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DOMINION ENERGY KEWAUNEE, INC.
KEWAUNEE POWER STATION
2010 ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

Enclosed is the 2010 Annual Radiological Environmental Operating Report for the Kewaunee Power Station (KPS). This report was prepared by Environmental Inc. and satisfies the requirements of KPS Technical Specification 5.6.1.

The results of the 2010 Land Use Census, submitted in accordance with the KPS Radiological Environmental Monitoring Manual, Section 2.2.2/2.3.2, are also included in this report.

If you have questions or require additional information, please feel free to contact Mr. Jack Gadzala at 920-388-8604.

Very truly yours,

Michael J. Wilson
Director Safety and Licensing

Commitments made by this letter: NONE

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2010 Annual Environmental Monitoring Report

Kewaunee Power Station

Dominion Energy Kewaunee, Inc.

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2010 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, 2010

Prepared and submitted by:

ENVIRONMENTAL Inc.
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Project No. 8002

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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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1.0 INTRODUCTION

The Kewaunee Power Station is a 598 megawatt pressurized water reactor located on the Wisconsin shore of Lake Michigan in Kewaunee County. The Plant became critical on March 7, 1974. Initial power generation was achieved on April 8, 1974, and the Plant was declared commercial on June 16, 1974. This report summarizes the environmental operation data collected during the period January - December 2010.

Dominion Energy Kewaúnee, operator and owner of the Kewaunee Power Station, assumes responsibility for the environmental program at the Plant. Any questions should be directed to Mr. J. Michael Hale, Radiation Protection / Chemistry Manager, at (920) 388-8103.

2.0 SUMMARY

Results of sample analyses during the period January - December 2010 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 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, 1μm 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-8, K-31, K-41 and K-43), 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-8, K-31, K-41 and K-43. The filters are changed bi-weekly and analyzed for iodine-131 immediately after arrival at the laboratory.

Ambient Gamma Radiation – TLDs

Offsite ambient gamma radiation is monitored at the six air sampling locations (K-1f, K-2, K-8, K-31, K-41 and K-43), at three milk sampling locations (K-3, K-5, and K-39), and five additional sites (K-15, located 9.25 miles northwest of the plant; K-17, located 4.25 miles west of the plant; K-25, located 1.9 miles southwest 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 (TLD). 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.

Dosimeters have also been placed at eight additional locations (K-1L through K-1S), to monitor an Independent Spent Fuel Storage Installation (ISFSI). They are replaced and measured quarterly.

Precipitation

Monthly composites of precipitation samples are collected at K-11 and analyzed for tritium.

3.1.2 The Terrestrial Program

Milk

Milk samples are collected from two herds grazing within three miles of the reactor site (K-34 and K-38); from four herds that graze between 3-7 miles of the reactor site (K-3, K-5, K-35, and K-39); and one from a dairy in Green Bay (K-42), 28.1 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. The samples are analyzed for iodine-131, strontium-89 and strontium-90, calcium, stable potassium and gamma-emitting isotopes.

Well Water

One gallon of water is collected quarterly from the four off-site well locations K-10, K-11, K-13 and K-38 and from two on-site wells located at K-1g and K-1h.

Gamma spectroscopic analysis, tritium and gross beta on the total residue are performed for each water sample. The concentration of potassium-40 is calculated from total potassium. Samples of water from the two on-site wells (K-1g and K-1h) are analyzed for gross alpha. Water samples from K-1g are also tested for strontium-89 and strontium-90.

Domestic Meat

Domestic meat samples are obtained annually (third quarter) at locations K-24, K-29 and K-32 and if available at locations 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 (K-3, K-5, K-34, K-35, K-38 and K-39. Cattle feed is collected during the first quarter from the same farms. The samples are analyzed for gross beta, strontium-89, strontium-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-34, K-35, 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 2.6 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 NNE 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 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.

Algae

Algae is 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.

3.1.4 Program Execution

Program execution is summarized in Table 4.4. The program was executed for the year 2010 as described in the preceding sections, with the following exceptions:

Air Particulates / Air Iodine

(1) The run-time meter at air sampling location K-7 was inoperative for part of the week ending February 16, 2010. The meter recorded only 128.5 hours. (CR369046)

(2) K-8 air sampler hours were off by 3.73 hours due to a possible power outage. No problems were found with the sampler. (CR370747)

(3) A partial airborne particulate / airborne iodine sample was collected from location K-31 for the week ending March 30, 2010. The sampler recorded only 22 hours of run-time. (CR374322)

(4) Six new environmental Air Sampling systems were installed in August, 2010 to replace older equipment at locations K-1f, K-2, K-7, K-8, K-31 and K-41. Condition reports have since been written for observed discrepancies in flow rates for the week ending 09/21/10 at K-2 and K-41 (CR395885, CR395889), the week ending 12/07/10 at K-1 and K-2 (CR406655), and K-41 for the week ending 12/28/10 (CR408777).

Surface Water

(5) Surface water from location K-1a could not be sampled in March of 2010. The creek was frozen.

(6) Surface water from location K-1k could not be sampled in January, February or March of 2010. The pond was frozen.

3.1.5 Program Modifications

Rev. 16, 04/13/2010, of the Radiological Environmental Monitoring Manual (REMM) addressed changes to one control milk location. Hansen's Dairy K-28) went out of business in March, 2010 and was replaced by Lamar's Dairy Products (K-42). A copy of the REMM is included as Appendix D.

Six new environmental Air Sampling systems were acquired in August, 2010, to replace the older equipment in use at locations K-1f, K-2, K-7, K-8, K-31 and K-41. The installations included new weather houses for all six units and one Remote Telemetry System for installation at K-7.

In August, 2010 the sampling site, K-07, (airborne particulates, air iodine, TLDs) was moved approximately 0.2 miles SSW. The new location was renamed K-43. CR 400075 was written to address the changes, while the REMM was in the revision process.

3.2 Results and Discussion

The results for the reporting period January to December 2010 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 2010 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 2010 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 2010. 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 0.023 pCi/m3 at the indicator locations and 0.022 pCi/m3 for control locations. These averages were similar to the means observed from 1999 (and prior to) through 2009. Results are tabulated below.

Year	Average of Indicators	Average of Controls
	Concentration (pCi/m^3)	
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
2009	0.023	0.023
2010	0.023	0.022

Average annual gross beta concentrations in airborne particulates.

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 0.071 pCi/m3 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/m3 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 off-site locations, eight indicators and six controls. Quarterly TLDs at the indicator locations measured a mean dose equivalent of (15.2 mR/91 days), in close agreement with the mean at the control locations (14.3 mR/91 days). The readings are similar to the averages obtained from 1999 (and prior to) through 2009. The averages are tabulated below.

For the eight TLDs monitoring the Independent Spent Fuel Storage Installation, (K-1L through K-1S), measurements averaged 14.1 mR/91 days.

No plant effect on ambient gamma radiation was indicated These values are 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 17.7 mR/91 days, measured at indicator location K-5.

Year	Average (Indicators)	Average (Controls)
	Dose rate (mR/91 days)	
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
2009	15.2	13.9
2010	15.2	14.3

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

Precipitation

Monthly precipitation composites were monitored for tritium at the indicator location, K-11, approximately 1 mile north of the plant. The tritium concentration measured below the LLD level of 164 pCi/L for all samples.

3.2.3 The Terrestrial Environment

Milk

Of 126 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 1.3 pCi/L in all samples. Low levels of strontium-90 were found in fifty-eight of the eighty-four samples tested. Mean values were identical for indicator and control locations (0.9 pCi/L) and are similar to or less than averages seen from 1990 through 2009.

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 (1382 and 1370 pCi/L, respectively), and are comparable to levels observed from 1990 through 2009. 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. 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

Two of eight samples for gross alpha analysis, from the two on-site wells (K-1g and K-1h), tested above an LLD value of 2.4 pCi/L. Measurements ranged from 3.3 to 3.7 pCi/L. Gross beta activity, above 1.7 pCi/L was detected in eleven of twenty indicator samples tested. Concentrations ranged from 1.7 to 7.2 pCi/L. and averaged 3.3 pCi/L. No gross beta activity was detected in the four control samples above the LLD concentration of 1.7 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 0.8 and 0.5 pCi/L, respectively.

Samples were tested for tritium and gamma emitting isotopes. All tritium concentrations measured below a detection level of 190 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 concentrations averaged 0.082 pCi/g wet for all locations. Gross beta concentration averaged 2.85 pCi/g wet for indicator locations and 2.83 pCi/g wet for the control location. Gamma-spectroscopic analyses showed that almost all beta activity was due to naturally occurring potassium-40 (2.81 pCi/g wet and 2.73 pCi/g wet respectively). The differences are not significant. All other gamma-emitting isotopes were below their respective LLD limits.

Eggs

In egg samples, the gross beta concentrations averaged 1.88 pCi/g wet at the indicator location and 1.63 pCi/g wet for the control location, similar to observed concentrations of naturally-occurring potassium-40 (1.27 and 1.28 pCi/g wet respectively). Other gamma-emitting isotopes were below their respective LLDs.

Levels of strontium-89 measured below the LLD of 0.012 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 2.99 pCi/g wet at two indicator locations and 3.69 for 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 0.008 pCi/g wet and strontium-90 measured below 0.005 pCi/g wet.

In three samples (clover, corn and oats) from location K-23, gross beta concentrations averaged 5.37 pCi/g wet, due primarily to potassium-40 and beryllium-7 activity (3.42 and 1.84 pCi/g wet, respectively). Strontium-89 measured below the LLD level of 0.029 pCi/g wet, strontium-90 measured below the LLD of 0.013 pCi/g wet.

Grass and Cattle Feed

In grass, mean gross beta concentrations measured 8.78 and 11.14 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 respective LLDs. Strontium-89 measured below the LLD level of 0.034 pCi/g wet, strontium-90 measured below the LLD of 0.014 pCi/g wet.

In cattlefeed, the gross beta concentrations were slightly higher at the indicator versus control locations (10.68 pCi/g and 9.21 pCi/g wet, respectively), and reflected the potassium-40 / beryllium-7 levels observed in the samples (9.20 and 7.04 pCi/gwet, respectively.). A similar pattern has been observed in previous years. Strontium-89 levels were below the LLD level of 0.037 pCi/g wet in all samples. Strontium-90 activity, above an LLD of 0.020 pCi/g wet, was detected in three of twelve samples collected, at an average concentration of 0.020 pCi/g wet, similar or lower than levels observed in 1996 through 2009. The presence of trace radiostrontium in the environment can still be attributed to fallout from nuclear testing in previous decades.

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

Soil

Gross alpha concentrations in soil samples averaged 7.45 pCi/g dry at five indicator locations and 5.45 pCi/g dry at the two control locations. Mean gross beta levels measured at indicator and control locations averaged 30.84 and 24.43 pCi/g dry, respectively, primarily due to the potassium-40 activity. Strontium-89 was below the LLD level of 0.091 pCi/g dry in all samples. A low level of strontium-90 activity above an LLD value of 0.045 pCi/g dry was detected in one of the four control samples tested, at a concentration of 0.049 pCi /g dry.

Trace levels of cesium-137 were detected in eleven of fourteen soil samples, similar at both indicator and control locations (0.10 and 0.12 pCi/g dry, respectively). Potassium-40 was detected in all samples and averaged 20.26 and 15.14 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 2009. The data suggests no evidence of a plant effect on soil measurements.

3.2.3 The Aquatic Environment

Surface Water

In surface water, the gross beta activity measured higher at the indicator locations (4.7 pCi/L) than at the control locations (1.4 pCi/L). The pattern is similar to activity distribution observed from 1978 through 2009.

Year	Average (Indicators)	Average (Controls)
	Gross Beta (pCi/L)	
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
2009	4.7	1.5
2010	4.7	1.4

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 one of twenty-seven indicator samples tested, (quarterly composites of monthly samples), tritium activity was detected above an LLD level of 155 pCi/L, at a concentration of 163 pCi/L. All other samples measured below LLD.

Strontium-89 concentrations were below the LLD of 1.3 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 3.08 pCi/g wet in muscle and 2.34 pCi/g wet in bone fractions. In muscle, the gross beta concentration was primarily due to potassium-40 activity.

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

The strontium-89 concentration in bones was below the LLD of 0.38 pCi/g wet in all samples. Strontium-90 was detected in all samples and averaged 0.20 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 (5.02 and 4.23 pCi/g wet, respectively), due primarily to combined potassium-40 and beryllium-7 activity (4.95 and 4.48 pCi/g wet, respectively).

In one of two samples collected from location K-1e (South Creek), a trace level of cobalt-58 (0.039 pCi/gwet) was detected. Cesium-137 was measured in one of twelve indicator samples, at a level of 0.041 pCi/g wet. All other gamma-emitting isotopes, with the exception of naturally-occurring beryllium-7 and potassium-40, were below their respective LLDs.

Strontium-89 and strontium-90 concentrations were below detection limits of 0.16 and 0.061 pCi/g wet, respectively, in all samples.

Bottom Sediments

In bottom sediment samples, the mean gross beta concentrations measured 9.47 pCi/g dry at the indicator locations and 13.85 pCi/g dry at the control location.

Cs-134 measured below the LLD level of 0.019 pCi/g dry in all samples. A low level of cesium-137 was observed in two of the eight indicator samples tested and averaged 0.028 pCi/g dry. On average, cesium-137 measurements are lower than or similar to levels observed from 1979 through 2009. Other gamma-emitting isotopes, with the exception of naturally-occurring potassium-40, were below their respective LLDs.

Strontium-89 and strontium-90 concentrations were below detection limits of 0.029 and 0.025 pCi/g dry, respectively, in all samples.

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 2010 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 2, 2010. The census is conducted annually during the growing season per Health Physics Procedure HP 1.14.

Results of the 2010 census are summarized in Table 4.6. Changes from the 2009 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 2009 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, 2011). The QA Program includes participation in Interlaboratory Comparison (crosscheck) Programs. Results obtained are presented in Appendix A.

4.0 FIGURES AND TABLES

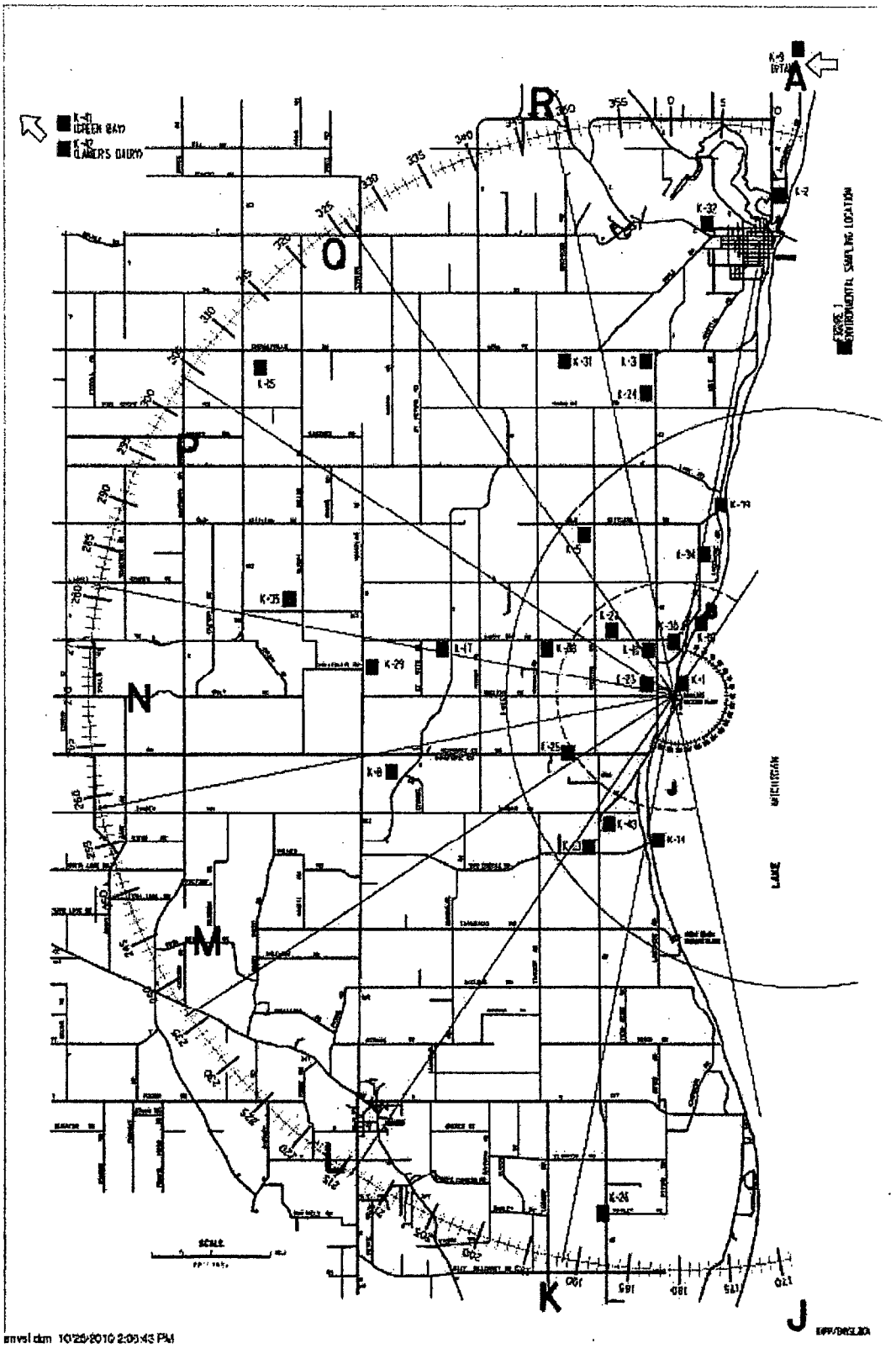

Figure 4-1. Sampling locations, Kewaunee Power Station.

