owner Changed From NEUENFELDT, GRETA ANN To GAUGER, DAVID A
Secondary Owner Changed From GAUGER, DAVID A To AITKEN, PAUL C, ALLEN, ROBERT C, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHAW, CHAD N, SHIMULUNAS, CORY M, SIERACKI, DIANE J, SMOKER, CHARLES S, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 9/9/2008 12:43:26 To 9/9/2008 12:43:29
Last State Change Date Changed From 9/9/2008 12:43:26 To 9/9/2008 12:43:29
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR108736: KEWA - Holes found in 2 air filters during environmental air sample collection (Inactive)

9/9/2008 14:50:34 by GAUGER, DAVID A
Yes/No H Changed From Yes To No
Yes/No I Changed From Yes To No
Yes/No J Changed From Yes To No
Yes/No K Changed From Yes To No
Owner Changed From GAUGER, DAVID A To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHAW, CHAD N, SHIMULUNAS, CORY M, SIERACKI, DIANE J, SMOKER, CHARLES S, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS To ALLEN, ROBERT C, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, HUSS, DUWAYNE G, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 9/9/2008 12:43:29 To 9/9/2008 14:50:34
Last Modifier Changed From NEUENFELDT, GRETA ANN To GAUGER, DAVID A
Last State Change Date Changed From 9/9/2008 12:43:29 To 9/9/2008 14:50:34
Last State Changer Changed From NEUENFELDT, GRETA ANN To GAUGER, DAVID A
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

9/9/2008 16:35:51 by PROKASH, ALVIN I
Unit 1% Pwr Changed From " To '100'

Unit 1 Mode Changed From (None) To 1 - OPERATING
OP-AA-102 Review Req'd? Changed From (None) To No
Is a TS SSC Affected? Changed From (None) To No
TS SSC Operability Assessment Changed From (None) To N/A
Text Answer 2 Changed From " To 'N/A Per Chemistry the holes will not impact sample results to be included in the annual REMM report.'
Yes / No L Changed From (None) To No
Is an IOD Assignment Required? Changed From (None) To No
LCO entered Changed From (None) To No
Non-TS SSC Functionality Assessment. Changed From (None) To N/A
Does it impact a TS SSC? Changed From (None) To N/A
Is a RAS Assignment Needed? Changed From (None) To No
SSC Qualification Status Changed From (None) To N/A
Reportable condition? Changed From (None) To No
Text Answer 3 Changed From " To 'None'
Last Modified Date Changed From 9/9/2008 14:50:34 To 9/9/2008 16:35:51
Last Modifier Changed From GAUGER, DAVID A To PROKASH, ALVIN I

9/9/2008 19:22:40 by IRLBECK, DAVID E
O/R Comments Changed From " To 'I agree with the above assessment'
Last Modified Date Changed From 9/9/2008 16:35:51 To 9/9/2008 19:22:40
Last Modifier Changed From PROKASH, ALVIN I To IRLBECK, DAVID E
Last State Change Date Changed From 9/9/2008 14:50:34 To 9/9/2008 19:22:40
Last State Changer Changed From GAUGER, DAVID A To IRLBECK, DAVID E
State Changed From O/R Review To CRT Review Via Transition: Complete

9/10/2008 11:54:36 by ADAMS, RICHARD W
Significance Changed From (None) To 3
Deficiency Type Changed From (None) To Non-Equipment
Potential Repeat Changed From (None) To No
Previous Issues (PIs, CRs) Changed From " To 'No history of air environmental air sample media being compromised.'
CR FLAGS Changed From (None) To zz - reviewed / none selected
CRT Comments Changed From " To '[Appended:]Sig 3. The fact of having possibly compromised air sample media for this week needs to be documented in the Annual Environmental Monitoring Report. CA 25166 is open to collect all of these sorts of minor report needs for the year 2008. Link[...]'
Last Modified Date Changed From 9/9/2008 19:22:40 To 9/10/2008 11:54:36
Last Modifier Changed From IRLBECK, DAVID E To ADAMS, RICHARD W