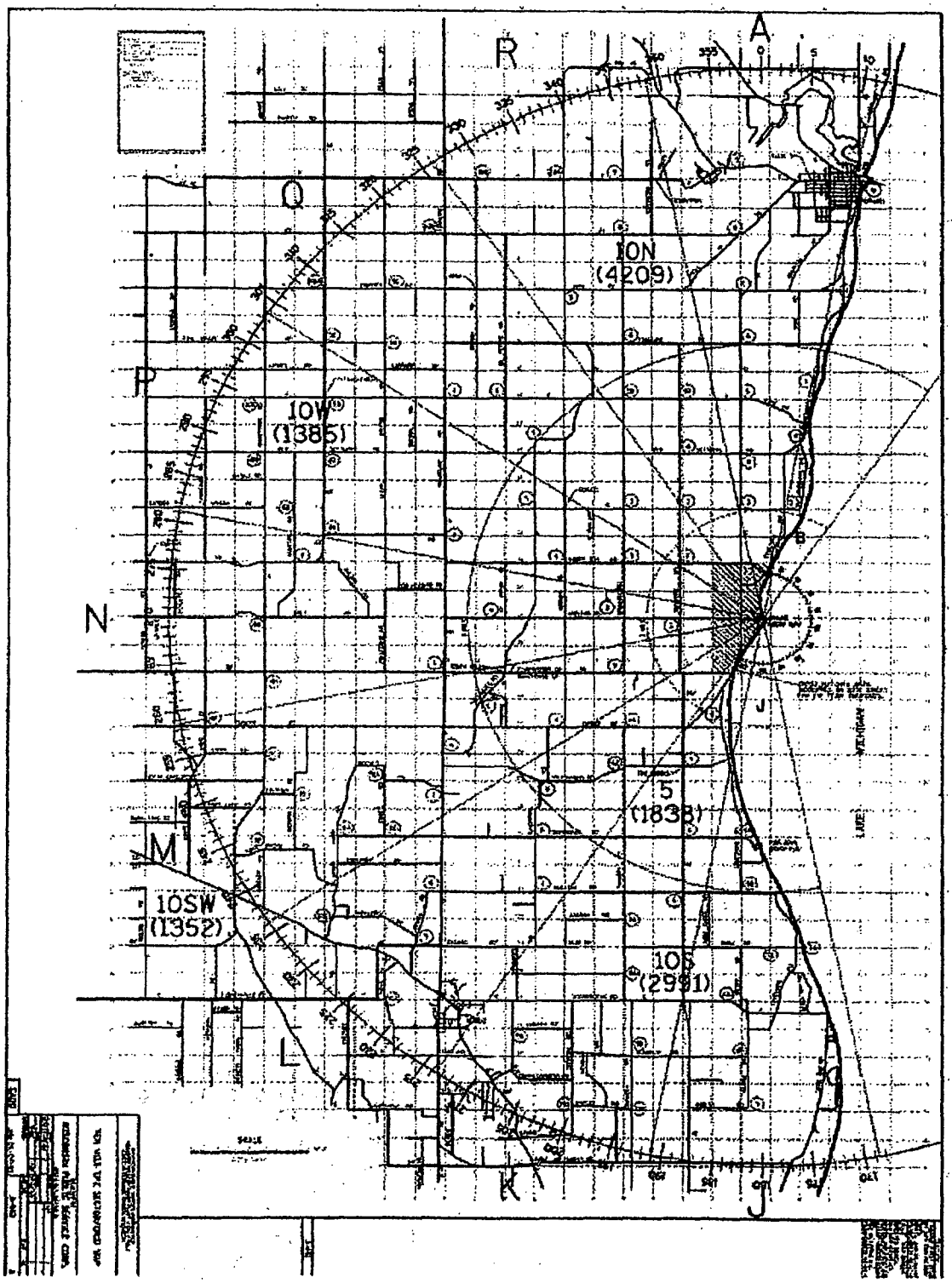

Figure 4-2. Emergency Plan Zone Map, Kewaunee Power Station.

Table 4.1. Sampling locations, Kewaunee Power Station.

Code	Type [a]	Distance (miles)[b] and Sector	Location
K-1	I		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-1l	I	0.13 N	ISFSI Southeast
K-1m	I	0.15 N	ISFSI East
K-1n	I	0.16 N	ISFSI Northwest
K-1o	I	0.16 N	ISFSI North
K-1p	I	0.17 N	ISFSI Northwest
K-1q	I	0.16 N	ISFSI West
K-1r	I	0.13 N	ISFSI West
K-1s	I	0.12 N	ISFSI Southwest
K-2	C	8.91 NNE	WPS Operations Building in Kewaunee
K-3	C	5.9 N	Lyle and John Siegmund Farm, N2815 Hy 42, Kewaunee
K-5	I	3.2 NNW	Ed Paplham Farm, E4160 Old Settlers Rd, Kewaunee
K-7	I	2.51 SSW	Ron Zimmerman Farm, 17620 Nero Road, Two Rivers
K-8	C	4.85 WSW	St. Isadore the Farmer Church, 18424 Tisch Mills Rd, Tisch Mills
K-9	C	11.5 NNE	Rostok Water Intake for Green Bay, Wisconsin, two miles north of Kewaunee
K-10	I	1.35 NNE	Turner Farm, Kewaunee site
K-11	I	0.96 NW	Harlan Ihlenfeld Farm, N879 Hy 42, Kewaunee
K-13	C	3.0 SSW	Rand's General Store, Two Creeks
K-14	I	2.6 S	Two Creeks Park, 2.6 miles south of site
K-15	C	9.25 NW	Gas Substation, 1.5 miles north of Stangelville
K-17	I	4.0 W	Jansky's Farm, N885 Tk B, Kewaunee
K-23a	I	0.5 W	0.5 miles west of plant; Kewaunee site
K-23b	I	0.6 N	0.6 miles north of plant, Kewaunee site
K-24	I	5.4 N	Fictum Farm, N2653 Hy 42, Kewaunee
K-25	I	1.9 SW	Wotachek Farm, 3968 E. Cty Tk BB, Two Rivers
K-26	C	10.7 SSW	Sandy's Vegetable Stand (8.0 miles south of "BB")
K-27	I	1.53 NW	Schlies Farm, E4298 Sandy Bay Rd, Kewaunee
K-28	C	26 NW	Hansen Dairy, 1742 University Ave., Green Bay, Wisconsin
K-29	I	5.34 W	Kunesh Farm, E3873 Cty Tk G, Kewaunee
K-30	I	0.8 N	End of site boundary
K-31	C	6.35 NNW	E. Krok Substation
K-32	C	7.8 N	Piggly Wiggly, 931 Marquette Dr., Kewaunee
K-34	I	2.7 N	Leon and Vicki Struck, N1549 Lakeshore Dr., Kewaunee
K-35	C	6.71 mi. WNW	Duane Ducat, N1215 Sleepy Hollow Rd., Kewaunee
K-36	I		Fiala's Fish market, 216 Milwaukee, Kewaunee
K-38	I	2.45 mi. WNW	Dave Sinkula Farm, N890 Town Hall Road, Kewaunee
K-39	I	3.46 mi. N	Francis and Sue Wojta, N1859 Lakeshore Dr., Kewaunee
K-41	C	22 NW	KPS-EOF, 3060 Voyager Dr. , Green Bay
K-42	C	28.1 NW	Lamers Dairy Products obtained from Green Bay Markets
K-43	I	2.71 SSW	Gary Maigatter Property, 17333 Hwy 42, Two Rivers

[a] I = indicator; C = control
[b] Distances are measured from reactor stack.

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	Fl[a]	SL BS[b]	
K-1e			SW		SL	
K-1f	AP	AI		TLD GR[a]	SO	
K-1g, K-1h				WW		
K-1j					BS[b]	
K-1k			SW		SL	
K-1l through K-1s				TLD		
K-2	AP	AI		TLD		
K-3, K-5			MI[c]	TLD GR[a]	SO	CF[d]
K-7, K-8	AP	AI		TLD		
K-9			SW		SL BS[b]	
K-10, K-13				WW		
K-11			PR	WW		
K-14			SW		SL BS[b]	
K-15, K-17				TLD		
K-23a, b						GRN / GLV
K-24				EG		DM
K-25				TLD		
K-26						VE
K-27				TLD		
K-28			MI[c]			
K-29						DM
K-30				TLD		
K-31	AP	AI		TLD		
K-32				EG		DM
K-34, K-35			MI[c]	Gr[a]	SO	CF[d]
K-38			MI[c]	Gr[a] WW	SO	CF[d]
K-39			MI[c]	TLD GR[a]	SO	CF[d]
K-41	AP	AI		TLD		
K-42 [e]			MI[c]			
K-43 [f]	AP	AI		TLD		

[a] Three times a year, second, third and fourth quarters.
[b] Collected in May and November.
[c] Monthly from November through April; semimonthly May through October
[f] K-7 replaced by K-43, August/September, 2010. New location within 0.2 miles.
[d] First quarter (January, February, March) only.
[e] Replaced K-28 in March, 2010.

Table 4.3. Sample Codes:

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

Table 4.4. Sampling Summary, January – December, 2010.

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	317	1
Airborne Iodine	C/BW	6	156	0
TLD's	C/Q	22	90	0
Precipitation	C/M	1	12	0
Terrestrial Environment				
Milk (May-Oct)	G/SM	7	84	0
(Nov-Apr)	G/M	7	42	0
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	7	0
Grain - oats	G/A	1	1	0
- clover	G/A	1	1	0
- corn	G/A	1	1	0
Grass	G/TA	8	24	0
Cattle feed	G/A	6	12	0
Soil	G/SA	7	14	0
Aquatic Environment				
Surface water	G/M	7	104	4
Fish	G/TA	1	3	0
Algae	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, 2010

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	15.2 (32/32) (10.8-19.6)	K-5, Papham farm 3.2 NNW	17.7 (4/4) (16.1-19.6)	14.3 (24/24) (10.2-17.8)	0
TLDs, Quarterly (Protected Area) (mR/91days)	Gamma 32	3.0	14.1 (32/32) (11.3-16.2)	K-1-M, ISFSI E 0.15 N	15.5 (4/4) (13.8-16.2)	none	0
Airborne Particulates (pCi/m3)	GB 312	0.002	0.023 (104/104) (0.012-0.040)	K-7 / K-43, 2.51 SSW	0.023 (52/52) (0.012-0.040)	0.022 (207/208) (0.009-0.057)	0
	GS 24						
	Be-7	0.020	0.072 (8/8) (0.054-0.090)	K-7 / K-43 2.51 SSW	0.074 (4/4) (0.054-0.090)	0.071 (16/16) (0.055-0.079)	0
	Nb-95	0.0013	< LLD	-	-	< LLD	0
	Zr-Nb-95	0.0017	< LLD	-	-	< LLD	0
	Ru-103	0.0013	< LLD	-	-	< LLD	0
	Ru-106	0.0082	< LLD	-	-	< LLD	0
	Cs-134	0.0010	< LLD	-	-	< LLD	0
	Cs-137	0.0010	< LLD	-	-	< LLD	0
	Ce-141	0.0022	< LLD	-	-	< LLD	0
	Ce-144	0.0054	< LLD	-	-	< LLD	0
Airborne Iodine (pCi/m3)	I-131 156	0.03	< LLD	-	-	< LLD	0
Precipitation (pCi/L)	H-3 12	164	< LLD	-	-	< LLD	0
Milk (pCi/L)	I-131 126	0.5	< LLD	-	-	< LLD	0
	Sr-89 84	1.3	< LLD	-	-	< LLD	0
	Sr-90 84	0.7	0.9 (31/48) (0.7-1.1)	K-3, Siegmund Farm 5.9 N	1.1 (12/12) (0.7-1.5)	0.9 (27/36) (0.7-1.5)	0
	GS 126						
	K-40	50	1382 (72/72) (1210-1536)	K-34, Struck Farm 2.7 N	1449 (18/18) (1367-1536)	1370 (54/54) (1061-1632)	0
	Cs-134	10	< LLD	-	-	< LLD	0
	Cs-137	10	< LLD	-	-	< LLD	0
	Ba-La-140	15	< LLD	-	-	< LLD	0
(g/L)	K-stable 84	1.0	1.60 (48/48) (1.46-1.81)	K-34, Struck Farm 2.7 N	1.72 (12/12) (1.61-1.81)	1.60 (36/36) (1.32-1.88)	0
(g/L)	Ca 84	0.4	1.06 (48/48) (0.88-1.23)	K-3, Siegmund Farm 5.9 N	1.16 (12/12) (0.99-1.31)	1.10 (36/36) (0.87-1.31)	0

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, 2010

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	2.4	3.5 (2/8) (3.3-3.7)	K-1g, South Well 0.06 W	3.7 (1/4)	None	0
	GB	24	1.7	3.3 (11/20) (1.7-7.2)	K-38, Sinkula 2.45 mi. WNW	6.2 (2/4) (5.1-7.2)	< LLD	0
	H-3	24	190	< LLD	-	-	None	0
	K-40(fp)	24	0.87	2.65 (20/20) (0.78-10.73)	K-38, Sinkula 2.45 mi. WNW	4.30 (4/4) (0.78-10.73)	0.99 (4/4) (0.92-1.06)	0
	Sr-89	0	0.8	< LLD	-	-	None	0
	Sr-90	0	0.5	< 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	5	0.010	0.075 (2/2) (0.071-0.078)	K-32, Grocery 7.8 mi. N	0.096 (1/1)	0.096 (1/1)	0
	GB	5	0.10	2.85 (2/2) (2.54-3.16)	K-29, Kunesh Farm 5.75 mi. W	3.16 (1/1) -	2.83 (1/1) -	0
	GS	5						
	Be-7		0.15	< LLD	-	-	< LLD	0
	K-40		0.50	2.81 (2/2) (2.64-2.97)	K-24, Fictum Farm 5.45 mi. N	2.97 (1/1)	2.73 (1/1) -	0
	Nb-95		0.027	< LLD	-	-	< LLD	0
	Zr-95		0.039	< LLD	-	-	< LLD	0
	Ru-103		0.015	< LLD	-	-	< LLD	0
	Ru-106		0.19	< LLD	-	-	< LLD	0
	Cs-134		0.019	< LLD	-	-	< LLD	0
	Cs-137		0.018	< LLD	-	-	< LLD	0
	Ce-141		0.037	< LLD	-	-	< LLD	0
	Ce-144		0.095	< LLD	-	-	< LLD	0
Eggs (pCi/gwet)	GB	8	0.010	1.88 (4/4) (1.85-1.91)	K-24, Fictum Farm 5.45 mi. N	1.88 (4/4) (1.85-1.91)	1.63 (4/4) (1.53-1.74)	0
	Sr-89	8	0.012	< LLD	-	-	< LLD	0
	Sr-90	8	0.005	< LLD	-	-	< LLD	0
	GS	8						
	Be-7		0.062	< LLD	-	-	< LLD	0
	K-40		0.50	1.27 (4/4) (1.15-1.43)	K-32, Grocery 11.5 mi. N	1.28 (4/4) (1.08-1.55)	1.28 (4/4) (1.08-1.55)	0
	Nb-95		0.013	< LLD	-	-	< LLD	0
	Zr-95		0.015	< LLD	-	-	< LLD	0
	Ru-103		0.011	< LLD	-	-	< LLD	0
	Ru-106		0.068	< LLD	-	-	< LLD	0
	Cs-134		0.009	< LLD	-	-	< LLD	0
	Cs-137		0.008	< LLD	-	-	< LLD	0
	Ce-141		0.021	< LLD	-	-	< LLD	0
	Ce-144		0.067	< LLD	-	-	< LLD	0

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, 2010

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 10	0.010	2.99 (3/3) (1.48-4.35)	K-38, Sinkula Farm 2.45 mi. WNW	3.74 (2/2) (3.13-4.35)	3.69 (7/7) (2.15-5.29)	0
	Sr-89 10	0.008	< LLD	-	-	< LLD	0
	Sr-90 10	0.005	< LLD	K-26, Vegetable Stand 10.7 SSW	0.005 (1/7)	0.005 (1/7)	0
	GS 10						0
	Be-7	0.127	< LLD	-	-	< LLD	0
	K-40	0.50	2.66 (3/3) (1.77-4.18)	K-38, Sinkula Farm 2.45 mi. WNW	3.11 (2/2) (2.03-4.18)	2.51 (7/7) (1.61-3.86)	0
	Nb-95	0.013	< LLD	-	-	< LLD	0
	Zr-95	0.019	< LLD	-	-	< LLD	0
	Ru-103	0.014	< LLD	-	-	< LLD	0
	Ru-106	0.12	< LLD	-	-	< LLD	0
	Cs-134	0.012	< LLD	-	-	< LLD	0
	Cs-137	0.016	< LLD	-	-	< LLD	0
	Ce-141	0.026	< LLD	-	-	< LLD	0
	Ce-144	0.12	< LLD	-	-	< LLD	0
Grain - (Oats, Clover, Corn) (pCi/gwet)	GB 3	0.010	5.37 (3/3) (2.60-8.67)	K-23, Kewaunee Site, 0.5 mi. W	5.37 (3/3) (2.60-8.67)	None	0
	Sr-89 3	0.029	< LLD	-	-	None	0
	Sr-90 3	0.013	< LLD	-	-	None	0
	GS 3						
	Be-7	0.061	1.84 (2/3) (1.25-2.42)	K-23, Kewaunee Site, 0.5 mi. W	1.84 (2/3) (1.25-2.42)	None	0
	K-40	0.50	3.42 (3/3) (2.07-4.50)	K-23, Kewaunee Site, 0.5 mi. W	3.42 (3/3) (2.07-4.50)	None	0
	Nb-95	0.015	< LLD	-	-	None	0
	Zr-95	0.027	< LLD	-	-	None	0
	Ru-103	0.011	< LLD	-	-	None	0
	Ru-106	0.16	< LLD	-	-	None	0
	Cs-134	0.013	< LLD	-	-	None	0
	Cs-137	0.017	< LLD	-	-	None	0
	Ce-141	0.027	< LLD	-	-	None	0
	Ce-144	0.11	< LLD	-	-	None	0
Cattlefeed (pCi/gwet)	GB 12	0.10	10.68 (8/8) (2.58-21.64)	K-39, Wojta Farm 3.46 mi. N	12.18 (2/2) (3.28-21.07)	9.21 (4/4) (2.93-18.66)	0
	Sr-89 12	0.037	< LLD	-	-	< LLD	0
	Sr-90 12	0.019	0.020 (2/8) (0.020-0.020)	K-35, Ducat 6.71 mi. WNW	0.021 (1/2)	0.021 (1/4)	0
	GS 12						
	Be-7	0.16	0.62 (3/8) (0.39-1.01)	K-38, Sinkula Farm 2.45 mi. WNW	1.01 (1/2)	0.27 (2/4) (0.19-0.35)	0
	K-40	0.10	8.58 (8/8) (2.18-18.35)	K-34, Struck Farm 2.7 N	10.27 (2/2) (2.18-18.35)	6.77 (4/4) (2.92-13.00)	0

Table 4.5 Environmental Radiation Monitoring Program Summary.

Name of Facility: Kewaunee Nuclear Power Plant
Location of Facility: Kewaunee County, Wisconsin (County, State)
Docket No. 50-305
Reporting Period: January-December, 2010

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	0.018	< LLD	-	-	< LLD	0
	Zr-95	0.022	< LLD	-	-	< LLD	0
	Ru-103	0.013	< LLD	-	-	< LLD	0
	Ru-106	0.15	< LLD	-	-	< LLD	0
	Cs-134	0.012	< LLD	-	-	< LLD	0
	Cs-137	0.015	0.032 (1/8)	K-34, Struck Farm 2.7 N	0.032 (1/2)	< LLD	0
	Ce-141	0.035	< LLD	-	-	< LLD	0
	Ce-144	0.11	< LLD	-	-	< LLD	0
Grass (pCi/gwet)	GB 24	0.10	8.78 (18/18) (6.12-10.86)	K-35, Ducat 6.71 mi. WNW	12.10 (3/3) (7.78-19.80)	11.14 (6/6) (7.78-19.80)	0
	Sr-89 24	0.034	< LLD	-	-	< LLD	0
	Sr-90 24	0.014	0.023 (2/18) (0.022-0.023)	K-35, Ducat 6.71 mi. WNW	0.028 (1/3)	0.028 (1/6)	0
	GS 24						
	Be-7	0.10	2.18 (18/18) (0.43-6.73)	K-5, Paplham Farm 3.2 NNW	3.15 (3/3) (0.43-6.73)	2.33 (6/6) (0.91-5.39)	0
	K-40	0.50	6.50 (18/18) (5.11-8.35)	K-35, Ducat 6.71 mi. WNW	8.90 (3/3) (6.17-13.40)	8.29 (6/6) (7.67-13.40)	0
	Nb-95	0.023	< LLD	-	-	< LLD	0
	Zr-95	0.039	< LLD	-	-	< LLD	0
	Ru-103	0.023	< LLD		-	< LLD	0
	Ru-106	0.24	< LLD	-	-	< LLD	0
	Cs-134	0.023	< LLD	-	-	< LLD	0
	Cs-137	0.027	< LLD	-	-	< LLD	0
	Ce-141	0.054	< LLD	-	-	< LLD	0
	Ce-144	0.19	< LLD	-	-	< LLD	0
Soil (pCi/gdry)	GA 14	1.0	7.45 (10/10) (5.14-11.85)	K-5, Paplham Farm 3.2 NNW	9.47 (2/2) (7.09-11.85)	5.45 (4/4) (3.73-7.22)	0
	GB 14	2.0	30.84 (10/10) (24.25-36.68)	K-34, Struck Farm 2.7 N	33.42 (2/0) (31.35-35.49)	24.43 (4/4) (20.75-28.43)	0
	Sr-89 14	0.091	< LLD	-	-	< LLD	0
	Sr-90 14	0.045	< LLD	K-35, Ducat 6.71 mi. WNW	0.049 (1/2)	0.049 (1/4)	0
	GS 14						
	Be-7	0.31	0.56 (2/10) (0.42-0.70)	K-5, Paplham Farm 3.2 NNW	0.70 (1/2)	0.56 (2/4) (0.45-0.67)	0
	K-40	1.4	20.26 (10/10) (17.56-23.69)	K-38, Sinkula Farm 2.45 mi. WNW	22.36 (2/2) (21.03-23.69)	15.14 (4/4) (11.83-17.06)	0
	Nb-95	0.030	< LLD	-	-	< LLD	0
	Zr-95	0.046	< LLD	-	-	< LLD	0
	Ru-103	0.032	< LLD		-	< LLD	0
	Ru-106	0.36	< LLD	-	-	< LLD	0
	Cs-134	0.038	< LLD	-	-	< LLD	0
	Cs-137	0.029	0.10 (7/10) (0.078-0.14)	K-35, Ducat 6.71 mi. WNW	0.14 (2/2) (0.13-0.15)	0.12 (4/4) (0.084-0.15)	0
	Ce-141	0.060	< LLD	-	-	< LLD	0
	Ce-144	0.18	< LLD	-	-	< LLD	0

Table 4.5 Environmental Radiation Monitoring Program Summary

Name of Facility: Kewaunee Nuclear Power Plant
Location of Facility: Kewaunee County, Wisconsin (County, State)
Docket No.: 50-305
Reporting Period: January-December, 2010

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]
Surface Water	GB (TR) 104	0.8	4.7 (80/80) (0.9-25.0)	K-1k, Drainage Pond 0.60 SW	14.1 (9/9) (4.9-25.0)	1.4 (23/24) (0.8-2.6)	0
(pCi/L)	GS 104						
	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 1	155	163 (1/27)	K-1k, Drainage Pond 0.60 mi. SW	163 (1/3)	< LLD	0
	Sr-89 1	1.3	< LLD	-	-	< LLD	0
	Sr-90 1	0.8	< LLD	-	-	< LLD	0
	K-40 104	0.87	3.7 (80/80) (1.1-22.1)	K-1k, Drainage Pond 0.60 SW	10.9 (9/9) (2.9-22.1)	1.2 (24/24) (1.0-1.2)	0
Fish (Muscle) (pCi/gwet)	GB 3	0.5	3.08 (3/3) (2.88-3.18)	K-1d, Cond. Discharge 0.10 mi. E	3.08 (3/3) (2.88-3.18)	None	0
	GS 3						
	K-40	0.5	2.06 (3/3) (1.80-2.49)	K-1d, Cond. Discharge 0.10 mi. E	2.06 (3/3) (1.80-2.49)	None	0
	Mn-54	0.019	< LLD	-	-	None	0
	Fe-59	0.050	< LLD	-	-	None	0
	Co-58	0.017	< LLD	-	-	None	0
	Co-60	0.020	< LLD	-	-	None	0
	Cs-134	0.019	< LLD	-	-	None	0
	Cs-137	0.028	< LLD	-	-	None	0
Fish (Bones) (pCi/gwet)	GB 3	1.99	2.34 (3/3) (1.64-3.26)	K-1d, Cond. Discharge 0.10 mi. E	2.34 (3/3) (1.64-3.26)	None	0
	Sr-89 3	0.38	< LLD	-	-	None	0
	Sr-90 3	0.05	0.20 (3/3) (0.14-0.26)	K-1d, Cond. Discharge 0.10 mi. E	0.20 (3/3) (0.14-0.26)	None	0

Environmental Radiation Monitoring Program Summary.

Name of Facility: Kewaunee Nuclear Power Plant
Location of Facility: Kewaunee County, Wisconsin (County, State)
Docket No.: 50-305
Reporting Period: January-December, 2010

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 (Algae)	GB	14	0.1	5.02 (12/12) (3.07-8.30)	K-1a, North Creek 0.62 N	6.82 (2/2) (5.33-8.30)	4.23 (2/2) (2.60-5.86)	0
(pCi/gwet)	Sr-89	14	0.16	< LLD	-	-	< LLD	0
	Sr-90	14	0.061	< LLD	-	-	< LLD	0
	GS	14						
	Be-7		0.36	1.52 (8/12) (1.12-2.05)	K-1e, South Creek 0.12 S	1.90 (2/2) (1.79-2.01)	0.77 (1/2)	0
	K-40		0.5	3.43 (12/12) (1.23-7.15)	K-1b, Middle Creek 0.12 N	5.52 (2/2) (3.89-7.15)	3.71 (2/2) (2.88-4.53)	0
	Mn-54		0.024	< LLD	-	-	< LLD	0
	Co-58		0.019	0.039 (1/12)	K-1e, South Creek	0.039 (1/2)	< LLD	0
	Co-60		0.030	< LLD	-	-	< LLD	0
	Nb-95		0.045	< LLD	-	-	< LLD	0
	Zr-95		0.044	< LLD	-	-	< LLD	0
	Ru-103		0.028	< LLD	-	-	< LLD	0
	Ru-106		0.29	< LLD	-	-	< LLD	0
	Cs-134		0.031	< LLD	-	-	< LLD	0
	Cs-137		0.035	0.041 (1/12)	K-1d, Cond. Discharge 0.10 mi. E	0.041 (1/2)	< LLD	0
	Ce-141		0.078	< LLD	-	-	< LLD	0
	Ce-144		0.27	< LLD	-	-	< LLD	0
Bottom Sediments	GB	10	1.0	9.47 (8/8) (7.54-15.93)	K-9, Rostok Intake #N/A	13.85 (2/2) (12.31-15.38)	13.85 (2/2) (12.31-15.38)	0
(pCi/gdry)	Sr-89	10	0.029	< LLD	-	-	< LLD	0
	Sr-90	10	0.025	0.029 (1/8)	K-14, Two Creeks Park 2.6 S	0.029 (1/2)	< LLD	0
	GS	10						
	K-40		0.5	7.92 (8/8) (6.81-9.26)	K-14. Two Creeks Park #N/A	8.93 (2/2) (8.60-9.26)	8.68 (2/2) (7.94-9.42)	0
	Co-58		0.022	< LLD	-	-	< LLD	0
	Co-60		0.021	< LLD	-	-	< LLD	0
	Cs-134		0.019	< LLD	-	-	< LLD	0
	Cs-137		0.021	0.028 (2/8) (0.027-0.028)	K-1j, Cond. Discharge 0.10 S	0.028 (1/2)	< LLD	0

[a] GA = gross alpha, GB = gross beta, GS = gamma spectroscopy, 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	
R	23			X	2.21	
R	23		X		1.84	
R	26	X			0.96	K-11
Q	23	X	X		1.37	
Q	23			X	1.53	K-27
P	22			X	3.69	
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			X	2.55	
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.

Land Use Census (continued)

The following is a sector by sector listing of those changes between the 2009 and 2010 census.

Sector A	Township 1.	Wakker farm added structures for additional milking cows.
Sector A	Township 6.	S. Ihlenfeldt residence appeared to be occupied (unconfirmed).
Sector A	Township 11.	There appeared to be milk cows on/near K. Repitz farm.
Sector B	No changes	
Sector J	No changes.	
Sector K	No changes.	
Sector M	No changes	
Sector N	No changes	
Sector P	Township 17.	Former R. Plansky residence is now empty.
Sector Q	Township 16	No milk cows observed.
Sector Q	Township 22	No milk cows observed.
Sector Q	Township 22	Told D. Jandrin has moved, could not confirm resident.
Sector R	Township 2	Brian Wauranek now runs farm.
Sector R	Township 9	No milk cows observed, only beef cattle.
Sector R	Township 15	G. Paplham now runs farm.
Sector R	Township 24	J. Walecka now lives in residence.

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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, 2010 through December, 2010

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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.

Table A-2 lists 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	5.0 pCi/liter
	> 100 pCi/liter or kg	5% of known value
Strontium-89[b]	5 to 50 pCi/liter or kg	5.0 pCi/liter
	> 50 pCi/liter or kg	10% of known value
Strontium-90[b]	2 to 30 pCi/liter or kg	5.0 pCi/liter
	> 30 pCi/liter or kg	10% of known value
Potassium-40	≥ 0.1 g/liter or kg	5% of known value
Gross alpha	≤ 20 pCi/liter	5.0 pCi/liter
	> 20 pCi/liter	25% of known value
Gross beta	≤ 100 pCi/liter	5.0 pCi/liter
	> 100 pCi/liter	5% of known value
Tritium	≤ 4,000 pCi/liter	$\pm 1\sigma = 169.85 \times (\text{known})^{0.0933}$
	> 4,000 pCi/liter	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	6 pCi/liter
	> 55 pCi/liter	10% of known value
Uranium-238, Nickel-63[b] Technetium-99[b]	≤ 35 pCi/liter	6 pCi/liter
	> 35 pCi/liter	15% of known value
Iron-55[b]	50 to 100 pCi/liter	10 pCi/liter
	> 100 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	Analysis	Concentration (pCi/L) Laboratory Result[b]	ERA Result[c]	Control Limits	Acceptance
STW-1205	04/05/10	Sr-89	63.0 ± 5.7	60.4	48.6 - 68.2	Pass
STW-1205	04/05/10	Sr-90	37.4 ± 2.4	41.3	30.4 - 47.4	Pass
STW-1206	04/05/10	Ba-133	63.6 ± 3.3	65.9	54.9 - 72.5	Pass
STW-1206	04/05/10	Co-60	83.3 ± 2.9	84.5	76.0 - 95.3	Pass
STW-1206	04/05/10	Cs-134	71.0 ± 3.4	71.6	58.4 - 78.8	Pass
STW-1206	04/05/10	Cs-137	145.5 ± 5.1	146.0	131.0 - 163.0	Pass
STW-1206	04/05/10	Zn-65	194.9 ± 7.8	186.0	167.0 - 219.0	Pass
STW-1207	04/05/10	Gr. Alpha	26.5 ± 1.7	32.9	16.9 - 42.6	Pass
STW-1207	04/05/10	Gr. Beta	34.5 ± 1.6	37.5	24.7 - 45.0	Pass
STW-1208	04/05/10	I-131	22.7 ± 0.8	26.4	21.9 - 31.1	Pass
STW-1209	04/05/10	Ra-226	15.2 ± 0.7	14.6	10.9 - 16.8	Pass
STW-1209	04/05/10	Ra-228	15.6 ± 1.8	15.1	10.1 - 18.3	Pass
STW-1209	04/05/10	Uranium	59.5 ± 0.7	62.3	50.7 - 69.1	Pass
STW-1210	04/05/10	H-3	12955 ± 332	12400.0	10800 - 13600	Pass
STW-1224	10/04/10	Sr-89	65.3 ± 5.7	68.5	55.8 - 76.7	Pass
STW-1224	10/04/10	Sr-90	39.9 ± 2.3	43.0	31.7 - 49.3	Pass
STW-1225	10/04/10	Ba-133	67.2 ± 4.3	68.9	57.5 - 75.8	Pass
STW-1225	10/04/10	Co-60	53.2 ± 3.3	53.4	48.1 - 61.3	Pass
STW-1225	10/04/10	Cs-134	47.3 ± 5.1	43.2	34.5 - 47.5	Pass
STW-1225	10/04/10	Cs-137	118.0 ± 5.9	123.0	111.0 - 138.0	Pass
STW-1225	10/04/10	Zn-65	107.0 ± 8.7	102.0	91.8 - 122.0	Pass
STW-1226	10/04/10	Gr. Alpha	30.7 ± 2.9	42.3	21.9 - 53.7	Pass
STW-1226	10/04/10	Gr. Beta	32.7 ± 0.8	36.6	24.0 - 44.2	Pass
STW-1227	10/04/10	I-131	28.6 ± 1.1	27.5	22.9 - 32.3	Pass
STW-1228	10/04/10	Ra-226	11.8 ± 0.6	11.4	8.5 - 13.2	Pass
STW-1228	10/04/10	Ra-228	12.0 ± 1.8	9.9	6.4 - 12.3	Pass
STW-1228	10/04/10	Uranium	34.8 ± 0.4	36.8	29.8 - 41.0	Pass
STW-1229	10/04/10	H-3	13682 ± 352	12900.0	11200 - 14200	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	mR Known Value	mR Lab Result ± 2 sigma	mR Control Limits	Acceptance
Environmental, Inc.						
2010-1	6/8/2010	30 cm.	75.07	90.78 ± 3.60	52.55 - 97.59	Pass
2010-1	6/8/2010	40 cm.	42.23	50.88 ± 3.59	29.56 - 54.90	Pass
2010-1	6/8/2010	50 cm.	27.03	32.12 ± 1.90	18.92 - 35.14	Pass
2010-1	6/8/2010	60 cm.	18.77	21.80 ± 0.90	13.14 - 24.40	Pass
2010-1	6/8/2010	70 cm.	13.79	15.38 ± 1.39	9.65 - 17.93	Pass
2010-1	6/8/2010	75 cm.	12.01	11.30 ± 1.07	8.41 - 15.61	Pass
2010-1	6/8/2010	80 cm.	10.56	10.90 ± 0.61	7.39 - 13.73	Pass
2010-1	6/8/2010	90 cm.	8.34	7.84 ± 0.83	5.84 - 10.84	Pass
2010-1	6/8/2010	100 cm.	6.76	6.61 ± 0.52	4.73 - 8.79	Pass
2010-1	6/8/2010	110 cm.	5.58	4.29 ± 0.55	3.91 - 7.25	Pass
2010-1	6/8/2010	120 cm.	4.69	3.64 ± 0.33	3.28 - 6.10	Pass
2010-1	6/8/2010	150 cm.	3.00	2.82 ± 0.84	2.10 - 3.90	Pass
2010-1	6/8/2010	180 cm.	2.09	1.55 ± 0.23	1.46 - 2.72	Pass
Environmental, Inc.						
2010-2	12/13/2010	100 cm.	4.94	4.65 ± 0.57	3.46 - 6.42	Pass
2010-2	12/13/2010	110 cm.	4.09	3.50 ± 0.74	2.86 - 5.32	Pass
2010-2	12/13/2010	120 cm.	3.43	2.68 ± 0.36	2.40 - 4.46	Pass
2010-2	12/13/2010	150 cm.	2.2	1.75 ± 0.42	1.54 - 2.86	Pass
2010-2	12/13/2010	180 cm.	1.53	1.32 ± 0.52	1.07 - 1.99	Pass
2010-2	12/13/2010	40 cm.	30.89	38.56 ± 2.11	21.62 - 40.16	Pass
2010-2	12/13/2010	50 cm.	19.77	23.35 ± 1.82	13.84 - 25.70	Pass
2010-2	12/13/2010	60 cm.	13.73	14.53 ± 1.24	9.61 - 17.85	Pass
2010-2	12/13/2010	60 cm.	13.73	15.84 ± 1.53	9.61 - 17.85	Pass
2010-2	12/13/2010	80 cm.	7.72	8.33 ± 0.74	5.40 - 10.04	Pass
2010-2	12/13/2010	90 cm.	6.1	5.93 ± 0.73	4.27 - 7.93	Pass