9/10/2008 11:55:14 by ADAMS, RICHARD W
Process Code Changed From (None) To UNK (Unknown)
Activity Codes Changed From (None) To UNK(Unknown)
Last Modified Date Changed From 9/10/2008 11:54:36 To 9/10/2008 11:55:14

9/10/2008 11:55:32 by ADAMS, RICHARD W
RP Hot Buttons Changed From (None) To Environmental Monitoring (REMP)
Last Modified Date Changed From 9/10/2008 11:55:14 To 9/10/2008 11:55:32

9/11/2008 6:44:24 by ADAMS, RICHARD W
CRT Report Section(s) Changed From (None) To 1
Last Modified Date Changed From 9/10/2008 11:55:32 To 9/11/2008 6:44:24

9/12/2008 10:39:33 by OWENS, CYRENA JEAN
CRT Report Section(s) Changed From 1 To 2
CRT Comments Changed From '[...]s to be documented in the Annual Environmental Monitoring Report. CA 25166 is open to collect all of these sorts of minor report needs for the year 2008. Link this CR to that CR with note added to CA to ensure this issue is addressed in the report.' To '[...] having possibly compromised air sample media for this week needs to be documented in the Annual Environmental Monitoring Report. Reference CA 25166 that is open to collect all of these sorts of minor report needs for the year 2008. Close to trend.'
Last Modified Date Changed From 9/11/2008 6:44:24 To 9/12/2008 10:39:33
Last Modifier Changed From ADAMS, RICHARD W To OWENS, CYRENA JEAN

9/12/2008 10:39:36 by OWENS, CYRENA JEAN
Secondary Owner Changed From ALLEN, ROBERT C, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, HUSS, DUWAYNE G, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A To AHRENS, GARY M, ALLEN, ROBERT C, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, EDWARDS, CHARLES K, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, HALE, JAMES M., HELFENBERGER, JOHN F, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KUDICK, JESSICA L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, OWENS, JOHN S, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 9/12/2008 10:39:33 To 9/12/2008 10:39:36

Last State Change Date Changed From 9/9/2008 19:22:40 To 9/12/2008 10:39:36
Last State Changer Changed From IRLBECK, DAVID E To OWENS, CYRENA JEAN
State Changed From CRT Review To Trend Review Via Transition: Complete

9/15/2008 13:17:06 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 9/15/2008 14:17:06
RM Attachment Links Changed From '' To '<table width=100% border=1 cellspacing=2 cellpadding=2></table>'
Owner Changed From FICTUM, HOLLY C To (None)
Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, EDWARDS, CHARLES K, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, HALE, JAMES M., HELFENBERGER, JOHN F, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KUDICK, JESSICA L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, OWENS, JOHN S, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 9/12/2008 10:39:36 To 9/15/2008 13:17:06
Last Modifier Changed From OWENS, CYRENA JEAN To FICTUM, HOLLY C
Close Date Changed From Unassigned To 9/15/2008 13:17:06
Last State Change Date Changed From 9/12/2008 10:39:36 To 9/15/2008 13:17:06
Last State Changer Changed From OWENS, CYRENA JEAN To FICTUM, HOLLY C
Active/Inactive Changed From Active To Inactive
State Changed From Trend Review To All Assignments Complete Via Transition: Trend Review Complete

9/15/2008 17:10:34 by RECORDS MGMT
Last Modified Date Changed From 9/15/2008 13:17:06 To 9/15/2008 17:10:34
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 9/15/2008 13:17:06 To 9/15/2008 17:10:34
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

9/24/2008 14:46:37 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 9/24/2008 14:46:37
Last Modified Date Changed From 9/15/2008 17:10:34 To 9/24/2008 14:46:37
Last State Change Date Changed From 9/15/2008 17:10:34 To 9/24/2008 14:46:37
State Changed From Transferred To Printed Via Transition: Print

9/24/2008 14:46:46 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 9/24/2008 14:46:46
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)
Last Modified Date Changed From 9/24/2008 14:46:37 To 9/24/2008 14:46:46
Last State Change Date Changed From 9/24/2008 14:46:37 To 9/24/2008 14:46:46
State Changed From Printed To Validated Via Transition: Validate