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

Lab Code [b]	Date	Analysis	Concentration (pCi/L)[a] Laboratory results 2s, n=1 [c]	Known Activity	Control Limits [d]	Acceptance
SPW-12648	1/20/2010	Ra-228	40.04 ± 2.99	40.54	28.38 - 52.70	Pass
SPW-279	1/27/2010	U-238	4.52 ± 0.22	4.17	0.00 - 16.17	Pass
SPW-391	2/4/2010	Ni-63	179.70 ± 2.96	209.62	146.73 - 272.51	Pass
W-21210	2/12/2010	Ra-226	16.05 ± 0.39	16.77	11.74 - 21.80	Pass
W-21710	2/17/2010	Gr. Alpha	17.54 ± 0.37	20.00	10.00 - 30.00	Pass
W-21710	2/17/2010	Gr. Beta	42.47 ± 0.39	45.20	35.20 - 55.20	Pass
SPAP-669	2/25/2010	Gr. Beta	45.78 ± 0.11	49.24	29.54 - 68.94	Pass
SPAP-671	2/25/2010	Cs-134	10.56 ± 3.15	10.38	0.38 - 20.38	Pass
SPAP-671	2/25/2010	Cs-137	105.36 ± 3.15	109.20	98.28 - 120.12	Pass
SPMI-674	2/25/2010	Co-60	67.38 ± 5.65	68.79	58.79 - 78.79	Pass
SPMI-674	2/25/2010	Cs-134	60.61 ± 6.28	51.91	41.91 - 61.91	Pass
SPMI-674	2/25/2010	Cs-137	173.80 ± 10.30	163.80	147.42 - 180.18	Pass
SPW-676	2/25/2010	Co-60	66.13 ± 5.22	68.79	58.79 - 78.79	Pass
SPW-676	2/25/2010	Cs-134	51.54 ± 5.97	51.91	41.91 - 61.91	Pass
SPW-676	2/25/2010	Cs-137	179.30 ± 9.95	163.80	147.42 - 180.18	Pass
SPW-678	2/25/2010	H-3	59213.70 ± 709.90	60407.70	48326.16 - 72489.24	Pass
SPF-680	2/25/2010	Cs-134	402.56 ± 22.40	415.00	373.50 - 456.50	Pass
SPF-680	2/25/2010	Cs-137	2267.90 ± 75.60	2180.00	1962.00 - 2398.00	Pass
SPW-682	2/25/2010	Tc-99	29.70 ± 1.51	32.34	20.34 - 44.34	Pass
SPW-2871	4/5/2010	Ra-228	33.91 ± 2.85	36.80	25.76 - 47.84	Pass
W-40510	4/5/2010	Gr. Alpha	20.65 ± 0.42	20.00	10.00 - 30.00	Pass
W-40510	4/5/2010	Gr. Beta	44.72 ± 0.40	45.20	35.20 - 55.20	Pass
SPW-2083	4/28/2010	U-238	4.20 ± 0.32	4.17	0.00 - 16.17	Pass
W-51310	5/13/2010	Ra-226	17.04 ± 0.50	16.77	11.74 - 21.80	Pass
SPW-3181	6/17/2010	Tc-99	29.87 ± 1.09	32.34	20.34 - 44.34	Pass
SPW-3272	6/25/2010	H-3	5489.00 ± 224.00	5928.00	4742.40 - 7113.60	Pass
SPW-3278	6/25/2010	Fe-55	17054.00 ± 348.00	19614.00	15691.20 - 23536.80	Pass
SPW-3280	6/25/2010	C-14	3410.60 ± 9.75	4738.00	2842.80 - 6633.20	Pass
SPAP-3270	6/28/2010	Cs-134	12.24 ± 3.13	10.38	0.38 - 20.38	Pass
SPAP-3270	6/28/2010	Cs-137	103.92 ± 7.14	109.20	98.28 - 120.12	Pass
SPW-3274	6/28/2010	Co-60	67.48 ± 5.53	65.84	55.84 - 75.84	Pass
SPW-3274	6/28/2010	Cs-134	49.55 ± 6.11	46.38	36.38 - 56.38	Pass
SPW-3274	6/28/2010	Cs-137	58.85 ± 6.54	54.17	44.17 - 64.17	Pass
SPW-3274	6/28/2010	Sr-90	41.59 ± 1.83	42.72	34.18 - 51.26	Pass
SPMI-3276	6/28/2010	Co-60	66.80 ± 5.25	65.84	55.84 - 75.84	Pass
SPMI-3276	6/28/2010	Cs-134	48.20 ± 3.88	46.38	36.38 - 56.38	Pass
SPMI-3276	6/28/2010	Cs-137	62.46 ± 6.33	54.17	44.17 - 64.17	Pass
SPMI-3276	6/28/2010	Sr-90	43.32 ± 1.63	42.72	34.18 - 51.26	Pass

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

Lab Code [b]	Date	Analysis	Concentration (pCi/L)[a] Laboratory results 2s, n=1	Known Activity	Control Limits[c]	Acceptance
SPW-5081	9/9/2010	Tc-99	30.22 ± 1.06	32.34	20.34 - 44.34	Pass
W-90910	9/9/2010	Gr. Alpha	20.95 ± 0.43	20.00	10.00 - 30.00	Pass
W-90910	9/9/2010	Gr. Beta	45.20 ± 0.41	45.20	35.20 - 55.20	Pass
W-91010	9/10/2010	Ra-226	17.48 ± 0.50	16.77	11.74 - 21.80	Pass
SPW-2874	9/23/2010	Ra-228	34.60 ± 2.68	36.80	25.76 - 47.84	Pass
XWW-5302	10/6/2010	Ba-133	154.13 ± 8.90	155.21	139.69 - 170.73	Pass
XWW-5302	10/6/2010	Co-60	24.65 ± 4.11	23.28	13.28 - 33.28	Pass
XWW-5302	10/6/2010	Cs-134	14.03 ± 3.87	13.95	3.95 - 23.95	Pass
XWW-5302	10/6/2010	Cs-137	61.16 ± 6.08	59.22	49.22 - 69.22	Pass
SPW-6035	10/21/2010	U-238	4.52 ± 0.20	4.17	0.00 - 16.17	Pass
W-120110	12/1/2010	Gr. Alpha	20.27 ± 0.41	20.00	10.00 - 30.00	Pass
W-120110	12/1/2010	Gr. Beta	46.75 ± 0.41	45.20	35.20 - 55.20	Pass
W-121610	12/16/2010	Ra-226	17.99 ± 0.43	16.77	11.74 - 21.80	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.

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) LLD	Activity[c]	Acceptance Criteria (4.66 σ)
SPW-12658	Water	1/20/2010	Ra-228	0.79	0.61 ± 0.44	2
SPW-280	Water	1/27/2010	U-238	0.18	0.07 ± 0.13	1
SPW-392	Water	2/4/2010	Ni-63	15.90	-11.80 ± 9.40	20
W-21210	Water	2/12/2010	Ra-226	0.03	0.06 ± 0.02	1
W-21710	Water	2/17/2010	Gr. Alpha	0.41	0.09 ± 0.30	1
W-21710	Water	2/17/2010	Gr. Beta	0.73	0.23 ± 0.52	3.2
SPAP-668	Air Filter	2/25/2010	Gr. Beta	0.11	0.008 ± 0.002	3.2
SPAP-670	Air Filter	2/25/2010	Cs-134	1.87	-	100
SPAP-670	Air Filter	2/25/2010	Cs-137	2.31	-	100
SPMI-672	Milk	2/25/2010	Cs-137	3.52	-	10
SPMI-672	Milk	2/25/2010	I-131(G)	6.09	-	20
SPW-675	Water	2/25/2010	Co-60	1.55	-	10
SPW-675	Water	2/25/2010	Cs-137	2.69	-	10
SPW-675	Water	2/25/2010	I-131(G)	5.68	-	20
SPF-679	Fish	2/25/2010	Cs-134	10.94	-	100
SPF-679	Fish	2/25/2010	Cs-137	18.37	-	100
SPW-681	Water	2/25/2010	Tc-99	16.11	-10.75 ± 9.53	10
SPW-2881	Water	4/5/2010	Ra-228	0.89	0.22 ± 0.44	2
W-40510	Water	4/5/2010	Gr. Alpha	0.40	-0.20 ± 0.26	1
W-40510	Water	4/5/2010	Gr. Beta	0.75	-0.09 ± 0.52	3.2
SPW-2084	Water	4/28/2010	U-238	0.14	0.03 ± 0.10	1
W-51310	Water	5/13/2010	Ra-226	0.03	0.06 ± 0.02	1
SPW-3271	Water	6/25/2010	H-3	151.60	-58.10 ± 71.90	200
SPW-3278	Water	6/25/2010	Fe-55	634.50	256.80 ± 396.40	1000
SPW-3279	water	6/25/2010	C-14	8.57	-1.84 ± 5.18	200
SPAP-3269	Air Filter	6/28/2010	Cs-134	1.71	-	100
SPAP-3269	Air Filter	6/28/2010	Cs-137	2.42	-	100
SPW-3273	Water	6/28/2010	Co-60	1.64	-	10
SPW-3273	Water	6/28/2010	Cs-134	3.89	-	10
SPW-3273	Water	6/28/2010	Cs-137	4.29	-	10
SPW-3273	water	6/25/2010	Sr-90	0.50	-0.04 ± 0.22	1
SPMI-3275	Milk	6/28/2010	Cs-134	3.33	-	10
SPMI-3275	Milk	6/28/2010	Cs-137	3.82	-	10
SPMI-3275	Milk	6/28/2010	I-131(G)	3.71	-	20
SPMI-3275	Milk	6/28/2010	Sr-90	0.58	0.81 ± 0.36	1

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

Lab Code	Sample Type	Date	Analysis[b]	Concentration (pCi/L)[a] Laboratory results (4.66σ) LLD	Activity[c]	Acceptance Criteria (4.66 σ)
SPW-5080	Water	9/9/2010	Tc-99	2.15	-0.71 ± 1.29	10
W-90910	Water	9/9/2010	Gr. Alpha	0.39	0.10 ± 0.28	1
W-90910	Water	9/9/2010	Gr. Beta	0.78	-0.09 ± 0.55	3.2
W-91010	Water	9/10/2010	Ra-226	0.04	0.07 ± 0.03	1
SPW-2884	Water	9/23/2010	Ra-228	0.71	1.14 ± 0.46	2
SPW-6036	Water	10/21/2010	U-238	0.11	0.07 ± 0.10	1
W-120110	Water	12/1/2010	Gr. Alpha	0.43	-0.05 ± 0.29	1
W-120110	Water	12/1/2010	Gr. Beta	0.75	-0.08 ± 0.53	3.2
W-121610	Water	12/16/2010	Ra-226	0.03	0.04 ± 0.02	1
BKW-120610	water	12/6/2010	Ba-133	5.66	-	10
BKW-120610	water	12/6/2010	Co-60	4.49	-	10
BKW-120610	water	12/6/2010	Cs-134	4.41	-	10
BKW-120610	water	12/6/2010	Cs-137	5.33	-	10
W-121610	Water	12/16/2010	Ra-226	0.03	0.04 ± 0.02	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.

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
CF-20, 21	1/4/2010	Gr. Beta	10.96 ± 0.27	11.30 ± 0.28	11.13 ± 0.19	Pass
CF-20, 21	1/4/2010	K-40	8.88 ± 0.48	8.27 ± 0.78	8.58 ± 0.46	Pass
CF-20, 21	1/4/2010	Sr-90	0.02 ± 0.01	0.02 ± 0.01	0.02 ± 0.00	Pass
CF-41, 42	1/4/2010	Be-7	0.45 ± 0.11	0.41 ± 0.14	0.43 ± 0.09	Pass
CF-41, 42	1/4/2010	Gr. Beta	3.26 ± 0.10	3.33 ± 0.11	3.30 ± 0.07	Pass
CF-41, 42	1/4/2010	K-40	2.85 ± 0.36	3.04 ± 0.22	2.95 ± 0.21	Pass
MI-111, 112	1/12/2010	K-40	1276.00 ± 98.96	1334.80 ± 105.00	1305.40 ± 72.14	Pass
DW-10010, 10011	1/13/2010	Ra-226	0.48 ± 0.10	0.43 ± 0.10	0.46 ± 0.07	Pass
DW-10010, 10011	1/13/2010	Ra-226	1.59 ± 0.61	1.13 ± 0.47	1.36 ± 0.39	Pass
WW-215, 216	1/18/2010	H-3	211.16 ± 87.57	291.90 ± 91.31	251.53 ± 63.26	Pass
DW-10022, 10023	1/21/2010	Ra-226	8.57 ± 0.91	10.20 ± 1.08	9.39 ± 0.71	Pass
DW-10022, 10023	1/21/2010	Ra-228	5.68 ± 1.36	3.59 ± 1.17	4.64 ± 0.90	Pass
WW-424, 425	1/28/2010	H-3	422.30 ± 95.90	484.20 ± 98.50	453.25 ± 68.74	Pass
DW-10034, 10035	1/28/2010	Ra-226	0.93 ± 0.13	0.90 ± 0.11	0.92 ± 0.09	Pass
DW-10034, 10035	1/28/2010	Ra-228	1.16 ± 0.62	1.29 ± 0.62	1.23 ± 0.44	Pass
SW-382, 383	2/1/2010	Gr. Beta	2.22 ± 0.68	1.18 ± 0.71	1.70 ± 0.49	Pass
DW-10046, 10047	2/2/2010	Ra-226	6.11 ± 0.91	7.88 ± 1.17	7.00 ± 0.74	Pass
DW-10046, 10047	2/2/2010	Ra-228	5.84 ± 1.11	6.13 ± 1.14	5.99 ± 0.80	Pass
WW-693, 694	2/23/2010	H-3	1458.00 ± 131.00	1531.00 ± 133.00	1494.50 ± 93.34	Pass
SW-782, 783	3/1/2010	Gr. Beta	1.05 ± 0.42	1.60 ± 0.43	1.33 ± 0.30	Pass
SW-782, 783	3/1/2010	K-40	1.50 ± 0.15	1.52 ± 0.15	1.51 ± 0.11	Pass
MI-946, 947	3/9/2010	K-40	1485.00 ± 109.30	1347.40 ± 108.30	1416.20 ± 76.93	Pass
W-1035, 1036	3/17/2010	Ra-226	11.78 ± 1.51	9.76 ± 1.26	10.77 ± 0.98	Pass
W-1035, 1036	3/17/2010	Ra-228	5.31 ± 2.42	8.45 ± 2.78	6.88 ± 1.84	Pass
SW-1285, 1286	3/17/2010	H-3	377.60 ± 104.50	282.70 ± 100.70	330.15 ± 72.56	Pass
W-1103, 1104	3/18/2010	H-3	12690 ± 333	12679 ± 333	12685 ± 235	Pass
WW-1193, 1194	3/18/2010	H-3	227.38 ± 95.19	251.81 ± 96.15	239.60 ± 67.65	Pass
LW-1909, 1910	3/24/2010	H-3	1529.40 ± 144.60	1404.40 ± 140.80	1466.90 ± 100.91	Pass
LW-1909, 1910	3/25/2010	H-3	2.40 ± 0.97	1.99 ± 1.03	2.20 ± 0.71	Pass
DW-10068, 10069	3/25/2010	Gr. Alpha	1.08 ± 1.02	1.35 ± 1.05	1.22 ± 0.73	Pass
DW-10070, 10071	3/29/2010	Ra-226	1.58 ± 0.17	1.69 ± 0.16	1.64 ± 0.12	Pass
DW-10070, 10071	3/29/2010	Ra-228	1.16 ± 0.47	1.34 ± 0.49	1.25 ± 0.34	Pass
AP-1729, 1730	3/30/2010	Be-7	0.08 ± 0.01	0.08 ± 0.01	0.08 ± 0.01	Pass
AP-1782, 1783	3/30/2010	Be-7	0.08 ± 0.01	0.09 ± 0.01	0.09 ± 0.01	Pass
E-1392, 1393	4/1/2010	Gr. Beta	1.59 ± 0.07	1.66 ± 0.08	1.63 ± 0.05	Pass
E-1392, 1393	4/1/2010	K-40	902.30 ± 179.00	1076.70 ± 202.90	989.50 ± 135.29	Pass
WW-1422, 1423	4/1/2010	Gr. Beta	22.23 ± 1.58	19.42 ± 1.40	20.83 ± 1.06	Pass
SW-1464, 1465	4/1/2010	H-3	262.06 ± 98.96	233.18 ± 97.75	247.62 ± 69.55	Pass
XW-1666, 1667	4/1/2010	Fe-55	7.05 ± 0.71	7.25 ± 0.74	7.15 ± 0.51	Pass
SG-1532, 1533	4/6/2010	Ac-228	19.45 ± 1.14	20.07 ± 1.19	19.76 ± 0.82	Pass
SG-1532, 1533	4/6/2010	Pb-214	12.66 ± 0.52	13.32 ± 0.54	12.99 ± 0.38	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
SG-1506, 1507	4/7/2010	Ac-228	1.28 ± 0.15	1.15 ± 0.14	1.22 ± 0.10	Pass
SG-1506, 1507	4/7/2010	Pb-214	1.24 ± 0.10	1.22 ± 0.09	1.23 ± 0.07	Pass
SW-1645, 1646	4/14/2010	H-3	312.00 ± 100.00	352.00 ± 102.00	332.00 ± 71.42	Pass
DW-10095, 10096	4/14/2010	Ra-226	4.87 ± 0.53	5.57 ± 0.61	5.22 ± 0.40	Pass
DW-10095, 10096	4/14/2010	Ra-228	2.49 ± 0.56	2.76 ± 0.60	2.63 ± 0.41	Pass
W-2013, 2014	4/16/2010	Gr. Alpha	33.45 ± 3.98	39.11 ± 4.54	36.28 ± 3.02	Pass
W-2013, 2014	4/16/2010	Gr. Beta	14.83 ± 0.96	16.07 ± 0.96	15.45 ± 0.68	Pass
WW-2431, 2432	4/19/2010	H-3	400.40 ± 98.10	377.70 ± 97.10	389.05 ± 69.01	Pass
SO-2037, 2038	4/22/2010	K-40	2.89 ± 0.40	2.89 ± 0.51	2.89 ± 0.32	Pass
W-2325, 2326	4/26/2010	H-3	399.00 ± 92.00	429.00 ± 94.00	414.00 ± 65.76	Pass
AP-2149, 2150	4/29/2010	Be-7	0.14 ± 0.08	0.26 ± 0.12	0.20 ± 0.07	Pass
LW-2191, 2192	4/29/2010	Gr. Beta	1.16 ± 0.56	0.79 ± 0.52	0.97 ± 0.38	Pass
G-2170, 2171	5/3/2010	Be-7	0.91 ± 0.32	0.86 ± 0.26	0.89 ± 0.21	Pass
G-2170, 2171	5/3/2010	Gr. Beta	8.73 ± 0.22	9.01 ± 0.23	8.87 ± 0.16	Pass
G-2170, 2171	5/3/2010	K-40	7.24 ± 0.44	7.48 ± 0.78	7.36 ± 0.45	Pass
SWT-2282, 2283	5/4/2010	Gr. Beta	0.73 ± 0.52	1.58 ± 0.57	1.16 ± 0.39	Pass
WW-2233, 2234	5/5/2010	Gr. Alpha	1.56 ± 1.47	2.27 ± 1.65	1.92 ± 1.10	Pass
WW-2233, 2234	5/5/2010	Gr. Beta	2.33 ± 1.14	4.08 ± 1.24	3.21 ± 0.84	Pass
TD-2410, 2411	5/10/2010	H-3	431.92 ± 96.50	403.05 ± 95.26	417.48 ± 67.80	Pass
SG-2347, 2348	5/13/2010	Ra-226	37.34 ± 0.42	37.91 ± 0.36	37.63 ± 0.28	Pass
F-2463, 2464	5/17/2010	K-40	2.69 ± 0.56	2.65 ± 0.38	2.67 ± 0.34	Pass
XW-2834, 2835	5/20/2010	H-3	209.53 ± 83.34	263.11 ± 85.95	236.32 ± 59.86	Pass
WW-2597, 2598	5/25/2010	H-3	288.10 ± 98.20	155.80 ± 93.40	221.95 ± 67.76	Pass
MI-2639, 2640	5/25/2010	K-40	1428.80 ± 110.60	1408.60 ± 107.40	1418.70 ± 77.08	Pass
SL-2771, 2772	6/1/2010	Gr. Beta	5.33 ± 0.18	5.30 ± 0.18	5.32 ± 0.13	Pass
SL-2771, 2772	6/1/2010	K-40	4.67 ± 0.46	4.88 ± 0.46	4.78 ± 0.33	Pass
SW-2879, 2880	6/1/2010	H-3	335.60 ± 92.60	356.40 ± 93.60	346.00 ± 65.83	Pass
SG-2904, 2905	6/7/2010	Gamma	5.20 ± 0.20	5.50 ± 0.10	5.35 ± 0.11	Pass
SO-3039, 3040	6/8/2010	Be-7	0.12 ± 0.03	0.13 ± 0.08	0.13 ± 0.04	Pass
SO-3039, 3040	6/8/2010	Cs-137	0.01 ± 0.00	0.01 ± 0.00	0.01 ± 0.00	Pass
SO-3039, 3040	6/8/2010	Gr. Beta	22.80 ± 2.05	23.84 ± 2.44	23.32 ± 1.59	Pass
SO-3039, 3040	6/8/2010	K-40	11.30 ± 1.20	11.70 ± 1.20	11.50 ± 0.85	Pass
SO-3039, 3040	6/8/2010	U-233/4	0.12 ± 0.02	0.13 ± 0.01	0.13 ± 0.01	Pass
SO-3039, 3040	6/8/2010	U-238	0.12 ± 0.01	0.13 ± 0.01	0.13 ± 0.01	Pass
WW-3060, 3061	6/14/2010	H-3	199.16 ± 95.13	203.59 ± 95.34	201.38 ± 67.34	Pass
VE-3351, 3352	6/21/2010	Be-7	1.86 ± 0.25	1.85 ± 0.27	1.85 ± 0.18	Pass
VE-3351, 3352	6/21/2010	K-40	6.10 ± 0.52	6.10 ± 0.57	6.10 ± 0.39	Pass
W-3469, 3470	6/25/2010	H-3	573.00 ± 110.00	525.00 ± 108.00	549.00 ± 77.08	Pass
SG-3539, 3540	6/29/2010	Ac-228	14.55 ± 0.51	14.57 ± 0.44	14.56 ± 0.34	Pass
SG-3539, 3540	6/29/2010	Pb-214	15.50 ± 1.56	16.80 ± 1.71	16.15 ± 1.16	Pass
AP-3743, 3744	6/30/2010	Be-7	0.07 ± 0.01	0.07 ± 0.01	0.07 ± 0.01	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
G-3427, 3428	7/1/2010	Be-7	1.18 ± 0.29	1.06 ± 0.25	1.12 ± 0.19	Pass
G-3427, 3428	7/1/2010	K-40	8.79 ± 0.64	7.85 ± 0.65	8.32 ± 0.46	Pass
SW-3512, 3513	7/6/2010	H-3	441.00 ± 103.00	423.00 ± 102.00	432.00 ± 72.48	Pass
AP-3680, 3681	7/8/2010	Be-7	0.16 ± 0.08	0.13 ± 0.07	0.15 ± 0.05	Pass
VE-3791, 3792	7/12/2010	K-40	4.37 ± 0.38	4.23 ± 0.35	4.30 ± 0.26	Pass
WW-3934, 3935	7/12/2010	H-3	3091.00 ± 187.00	3242.00 ± 191.00	3166.50 ± 133.65	Pass
DW-10135, 10136	7/13/2010	Ra-226	0.18 ± 0.07	0.26 ± 0.07	0.22 ± 0.05	Pass
DW-10135, 10136	7/13/2010	Ra-228	0.76 ± 0.44	0.81 ± 0.41	0.79 ± 0.30	Pass
W-4063, 4064	7/14/2010	H-3	469.00 ± 104.00	351.00 ± 99.00	410.00 ± 71.79	Pass
DW-10143, 10144	7/19/2010	Gr. Alpha	2.84 ± 0.74	2.49 ± 0.73	2.67 ± 0.52	Pass
DW-10148, 10149	7/23/2010	Ra-226	2.08 ± 0.39	2.97 ± 0.55	2.53 ± 0.34	Pass
DW-10148, 10149	7/23/2010	Ra-228	1.90 ± 0.61	2.00 ± 0.61	1.95 ± 0.43	Pass
DW-10159, 10160	7/23/2010	Ra-226	0.91 ± 0.14	0.79 ± 0.21	0.85 ± 0.13	Pass
DW-10159, 10160	7/23/2010	Ra-228	1.41 ± 0.54	1.30 ± 0.53	1.36 ± 0.38	Pass
SL-4106, 4107	8/2/2010	Be-7	2.05 ± 0.20	2.05 ± 0.18	2.05 ± 0.13	Pass
SL-4106, 4107	8/2/2010	Gr. Beta	5.06 ± 0.32	4.62 ± 0.30	4.84 ± 0.22	Pass
SL-4106, 4107	8/2/2010	K-40	1.89 ± 0.24	1.70 ± 0.17	1.80 ± 0.15	Pass
SG-4085, 4086	8/3/2010	Ra-226	20.23 ± 2.04	21.45 ± 2.16	20.84 ± 1.49	Pass
SG-4085, 4086	8/3/2010	Ra-228	15.88 ± 0.41	16.24 ± 0.36	16.06 ± 0.27	Pass
SWT-4304, 4305	8/3/2010	Gr. Beta	2.08 ± 1.07	2.44 ± 0.98	2.26 ± 0.73	Pass
BS-4398, 4399	8/10/2010	Cs-137	78.80 ± 33.50	94.30 ± 51.90	86.55 ± 30.89	Pass
BS-4398, 4399	8/10/2010	K-40	13708 ± 795	12091 ± 1110	12900 ± 683	Pass
VE-4531, 4532	8/11/2010	Gr. Beta	36.20 ± 0.90	35.80 ± 0.90	36.00 ± 0.64	Pass
VE-4531, 4532	8/11/2010	K-40	27.31 ± 0.70	27.58 ± 0.62	27.45 ± 0.47	Pass
VE-4531, 4532	8/11/2010	U-233/4	0.014 ± 0.003	0.014 ± 0.003	0.014 ± 0.002	Pass
VE-4531, 4532	8/11/2010	U-238	0.012 ± 0.003	0.010 ± 0.002	0.011 ± 0.002	Pass
DW-10170, 10171	8/13/2010	Ra-226	1.32 ± 0.14	1.26 ± 0.14	1.29 ± 0.10	Pass
DW-10170, 10171	8/13/2010	Ra-228	2.55 ± 0.78	1.76 ± 0.71	2.16 ± 0.53	Pass
AP-4766, 4767	8/26/2010	Be-7	0.18 ± 0.09	0.25 ± 0.13	0.22 ± 0.08	Pass
DW-10182, 10183	8/27/2010	Ra-226	0.15 ± 0.08	0.11 ± 0.07	0.13 ± 0.05	Pass
VE-4928, 4929	9/1/2010	K-40	2.99 ± 0.41	3.18 ± 0.28	3.09 ± 0.25	Pass
SL-4883, 4884	9/1/2010	Gr. Beta	6.90 ± 0.20	7.10 ± 0.20	7.00 ± 0.14	Pass
SL-4883, 4884[b]	9/1/2010	K-40	7.15 ± 0.99	5.07 ± 0.51	6.11 ± 0.56	Fail
W-5135, 5136	9/6/2010	H-3	658.60 ± 110.80	600.90 ± 108.50	629.75 ± 77.54	Pass
SW-5071, 5072	9/13/2010	H-3	186.70 ± 101.10	267.30 ± 104.40	227.00 ± 72.66	Pass
XWW-5246, 5247	9/14/2010	H-3	1990.60 ± 157.70	1986.20 ± 157.60	1988.40 ± 111.48	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
VE-5114, 5115	9/9/2010	Be-7	1.14 ± 0.35	1.48 ± 0.26	1.31 ± 0.22	Pass
VE-5114, 5115	9/9/2010	Gr. Beta	34.72 ± 1.29	33.38 ± 1.23	34.05 ± 0.89	Pass
VE-5114, 5115	9/9/2010	H-3	79367 ± 837	79421 ± 837	79394 ± 592	Pass
VE-5114, 5115	9/9/2010	K-40	22.13 ± 0.67	21.93 ± 0.58	22.03 ± 0.44	Pass
VE-5114, 5115	9/9/2010	U-233/4	0.08 ± 0.01	0.06 ± 0.01	0.07 ± 0.01	Pass
MI-5267, 5268	9/20/2010	K-40	1281.10 ± 118.90	1218.60 ± 110.80	1249.85 ± 81.26	Pass
SO-5357, 5358	9/23/2010	K-40	10894.00 ± 560.00	11175.00 ± 760.00	11034.50 ± 472.02	Pass
AP-5357, 5358	9/23/2010	Be-7	0.11 ± 0.02	0.09 ± 0.02	0.10 ± 0.01	Pass
DW-10194, 10195	9/23/2010	Ra-226	0.40 ± 0.10	0.20 ± 0.10	0.30 ± 0.07	Pass
DW-10194, 10195	9/23/2010	Ra-228	1.61 ± 0.65	0.88 ± 0.47	1.25 ± 0.40	Pass
WW-5442, 5443	9/29/2010	H-3	6706.00 ± 252.00	6510.00 ± 249.00	6608.00 ± 177.13	Pass
VE-5469, 5470	9/29/2010	K-40	2.86 ± 0.38	2.57 ± 0.37	2.72 ± 0.26	Pass
BS-5886, 5887	9/29/2010	Cs-137	83.36 ± 23.31	58.97 ± 21.16	71.17 ± 15.74	Pass
BS-5886, 5887	9/29/2010	K-40	13913.00 ± 775.40	13582.00 ± 710.30	13747.50 ± 525.78	Pass
G-5513, 5514	10/4/2010	Be-7	6.73 ± 0.40	6.36 ± 0.41	6.55 ± 0.29	Pass
E-5492, 5493	10/4/2010	Gr. Beta	1.74 ± 0.05	1.77 ± 0.05	1.76 ± 0.04	Pass
E-5492, 5493	10/4/2010	K-40	1.57 ± 0.17	1.55 ± 0.18	1.56 ± 0.12	Pass
G-5512, 5513	10/4/2010	Gr. Beta	10.86 ± 0.44	10.39 ± 0.39	10.63 ± 0.29	Pass
G-5512, 5513	10/4/2010	K-40	7.10 ± 0.54	7.41 ± 0.59	7.26 ± 0.40	Pass
MI-5541, 5542	10/4/2010	K-40	1090.60 ± 106.70	1246.10 ± 102.60	1168.35 ± 74.01	Pass
MI-5541, 5542	10/4/2010	Sr-90	1.44 ± 0.38	1.11 ± 0.35	1.27 ± 0.26	Pass
F-6061, 6062	10/9/2010	H-3	7.64 ± 0.23	7.49 ± 0.23	7.57 ± 0.16	Pass
F-6061, 6062	10/9/2010	K-40	2.81 ± 0.40	2.56 ± 0.50	2.68 ± 0.32	Pass
VE-5740, 5741	10/10/2010	K-40	4.92 ± 0.53	4.61 ± 0.34	4.77 ± 0.32	Pass
VE-5761, 5762	10/12/2010	Be-7	1.05 ± 0.29	0.69 ± 0.15	0.87 ± 0.16	Pass
VE-5761, 5762	10/12/2010	K-40	3.45 ± 0.45	3.34 ± 0.29	3.40 ± 0.27	Pass
AP-5910, 5911	10/14/2010	Be-7	0.23 ± 0.09	0.30 ± 0.12	0.26 ± 0.08	Pass
WW-6294, 6295	10/18/2010	H-3	1681.49 ± 146.32	1637.41 ± 144.98	1659.45 ± 102.99	Pass
P-6038, 6039	10/19/2010	H-3	2131.90 ± 159.50	2212.00 ± 161.70	2171.95 ± 113.56	Pass
AP-6195, 6196	10/21/2010	Be-7	0.27 ± 0.11	0.26 ± 0.13	0.26 ± 0.09	Pass
WW-6366, 6367	10/23/2010	H-3	477.28 ± 102.02	529.99 ± 104.27	503.64 ± 72.94	Pass
SWU-6315, 6316	10/26/2010	Gr. Beta	1.85 ± 1.00	1.40 ± 0.90	1.62 ± 0.67	Pass
SO-6336, 6337	10/28/2010	Cs-137	0.23 ± 0.03	0.23 ± 0.04	0.23 ± 0.02	Pass
SO-6336, 6337	10/28/2010	Gr. Beta	26.36 ± 1.67	24.78 ± 1.52	25.57 ± 1.13	Pass
SO-6336, 6337	10/28/2010	K-40	13.43 ± 0.76	13.73 ± 0.81	13.58 ± 0.56	Pass
AP-6453, 6454	10/28/2010	Be-7	0.23 ± 0.12	0.30 ± 0.15	0.26 ± 0.10	Pass
BS-6475, 6476	11/1/2010	Gr. Beta	13.13 ± 1.83	12.75 ± 1.67	12.94 ± 1.24	Pass
F-6658, 6659	11/3/2010	K-40	2.79 ± 0.40	2.94 ± 0.44	2.86 ± 0.30	Pass
F-6565, 6566	11/4/2010	Cs-137	0.06 ± 0.02	0.04 ± 0.01	0.05 ± 0.01	Pass
F-6565, 6566	11/4/2010	Gr. Beta	3.90 ± 0.10	4.10 ± 0.10	3.96 ± 0.06	Pass
F-6565, 6566	11/4/2010	K-40	2.63 ± 0.45	2.57 ± 0.35	2.60 ± 0.29	Pass
SS-5761, 5762	11/16/2010	K-40	15.42 ± 1.57	15.87 ± 1.21	15.65 ± 0.99	Pass
WW-7056, 7057	11/30/2010	Gr. Beta	2.09 ± 0.84	2.22 ± 0.80	2.16 ± 0.58	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
SO-7166, 7167	11/30/2010	Cs-137	0.12 ± 0.04	0.11 ± 0.03	0.11 ± 0.03	Pass
SO-7166, 7167	11/30/2010	K-40	14.93 ± 0.88	14.49 ± 0.86	14.71 ± 0.61	Pass
WW-7412, 7413	12/6/2010	H-3	469.78 ± 146.32	503.57 ± 93.96	486.68 ± 86.94	Pass
MI-7187, 7188	12/8/2010	K-40	1495.10 ± 129.00	1398.40 ± 109.10	1446.75 ± 84.47	Pass
MI-7187, 7188	12/8/2010	Sr-90	0.57 ± 0.31	0.66 ± 0.28	0.62 ± 0.21	Pass
WW-7255, 7256	12/8/2010	H-3	243.46 ± 90.39	327.34 ± 94.11	285.40 ± 65.24	Pass
AP-7276, 7277	12/9/2010	Be-7	0.13 ± 0.07	0.18 ± 0.10	0.16 ± 0.06	Pass
XWW-7297, 7298	12/9/2010	H-3	686.00 ± 102.00	764.60 ± 105.00	725.30 ± 73.19	Pass
AP-7344, 7345	12/16/2010	Be-7	0.16 ± 0.09	0.17 ± 0.09	0.16 ± 0.06	Pass
SWT-7480, 7481	12/28/2010	Gr. Beta	0.90 ± 0.40	1.03 ± 0.41	0.97 ± 0.29	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).

[b] Analysis was repeated, result of reanalysis: 4.83 ± 0.29 pCi/L.

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
STVE-1199	03/01/10	Co-57	0.01 ± 0.03	0.00	-	Pass
STVE-1199	03/01/10	Co-60	3.39 ± 0.12	3.27	2.29 - 4.25	Pass
STVE-1199	03/01/10	Cs-134	4.74 ± 0.15	4.39	3.07 - 5.71	Pass
STVE-1199	03/01/10	Cs-137	3.32 ± 0.17	3.06	2.14 - 3.98	Pass
STVE-1199	03/01/10	Mn-54	0.01 ± 0.05	0.00	-	Pass
STVE-1199	03/01/10	Zn-65	8.03 ± 0.33	7.10	4.97 - 9.23	Pass
STW-1200	03/01/10	Gr. Alpha	0.40 ± 0.05	0.68	0.00 - 1.35	Pass
STW-1200	03/01/10	Gr. Beta	3.03 ± 0.07	3.09	1.55 - 4.64	Pass
STW-1201	03/01/10	Am-241	1.05 ± 0.08	1.30	0.91 - 1.69	Pass
STW-1201	03/01/10	Co-57	28.90 ± 0.40	28.30	19.80 - 36.80	Pass
STW-1201	03/01/10	Co-60	0.06 ± 0.05	0.00	-	Pass
STW-1201	03/01/10	Cs-134	-0.03 ± 0.09	0.00	-	Pass
STW-1201	03/01/10	Cs-137	60.60 ± 0.60	60.60	42.40 - 78.80	Pass
STW-1201	03/01/10	Fe-55	3.00 ± 14.40	0.00	-	Pass
STW-1201	03/01/10	H-3	93.20 ± 18.30	90.80	63.60 - 118.00	Pass
STW-1201	03/01/10	Mn-54	27.80 ± 0.40	26.90	18.80 - 35.00	Pass
STW-1201	03/01/10	Ni-63	49.10 ± 3.50	59.90	41.90 - 77.90	Pass
STW-1201	03/01/10	Sr-90	-0.10 ± 0.60	0.00	-	Pass
STW-1201	03/01/10	Tc-99	0.50 ± 0.50	0.00	-	Pass
STW-1201	03/01/10	U-233/4	1.21 ± 0.05	1.22	0.85 - 1.59	Pass
STW-1201	03/01/10	U-238	1.20 ± 0.05	1.25	0.88 - 1.63	Pass
STW-1201	03/01/10	Zn-65	42.70 ± 0.80	40.70	28.50 - 52.90	Pass
STSO-1202	03/01/10	Co-57	520.00 ± 10.80	522.00	365.00 - 679.00	Pass
STSO-1202	03/01/10	Co-60	599.10 ± 2.80	622.00	435.00 - 809.00	Pass
STSO-1202	03/01/10	Cs-134	666.10 ± 4.70	733.00	513.00 - 953.00	Pass
STSO-1202	03/01/10	Cs-137	774.40 ± 4.50	779.00	545.00 - 1013.00	Pass
STSO-1202	03/01/10	K-40	562.00 ± 15.30	559.00	391.00 - 727.00	Pass
STSO-1202	03/01/10	Mn-54	866.20 ± 4.60	849.00	594.00 - 1104.00	Pass
STSO-1202	03/01/10	Sr-90	225.50 ± 11.80	288.00	202.00 - 374.00	Pass
STSO-1202	03/01/10	U-233/4	59.90 ± 2.50	60.00	42.00 - 78.00	Pass
STSO-1202	03/01/10	U-238	62.10 ± 2.60	64.00	45.00 - 83.00	Pass
STSO-1202	03/01/10	Zn-65	-1.23 ± 1.96	0.00	-	Pass
STAP-1203	03/01/10	Am-241	0.10 ± 0.01	0.15	0.10 - 0.19	Pass
STAP-1203	03/01/10	Co-57	0.01 ± 0.02	0.00	-	Pass
STAP-1203	03/01/10	Co-60	2.63 ± 0.19	2.47	1.73 - 3.22	Pass
STAP-1203	03/01/10	Cs-134	2.21 ± 0.34	2.13	1.49 - 2.77	Pass
STAP-1203	03/01/10	Cs-137	1.66 ± 0.22	1.53	1.07 - 1.99	Pass
STAP-1203	03/01/10	Mn-54	3.42 ± 0.26	3.02	2.11 - 3.93	Pass
STAP-1203	03/01/10	Sr-90	0.02 ± 0.06	0.00	-	Pass
STAP-1203	03/01/10	Zn-65	-0.05 ± 0.11	0.00	-	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
STAP-1204	03/01/10	Gr. Alpha	0.13 ± 0.03	0.43	0.00 - 0.85	Pass
STAP-1204	03/01/10	Gr. Beta	1.46 ± 0.07	1.29	0.65 - 1.94	Pass
STW-1211	08/01/10	Am-241	0.02 ± 0.02	0.00	-	Pass
STW-1211	08/01/10	Co-57	36.40 ± 4.80	36.00	25.20 - 46.80	Pass
STW-1211	08/01/10	Co-60	28.30 ± 1.00	28.30	19.80 - 36.80	Pass
STW-1211	08/01/10	Cs-134	29.30 ± 2.10	31.40	22.00 - 40.80	Pass
STW-1211	08/01/10	Cs-137	44.60 ± 1.80	44.20	30.90 - 57.50	Pass
STW-1211	08/01/10	Fe-55	48.50 ± 20.10	60.20	42.10 - 78.30	Pass
STW-1211	08/01/10	H-3	503.60 ± 12.80	453.40	317.40 - 589.40	Pass
STW-1211	08/01/10	K-40	38.50 ± 2.50	38.90	27.20 - 50.60	
STW-1211	08/01/10	Mn-54	0.10 ± 0.30	0.00	-	Pass
STW-1211	08/01/10	Ni-63	49.30 ± 3.10	56.10	39.30 - 72.90	Pass
STW-1211	08/01/10	Pu-238	1.49 ± 0.15	1.81	1.27 - 2.35	Pass
STW-1211	08/01/10	Pu-239/40	1.20 ± 0.10	1.35	0.95 - 1.76	Pass
STW-1211	08/01/10	Sr-90	9.20 ± 1.30	8.30	5.80 - 10.80	Pass
STW-1211	08/01/10	Tc-99	28.10 ± 0.90	33.60	23.50 - 43.70	Pass
STW-1211	08/01/10	U-233/4	2.04 ± 0.14	2.01	1.41 - 2.61	Pass
STW-1211	08/01/10	U-238	2.05 ± 0.14	2.07	1.45 - 2.69	Pass
STW-1211	08/01/10	Zn-65	32.80 ± 3.00	31.00	21.70 - 40.30	Pass
STW-1212	08/01/10	Gr. Alpha	1.54 ± 0.09	1.92	0.58 - 3.26	Pass
STW-1212	08/01/10	Gr. Beta	4.13 ± 0.15	4.39	2.20 - 6.59	Pass
STVE-1213	08/01/10	Co-57	9.60 ± 0.54	8.27	5.79 - 10.75	Pass
STVE-1213	08/01/10	Co-60	0.05 ± 0.08	0.00	-	Pass
STVE-1213	08/01/10	Cs-134	4.83 ± 0.26	4.79	3.35 - 6.23	Pass
STVE-1213	08/01/10	Cs-137	6.45 ± 0.66	5.88	4.12 - 7.64	Pass
STVE-1213	08/01/10	Mn-54	7.12 ± 0.66	6.29	4.40 - 8.17	Pass
STVE-1213	08/01/10	Zn-65	6.05 ± 0.74	5.39	3.77 - 7.01	Pass
STSO-1214	08/01/10	Co-57	0.10 ± 1.60	0.00	-	Pass
STSO-1214	08/01/10	Co-60	370.00 ± 6.00	343.00	240.00 - 446.00	Pass
STSO-1214	08/01/10	Cs-134	1005.00 ± 21.00	940.00	658.00 - 1222.00	Pass
STSO-1214	08/01/10	Cs-137	755.00 ± 15.00	670.00	469.00 - 871.00	Pass
STSO-1214	08/01/10	K-40	783.00 ± 54.00	699.00	489.00 - 909.00	Pass
STSO-1214	08/01/10	Mn-54	942.00 ± 15.00	820.00	574.00 - 1066.00	Pass
STSO-1214	08/01/10	Pu-238	69.20 ± 6.20	64.00	45.00 - 83.00	Pass
STSO-1214	08/01/10	Pu-239/40	76.50 ± 6.20	71.00	50.00 - 92.00	Pass
STSO-1214	08/01/10	Sr-90	3.50 ± 8.00	0.00	-	Pass
STSO-1214	08/01/10	U-233/4	76.50 ± 6.20	71.00	50.00 - 92.00	Pass
STSO-1214	08/01/10	U-238	271.40 ± 9.00	289.00	202.00 - 376.00	Pass
STSO-1214	08/01/10	Zn-65	310.00 ± 18.00	265.00	186.00 - 345.00	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
STAP-1215	08/01/10	Co-57	4.47 ± 0.21	4.08	2.86 - 5.30	Pass
STAP-1215	08/01/10	Co-60	3.15 ± 0.30	2.92	2.04 - 3.80	Pass
STAP-1215	08/01/10	Cs-134	3.03 ± 0.17	2.98	2.09 - 3.87	Pass
STAP-1215	08/01/10	Cs-137	0.01 ± 0.05	0.00	-	Pass
STAP-1215	08/01/10	Mn-54	3.69 ± 0.39	3.18	2.23 - 4.13	Pass
STAP-1215	08/01/10	Sr-90	1.00 ± 0.12	1.01	0.71 - 1.31	Pass
STAP-1215	08/01/10	Zn-65	0.03 ± 0.15	0.00	-	Pass
STAP-1216	08/01/10	Gr. Alpha	0.01 ± 0.01	0.00	-	Pass
STAP-1216	08/01/10	Gr. Beta	0.54 ± 0.05	0.50	0.25 - 0.75	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. A known value of "zero" indicates an analysis was included in the testing series as a "false positive". MAPEP does not provide control limits.

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-1217	09/20/10	Am-241	55.6 ± 2.9	74.1	43.3 - 102.0	Pass
STAP-1217	09/20/10	Co-60	517.1 ± 9.1	479.0	371.0 - 598.0	Pass
STAP-1217	09/20/10	Cs-134	384.6 ± 33.7	388.0	253.0 - 480.0	Pass
STAP-1217	09/20/10	Cs-137	589.4 ± 7.1	514.0	386.0 - 675.0	Pass
STAP-1217	09/20/10	Mn-54	0.0 ± 0.0	-	-	Pass
STAP-1217	09/20/10	Pu-238	76.5 ± 4.0	72.9	50.0 - 95.8	Pass
STAP-1217	09/20/10	Pu-239/40	73.0 ± 3.8	69.6	50.5 - 90.1	Pass
STAP-1217	09/20/10	Sr-90	172.9 ± 21.3	159.0	70.0 - 247.0	Pass
STAP-1217	09/20/10	U-233/234	64.9 ± 3.9	71.8	45.2 - 106.0	Pass
STAP-1217	09/20/10	U-238	68.0 ± 4.0	71.2	45.6 - 101.0	Pass
STAP-1217	09/20/10	Uranium	135.5 ± 8.7	146.0	74.6 - 232.0	Pass
STAP-1217	09/20/10	Zn-65	563.1 ± 15.3	465.0	322.0 - 644.0	Pass
STAP-1218	09/20/10	Gr. Alpha	66.1 ± 3.2	52.3	27.1 - 78.7	Pass
STAP-1218	09/20/10	Gr. Beta	69.9 ± 2.5	52.7	32.5 - 77.0	Pass
STSO-1219	09/20/10	Ac-228	1632.0 ± 80.4	1830.0	1170.0 - 2580.0	Pass
STSO-1219	09/20/10	Am-241	1063.0 ± 120.9	1120.0	669.0 - 1440.0	Pass
STSO-1219	09/20/10	Bi-212	1752.0 ± 255.6	2070.0	543.0 - 3100.0	Pass
STSO-1219	09/20/10	Bi-214	909.3 ± 38.9	983.0	603.0 - 1410.0	Pass
STSO-1219	09/20/10	Co-60	4852.0 ± 153.5	4780.0	3480.0 - 6420.0	Pass
STSO-1219	09/20/10	Cs-134	2190.0 ± 50.7	2240.0	1440.0 - 2700.0	Pass
STSO-1219	09/20/10	Cs-137	3584.0 ± 42.5	3530.0	2700.0 - 4580.0	Pass
STSO-1219	09/20/10	K-40	10017.0 ± 274.5	10700.0	7760.0 - 14500.0	Pass
STSO-1219	09/20/10	Mn-54	0.0 ± 0.0	-	-	Pass
STSO-1219	09/20/10	Pb-212	1573.0 ± 28.2	1640.0	1060.0 - 2310.0	Pass
STSO-1219	09/20/10	Pb-214	999.0 ± 39.2	969.0	580.0 - 1440.0	Pass
STSO-1219	09/20/10	Pu-238	1568.0 ± 155.0	1280.0	733.0 - 1800.0	Pass
STSO-1219	09/20/10	Pu-239/40	1445.0 ± 142.9	1180.0	805.0 - 1570.0	Pass
STSO-1219 [e]	09/20/10	U-233/234	599.4 ± 69.4	1360.0	862.0 - 1690.0	Fail
STSO-1219 [e]	09/20/10	U-238	633.8 ± 71.3	1340.0	819.0 - 1700.0	Fail
STSO-1219 [e]	09/20/10	Uranium	1248.0 ± 152.7	2770.0	1580.0 - 3740.0	Fail
STSO-1219	09/20/10	Zn-65	2447.0 ± 60.1	2300.0	1820.0 - 3080.0	Pass
STVE-1220	09/20/10	Co-60	1108.0 ± 38.7	1010.0	683.0 - 1450.0	Pass
STVE-1220	09/20/10	Cs-134	1161.0 ± 57.3	1040.0	595.0 - 1440.0	Pass
STVE-1220	09/20/10	Cs-137	1400.0 ± 43.0	1260.0	924.0 - 1750.0	Pass
STVE-1220	09/20/10	K-40	27400.0 ± 683.4	22600.0	16200.0 - 32000.0	Pass
STVE-1220	09/20/10	Mn-54	0.0 ± 0.0	-	-	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-1220	09/20/10	Am-241	4185.0 ± 180.0	4760.0	2710.0 - 6540.0	Pass
STVE-1220	09/20/10	Cm-244	2329.0 ± 132.5	2740.0	1350.0 - 4270.0	Pass
STVE-1220	09/20/10	Pu-238	4912.0 ± 194.0	4740.0	2560.0 - 6940.0	Pass
STVE-1220	09/20/10	Pu-239/40	4765.0 ± 111.0	4470.0	2770.0 - 6100.0	Pass
STVE-1220	09/20/10	Sr-90	7706.0 ± 583.9	7810.0	4360.0 - 10400.0	Pass
STVE-1220	09/20/10	U-233/234	3862.0 ± 203.0	4010.0	2750.0 - 5320.0	Pass
STVE-1220	09/20/10	U-238	3926.0 ± 205.3	3980.0	2800.0 - 5030.0	Pass
STVE-1220	09/20/10	Uranium	7671.0 ± 201.2	8180.0	5620.0 - 10600.0	Pass
STVE-1220	09/20/10	Zn-65	1443.0 ± 81.0	1210.0	874.0 - 1650.0	Pass
STW-1221	09/20/10	Am-241	127.9 ± 4.2	176.0	120.0 - 238.0	Pass
STW-1221	09/20/10	Co-60	697.8 ± 10.4	714.0	622.0 - 844.0	Pass
STW-1221	09/20/10	Cs-134	437.5 ± 13.3	492.0	363.0 - 565.0	Pass
STW-1221	09/20/10	Cs-137	612.8 ± 11.6	625.0	531.0 - 749.0	Pass
STW-1221	09/20/10	Fe-55	936.8 ± 508.2	825.0	480.0 - 1100.0	Pass
STW-1221	09/20/10	Mn-54	0.0 ± 0.0	-	-	Pass
STW-1221	09/20/10	Pu-238	148.1 ± 6.0	162.0	122.0 - 201.0	Pass
STW-1221	09/20/10	Pu-239/40	154.1 ± 6.2	148.0	114.0 - 183.0	Pass
STW-1221	09/20/10	Sr-90	872.3 ± 13.4	921.0	585.0 - 1230.0	Pass
STW-1221	09/20/10	U-233/234	99.1 ± 4.4	109.0	82.2 - 140.0	Pass
STW-1221	09/20/10	U-238	103.7 ± 4.5	108.0	82.5 - 134.0	Pass
STW-1221	09/20/10	Uranium	206.5 ± 9.8	221.0	159.0 - 294.0	Pass
STW-1221	09/20/10	Zn-65	489.1 ± 16.2	489.0	414.0 - 610.0	Pass
STW-1222	09/20/10	Gr. Alpha	110.6 ± 3.5	146.0	64.8 - 216.0	Pass
STW-1222	09/20/10	Gr. Beta	134.6 ± 2.6	143.0	83.6 - 210.0	Pass
STW-1223	09/20/10	H-3	23500.0 ± 1438.0	21600.0	14100.0 - 31900.0	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. A known value of "zero" indicates an analysis was included in the testing series as a "false positive". Control limits are not provided.

[e] Analysis was repeated using total dissolution. Results of the reanalysis,
U-233/234: 1137 ± 254 pCi/kg, U-238: 1193 ± 116 pCi/kg, Total Uranium: 2379 ± 254 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;

$s = 2\sigma$ 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

If duplicate analyses are reported, the convention is as follows. :

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 numbers 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

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Kewaunee Power Station

Radiological Environmental Monitoring Manual (REMM)

Revision 16
04/13/2010

Reviewed by:	Michael J. Wilson Facility Safety Review Committee	Date:	04-13-2010
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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-01.20, "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.st.dhs.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 three locations in the vicinity of the plant (K-24, K-29, 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 twenty-two locations, six of which are air sampling locations (K-1f, K-2, K-7, K-8, K-31, and K-41), four of which are milk sampling locations (K-3, K-5, K-25, and K-39), eight of which are ISFSI area locations (K-11 through K-1s), and 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-38) 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-38 and K-34); from four herds that graze between 3-7 miles of the reactor site (K-3,,K-5, K-35, and K-39); and one from a dairy in Green Bay (K-42), 28.1 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-23A, K-23B, 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-35, 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-26, depending upon the availability of samples. If samples are not available from this location, 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 or leafy vegetables from the highest predicted X/Q and D/Q, if available, are collected annually from the farmland owned by Dominion Energy Kewaunee (K-23 a and b) 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 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), two samples (north and south ends), of Two Creeks Park, 2.5 miles south of the reactor site (K-14a, K-14b). 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).

The Groundwater Protection Program consists of the 14 wells in addition to the two on-site wells already in the REMM (K-1g and K-1h).

Results of analyses and a description of any event above Reporting Levels will be included in the Annual Environmental Monitoring Report for K-1g, K-1h and in the Annual Radioactive Effluent Release Report for the other 14 wells.

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]	13 Inner Ring locations	**K-5, K-25, K-27, K-7, K-1f, K-30, K-1l, K-1m, K-1n, K-1o, K-1p, K-1q, K-1r, K-1s**	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[J], K-1d** **K-1e, K-14a, K-14b, K-1k, K-1b**	Grab sample See Table 2.2.1-B	Gross Beta, Gamma isotopic K-40 [f] Composite of grab samples for tritium, K-40 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 and K-40 analysis Gross Beta, one well for 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
c. Drinking	1-3 samples of nearest water supply	**K-10, K-11, K-13, K-38**	Grab sample See Table 2.2.1-B	Gross beta and gamma isotopic [f] analysis. Tritium and K-40 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
4. Ingestion				
a. Milk	Samples from milking animals in 3 locations within 5 km having the highest dose potential. 1 alternate location 1 control location	**K-5[k], K-38, K-34** **K-3, K-39** **K-35, K-42**	See Table 2.2.1-B	I-131 Gamma Isotopic [f] SR 89/90
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 Gross Beta on edible portions, Gross Beta and Sr 89/90 on bones
c. Food Products	Samples of grain or leafy vegetables grown nearest each of two different offsite locations within 5 miles of the plant if milk sampling is not performed.	2 samples **K-23a, K-23b** – and one more location if available 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.

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
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-35, 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-35, 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-35, 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-24, K-29 K-32 (control)	See Table 2.2.1-B	Gross Alpha/Beta Gamma Isotopic[f]
f. Eggs	None required	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

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

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.

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.

j. Two samples to be collected, Raw and Treated

k. K-5 is about 5.1 km, closest Milk Location available.

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[g]	AI		GR[a] TLD	SO		
K-1g				WW			
K-1h				WW			
K-1j					BS[b]		
K-1k			SW			SL[f]	
K-1l				TLD			
K-1m				TLD			
K-1n				TLD			
K-1o				TLD			
K-1p				TLD			
K-1q				TLD			
K-1r				TLD			
K-1s				TLD			
K-2	AP[g]	AI		TLD			
K-3			MI[c]	GR[a] TLD	SO		CF[d]
K-5			MI[c]	GR[a] TLD	SO		CF[d]
K-7	AP[g]	AI		TLD			
K-8	AP[g]	AI		TLD			
K-9			SW[i]		BS[b]	SL[f]	
K-10				WW			
K-11			PR	WW			
K-13				WW			
K-14			SW[h]		BS[b]	SL[f]	
K-15				TLD			
K-17				TLD			
K-23a							GRN/GLV
K-23b							GRN/GLV
K-24				EG			DM
K-25				TLD			
K-26							VE
K-27				TLD			

Table 2.2.1-B *Type and Frequency of Collection*							
Location	Weekly	Biweekly	Monthly	Quarterly	Semi-Annually		Annually
K-29							DM
K-30				TLD			
K-31	AP[g]	AI		TLD			
K-32				EG			DM
K-34			MI[c]	GR[a]	SO		CF[d]
K-35			MI[c]	GR[a]	SO		CF[d]
K-38			MI[c]	GR[a] WW	SO		CF[d]
K-39			MI[c]	TLD GR[a]	SO		CF[d]
K-41	AP[g]	AI		TLD			
K-42			MI[c]				

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
g. The frequency may be increased dependent on the dust loading.
h. Two water samples are collected, North (K-14a) and South (K-14b) of Two Creeks Rd.
i. Two samples, raw and treated

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-1l	I	0.13 N	ISFSI Southeast
K-1m	I	0.15 N	ISFSI East
K-1n	I	0.16 N	ISFSI Northwest
K-1o	I	0.16 N	ISFSI North
K-1p	I	0.17 N	ISFSI Northwest
K-1q	I	0.16 N	ISFSI West
K-1r	I	0.13 N	ISFSI West
K-1s	I	0.12 N	ISFSI Southwest
K-2	C	8.91 NNE	WPS Operations Building in Kewaunee
K-3	C	5.9 N	Lyle and John Siegmund Farm, N2815 Hy 42, Kewaunee
K-5	I	3.2 NNW	Ed Paplham Farm, E4160 Old Settlers Rd, Kewaunee
K-7	I	2.51 SSW	Ron Zimmerman Farm, 17620 Nero Rd, Two Rivers
K-8	C	4.85 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	1.35 NNE	Turner Farm, Kewaunee Site
K-11	I	0.96 NW	Harlan Ihlenfeld Farm, N879 Hy 42, Kewaunee
K-13	C	3.0 SSW	Rand's General Store, Two Creeks
K-14	I	2.6 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	4.0 W	Jansky's Farm, N885 Cty Tk B, Kewaunee

Table 2.2.1-C *Sampling Locations, Kewaunee Power Station*			
Code	**Type[a]**	**Distance (Miles)[b] and Sector**	**Location**
K-20(c)	I	2.5 N	Carl Struck Farm, N1596 Lakeshore Dr., Kewaunee
K-23a	I	0.5 W	0.5 miles west of plant, Kewaunee site
K-23b	I	0.6N	0.6 miles north of plant, Kewaunee site
K-24	I	5.4 N	Fictum Farm, N2653 Hy 42, Kewaunee
K-25	I	1.9 SW	Wotachek Farm, E3968 Cty Tk BB, Two Rivers
K-26(d)	C	9.1 SSW	Sandy's Vegetable Stand (8.0 miles south of "BB")
K-27	I	1.53 NW	Schleis Farm, E4298 Sandy Bay Rd
K-29	I	5.34 W	Kunesh Farm, E3873 Cty Tk G, Kewaunee
K-30	I	0.8 N	End of site boundary
K-31	I	6.35 NNW	E. Krok Substation, Krok Road
K-32	C	7.8 N	Piggly Wiggly, 931 Marquette Dr., Kewaunee
K-34	I	2.7 N	Leon and Vicky Struck Farm, N1549 Lakeshore Drive, Kewaunee
K-35(e)	C	6.71 WNW	Duane Ducat Farm, N1215 Sleepy Hollow, Kewaunee
K-36(f)	I		Fiala's Fish Market, 216 Milwaukee, Kewaunee
K-38	I	2.45 WNW	Dave Sinkula Farm, N890 Town Hall Road, Kewaunee
K-39	I	3.46 N	Francis Wotja Farm, N1859 Lakeshore Road, Kewaunee
K-41 (g)	C	22 NW	KPS-EOF, 3060 Voyager Drive, Green Bay
K-42 (h)	C	28.1 W	Lamers Dairy Products obtain from Green Bay Markets (i)

a. I = indicator; C = control.
b. Distances are measured from reactor stack.
c. Location removed from program in 2007
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). Replaced with Sandy's Vegetable in 2007.
e. Removed from the program in Fall of 2001, back to program in August 2008.
f. Removed from the program in Fall of 2001, back to program in August 2008.
g. Location replaces K-16, January of 2007
h. Location replaces K-28 as of March 2010
i. Lamers Dairy is actually located in Appleton. The herds providing milk to Lamers are located nearer to Appleton than the plant to provide adequate distance for purposes of a control location.

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

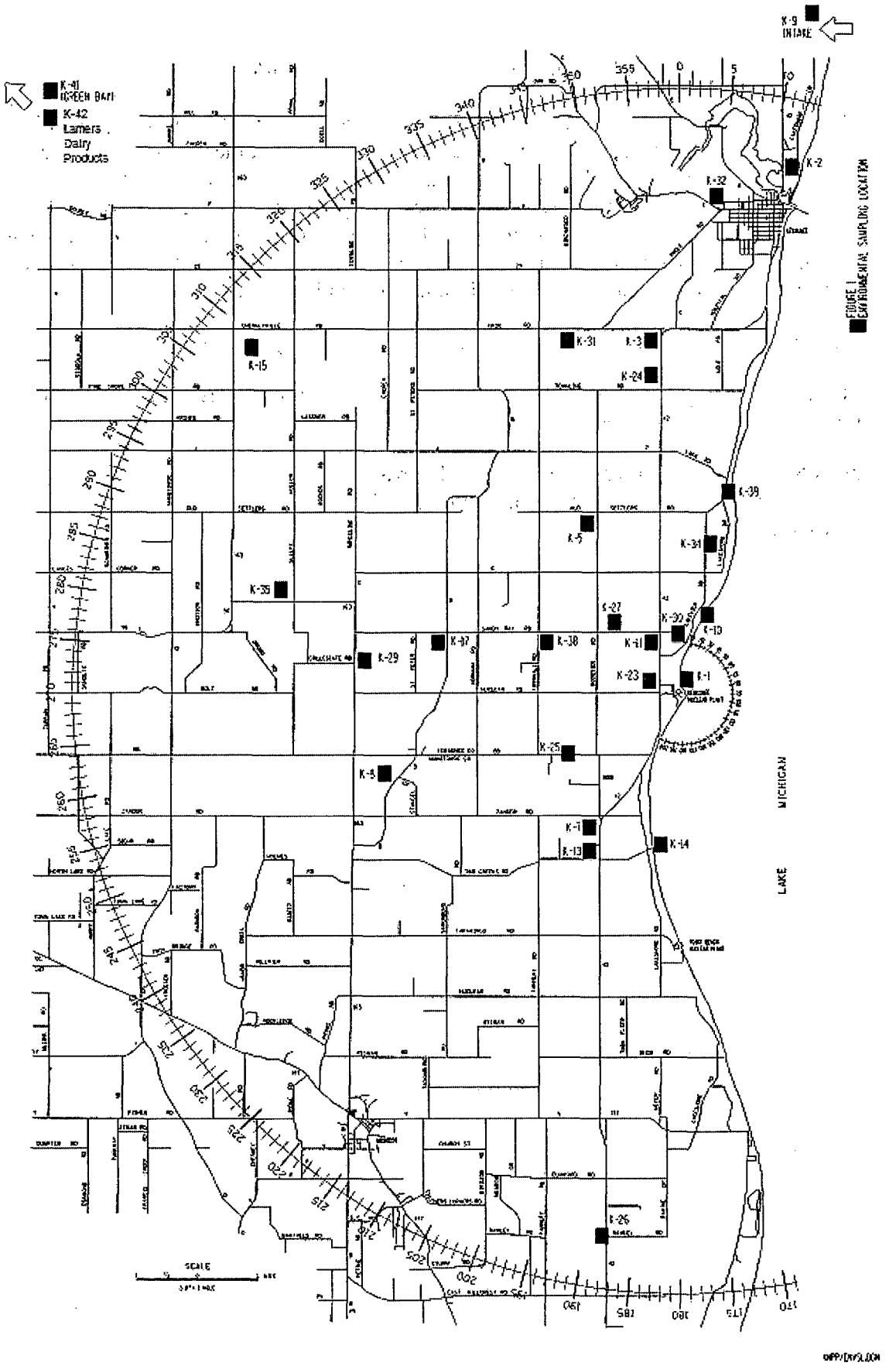

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FIGURE 2

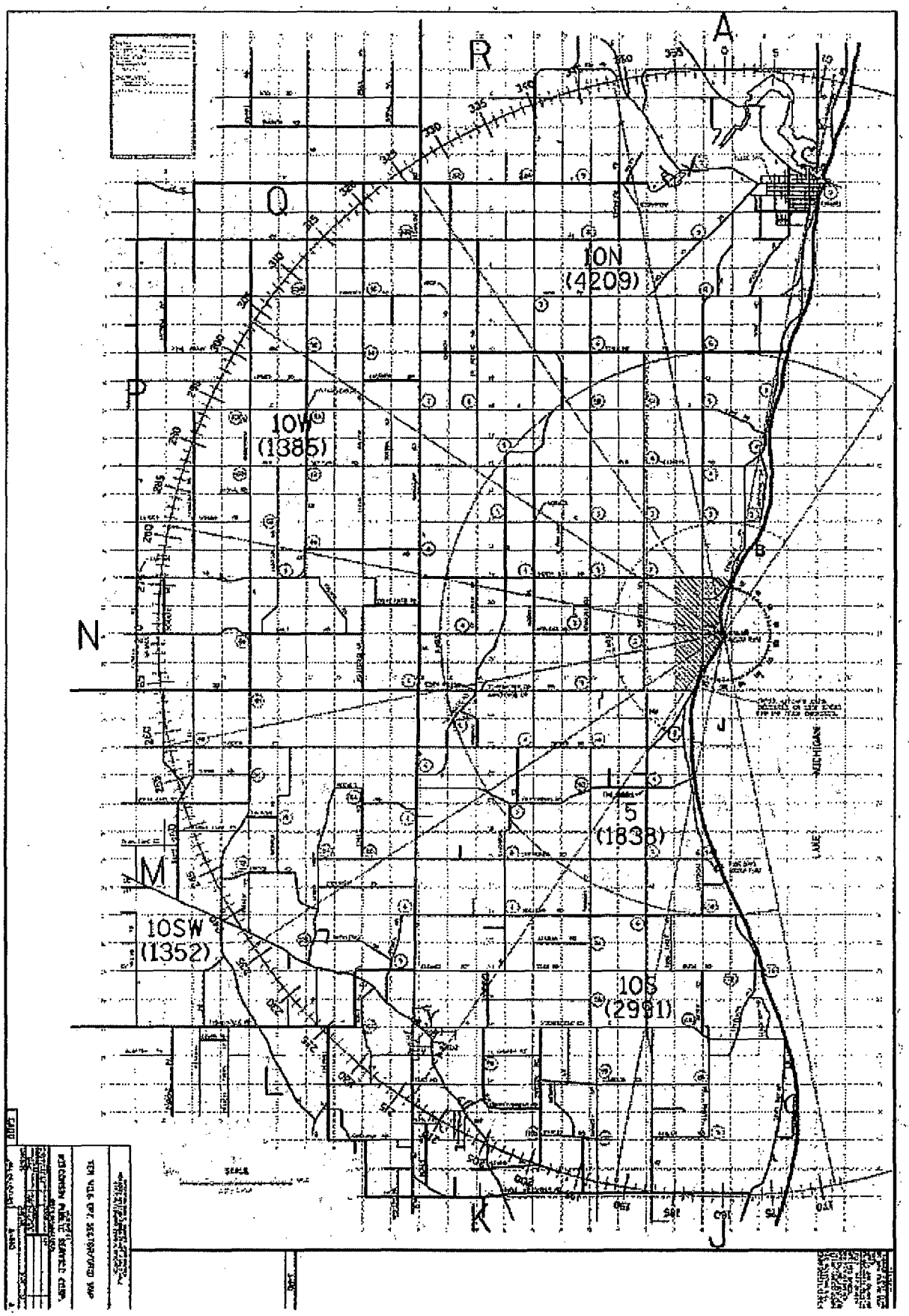

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FIGURE 3

NOTES:

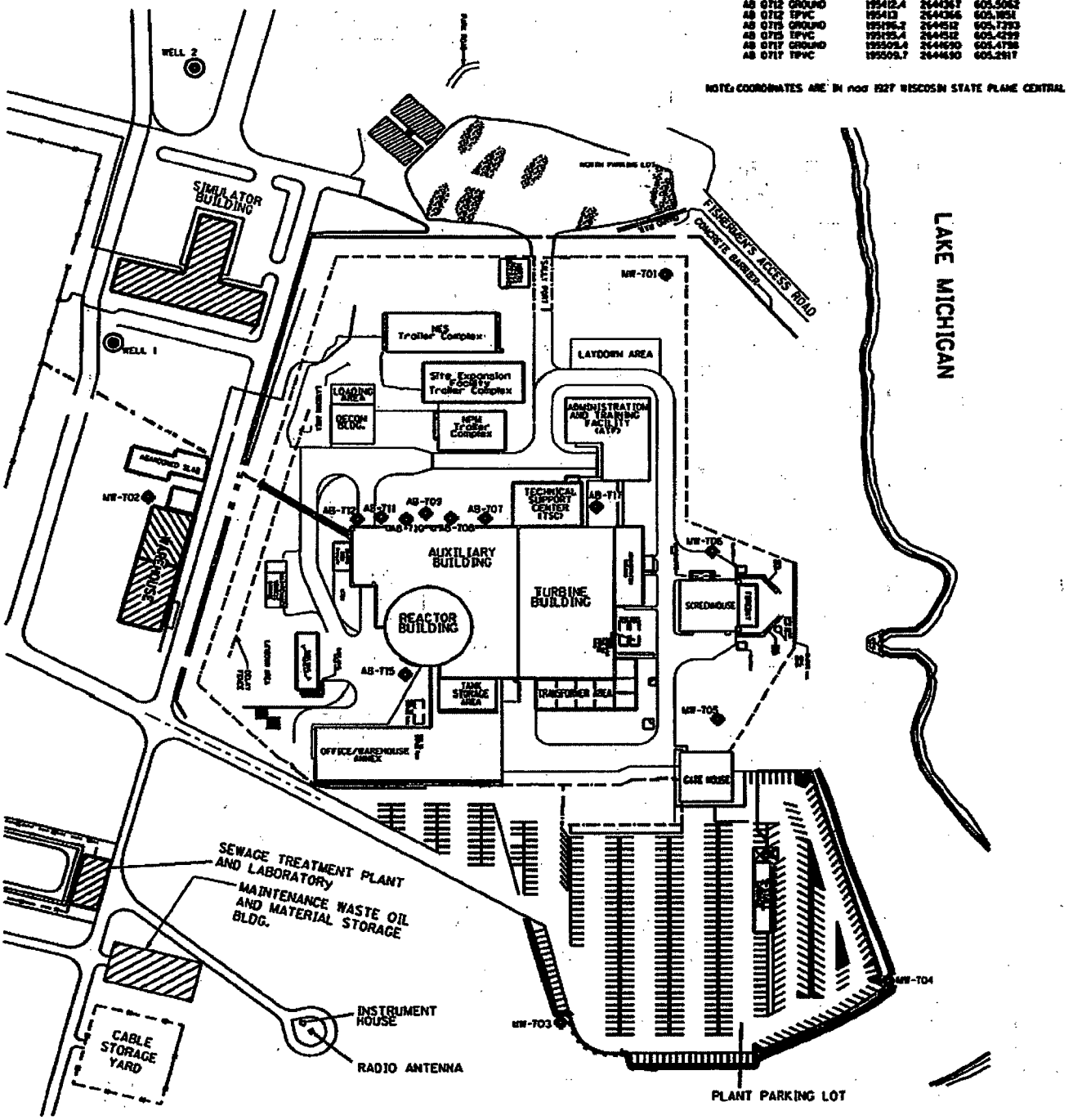
1. LOCATIONS OF MONITORING WELLS SURVEYED BY STS ON JUNE 21, 2007.
2. LOCATIONS OF WATER SUPPLY WELLS ARE ESTIMATED.

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	2644836	602.685
MW-0703 GROUND	194761.4	2644836	603.112
MW-0704 GROUND	194938.2	2645268	608.316
MW-0704 TPVC	194938.7	2645268	608.502
MW-0705 TPVC	195314.4	2644927	604.1112
MW-0705 GROUND	195314.4	2644927	605.339
MW-0706 GROUND	195491.2	2644865	606.402
MW-0706 TPVC	195491.2	2644865	605.997
AB 0707 GROUND	195463	2644563	606.0153
AB 0707 TPVC	195460.4	2644563	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	605.6593
AB 0710 GROUND	195428.1	2644450	606.1485
AB 0710 TPVC	195428.2	2644450	605.6672
AB 0711 GROUND	195421.1	2644417	605.8849
AB 0711 TPVC	195420.8	2644417	605.4903
AB 0712 GROUND	195412.4	2644367	605.5062
AB 0712 TPVC	195413	2644366	605.1851
AB 0715 GROUND	195196.2	2644512	605.7293
AB 0715 TPVC	195195.4	2644512	605.4299
AB 0717 GROUND	195509.4	2644630	605.4788
AB 0717 TPVC	195509.7	2644630	605.2917

NOTE: COORDINATES ARE IN nad 1927 WISCOSIN STATE PLANE CENTRAL

LEGEND:

- 8' HIGH FENCE
- SUPPLY WELL
- MONITORING WELL



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2010 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, 2010

Prepared and submitted by

ENVIRONMENTAL, Inc.
Midwest Laboratory
Project No. 8002

Approved :

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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.

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1.0 INTRODUCTION

The following constitutes Part II of the final report for the 2010 Radiological Monitoring Program conducted at the Kewaunee Power Station (KPS), Kewaunee, Wisconsin.

Included are tabulations of data for all samples collected in 2010 along with graphs of data trends. A summary and interpretation of the data presented here are published in Part I of the 2010 Annual Report on the Radiological Monitoring Program for the Kewaunee Power Station.

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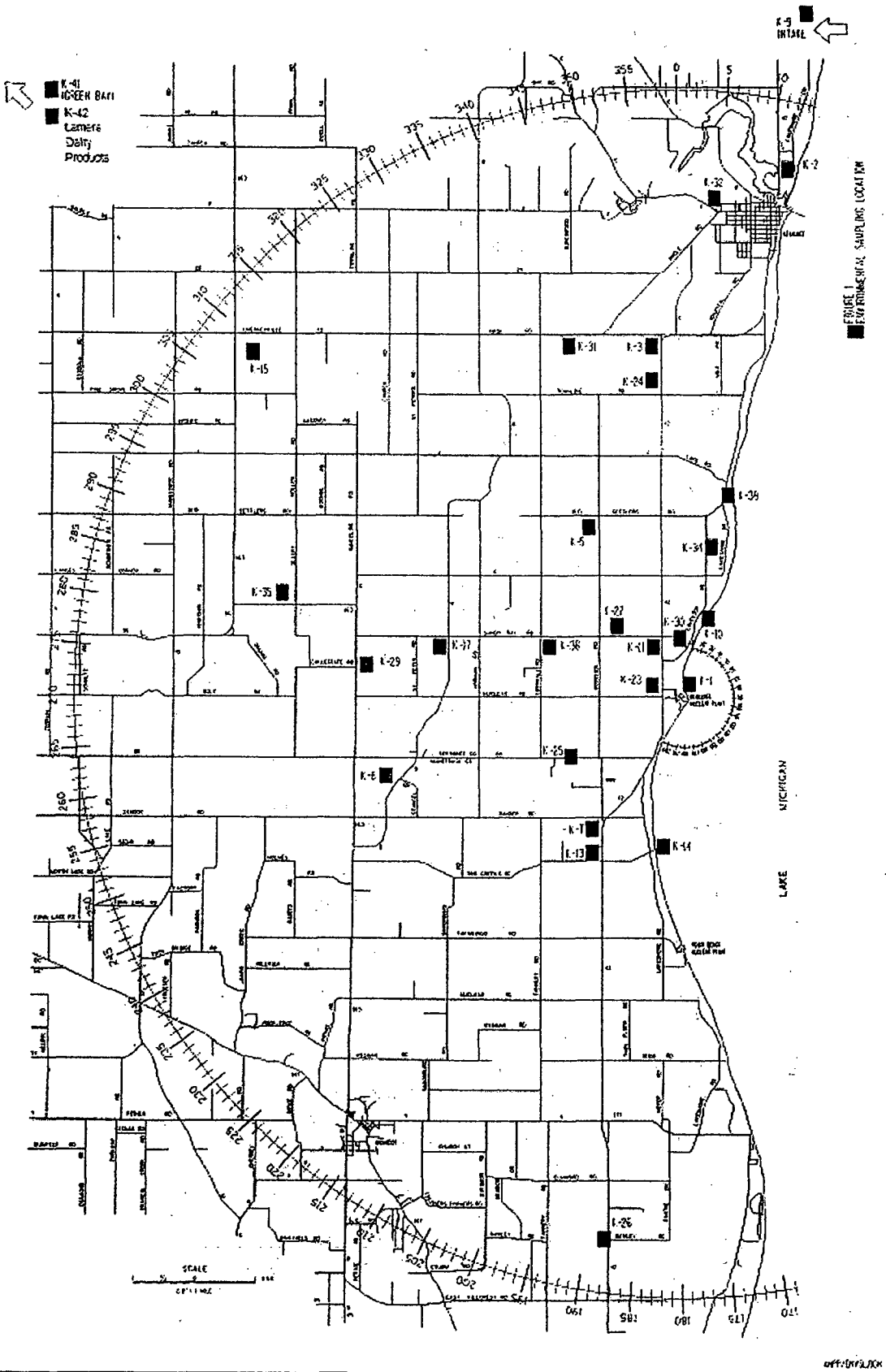

Figure 1. Sampling locations, Kewaunee Power Station

Table 1. Sampling locations, Kewaunee Power Station.

Code	Type[a]	Distance (miles)[b] and Sector	Location
K-1	I		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-1l	I	0.13 N	ISFSI Southeast
K-1m	I	0.15 N	ISFSI East
K-1n	I	0.16 N	ISFSI Northwest
K-1o	I	0.16 N	ISFSI North
K-1p	I	0.17 N	ISFSI Northwest
K-1q	I	0.16 N	ISFSI West
K-1r	I	0.13 N	ISFSI West
K-1s	I	0.12 N	ISFSI Southwest
K-2	C	8.91 NNE	WPS Operations Building in Kewaunee
K-3	C	5.9 N	Lyle and John Siegmund Farm, N2815 Hy 42, Kewaunee
K-5	I	3.2 NNW	Ed Paplham Farm, E4160 Old Settlers Rd, Kewaunee
K-8	C	4.85 WSW	St. Isadore the Farmer Church, 18424 Tisch Mills Rd, Tisch Mills
K-9	C	11.5 NNE	Rostok Water Intake for Green Bay, Wisconsin, two miles north of Kewaunee
K-10	I	1.35 NNE	Turner Farm, Kewaunee site
K-11	I	0.96 NW	Harlan Ihlenfeld Farm, N879 Hy 42, Kewaunee
K-13	C	3.0 SSW	Rand's General Store, Two Creeks
K-14	I	2.6 S	Two Creeks Park, 2.6 miles south of site
K-15	C	9.25 NW	Gas Substation, 1.5 miles north of Stangelville
K-17	I	4.0 W	Jansky's Farm, N885 Tk B, Kewaunee
K-23a	I	0.5 W	0.5 miles west of plant, Kewaunee site
K-23b	I	0.6 N	0.6 miles north of plant, Kewaunee site
K-24	I	5.4 N	Fictum Farm, N2653 Hy 42, Kewaunee
K-25	I	1.9 SW	Wotachek Farm, 3968 E. Cty Tk BB, Two Rivers
K-26	C	10.7 SSW	Sandy's Vegetable Stand (8.0 miles south of "BB")
K-27	I	1.53 NW	Schlies Farm, E4298 Sandy Bay Rd, Kewaunee
K-29	I	5.34 W	Kunesh Farm, E3873 Cty Tk G, Kewaunee
K-30	I	0.8 N	End of site boundary
K-31	C	6.35 NNW	E. Krok Substation
K-32	C	7.8 N	Piggly Wiggly, 931 Marquette Dr., Kewaunee
K-34	I	2.7 N	Leon and Vicki Struck, N1549 Lakeshore Dr., Kewaunee
K-35	C	6.71 mi. WNW	Duane Ducat, N1215 Sleepy Hollow Rd., Kewaunee
K-36	I		Fiala's Fish market, 216 Milwaukee, Kewaunee
K-38	I	2.45 mi. WNW	Dave Sinkula Farm, N890 Town Hall Road, Kewaunee
K-39	I	3.46 mi. N	Francis and Sue Wojta, N1859 Lakeshore Dr., Kewaunee
K-41	C	22 NW	KPS-EOF, 3060 Voyager Dr. , Green Bay
K-42	C	28.1 W	Lamer's Dairy Products obtained from Green Bay markets.
K-43	I	2.71 SSW	Gary Maigatter Property, 17333 Hwy 42, Two Rivers

[a] I = indicator; C = control.
[b] Distances are measured from reactor stack.

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]	SL BS[b]	
K-1e			SW		SL	
K-1f	AP	AI		TLD GR[a]	SO	
K-1g, K-1h				WW		
K-1j					BS[b]	
K-1k			SW		SL	
K-1l through K-1s				TLD		
K-2	AP	AI		TLD		
K-3, K-5			MI[c]	TLD GR[a]	SO	CF[d]
K-7, K-8	AP	AI		TLD		
K-9			SW		SL BS[b]	
K-10, K-13				WW		
K-11			PR	WW		
K-14			SW		SL BS[b]	
K-15, K-17				TLD		
K-23a, b						GRN / GLV
K-24				EG		DM
K-25				TLD		
K-26						VE
K-27				TLD		
K-28			MI[c]			
K-29						DM
K-30				TLD		
K-31	AP	AI		TLD		
K-32				EG		DM
K-34, K-35			MI[c]	Gr[a]	SO	CF[d]
K-38			MI[c]	Gr[a] WW	SO	CF[d]
K-39			MI[c]	TLD GR[a]	SO	CF[d]
K-41	AP	AI		TLD		
K-42 [e]			MI[c]			
K-43 [f]	AP	AI		TLD		

[a] Three times a year, second, third and fourth quarters.
[b] Collected in May and November.
[c] Monthly; November through April; semimonthly May through October.
[d] First quarter (January, February, March) only.
[e] Replaced K-28 in March, 2010.
[f] Replaced K-7 in August, 2010.

Table 3. Sample Codes:

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

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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

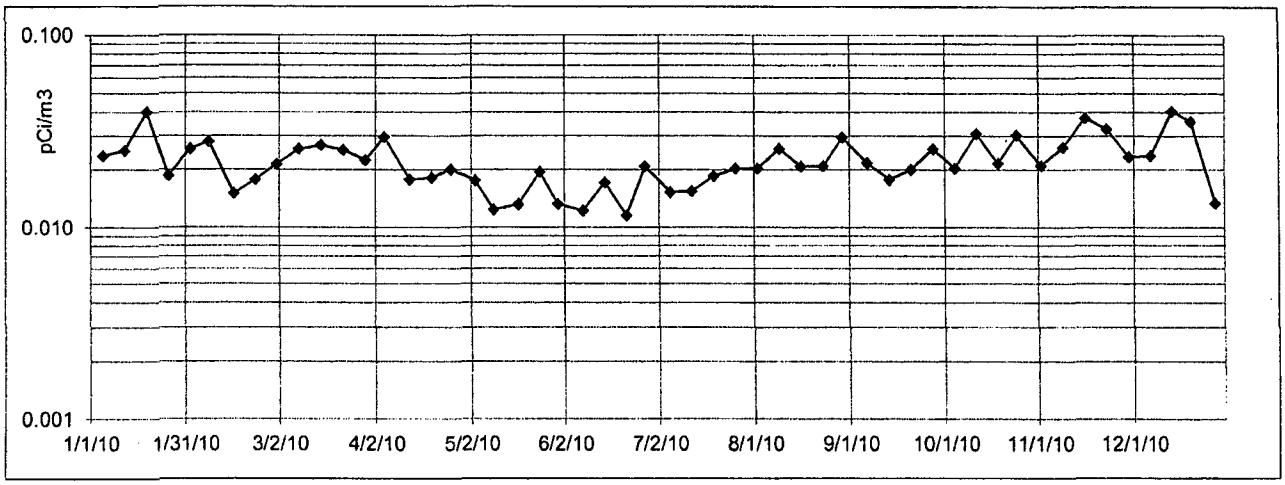

Figure 2. Location K-1f (weekly samples, 2010).

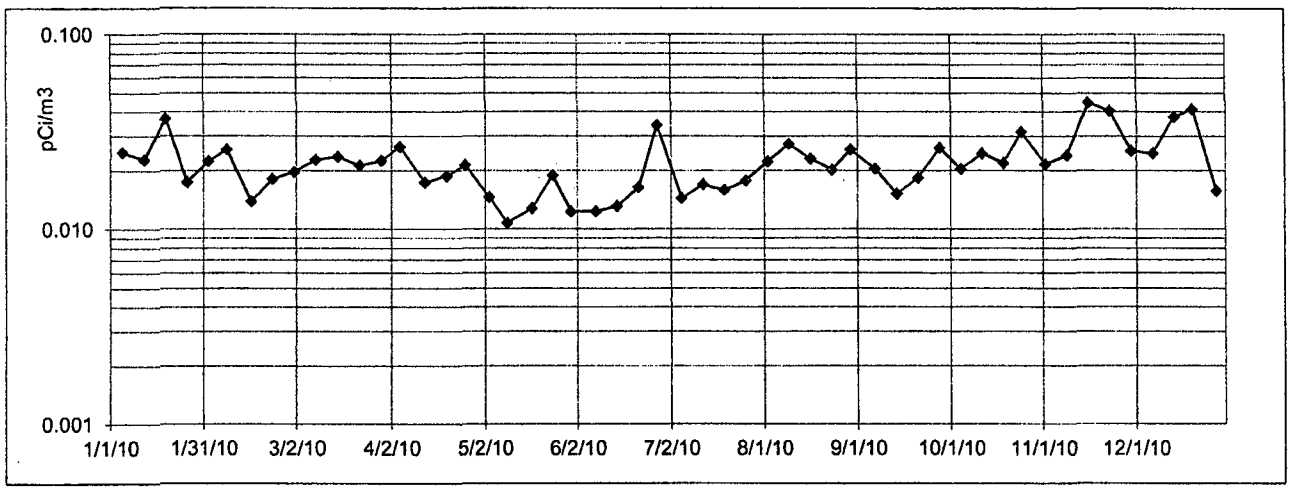

Figure 3. Location K-2 (weekly samples, 2010).

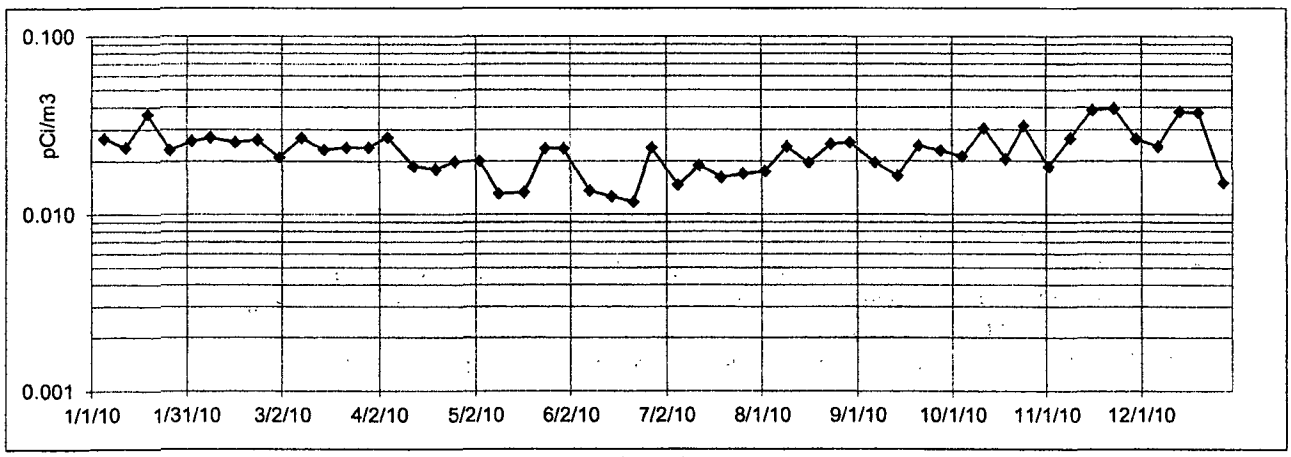

Figure 4. Location K-7 (weekly samples, 2010).

Kewaunee

Air Particulates - Gross Beta

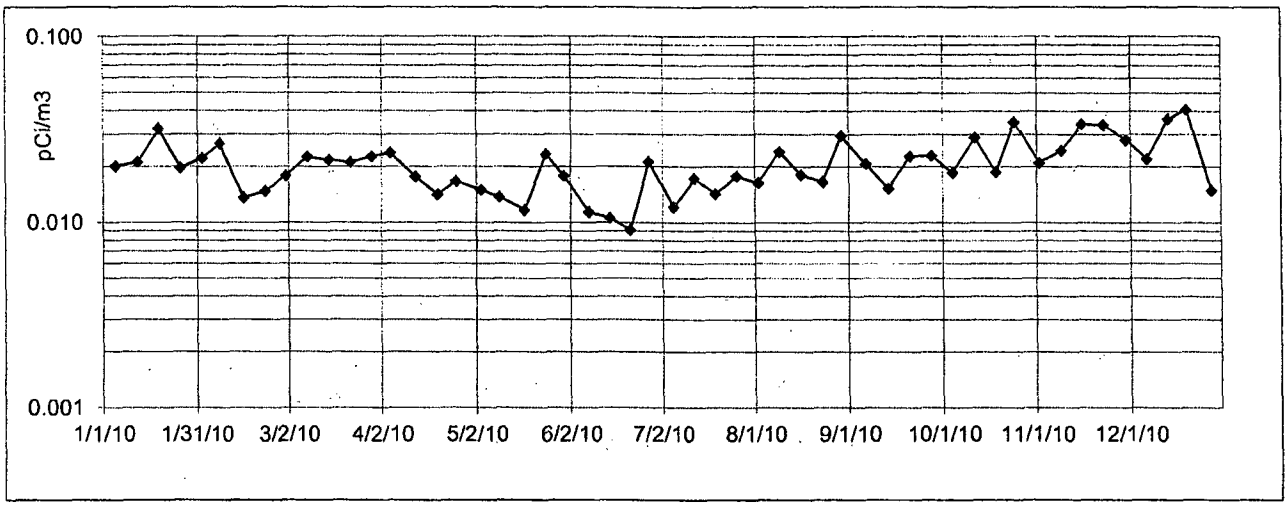

Figure 5. Location K-8 (weekly samples, 2010).

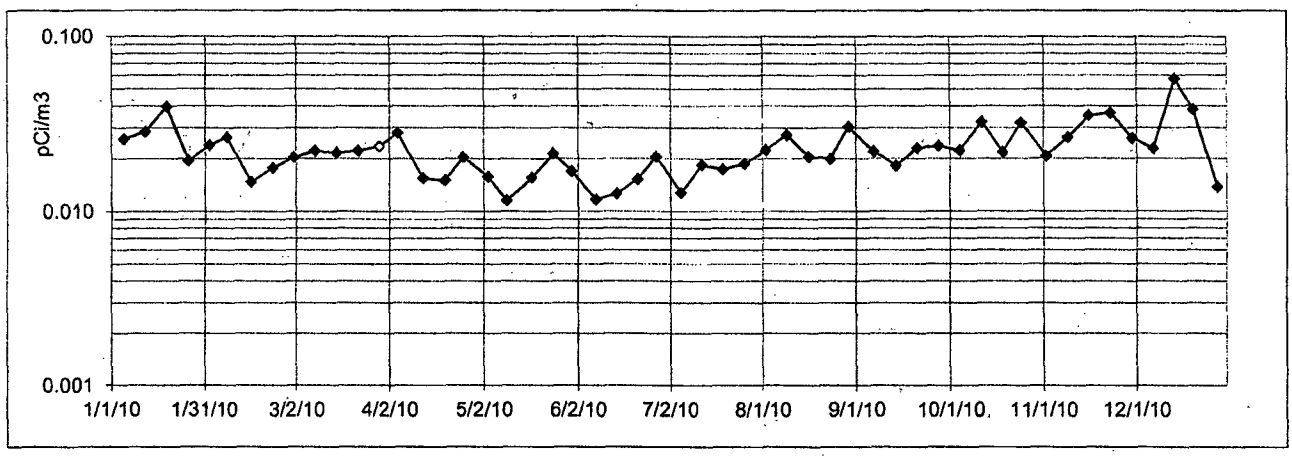

Figure 6. Location K-31 (weekly samples, 2010).

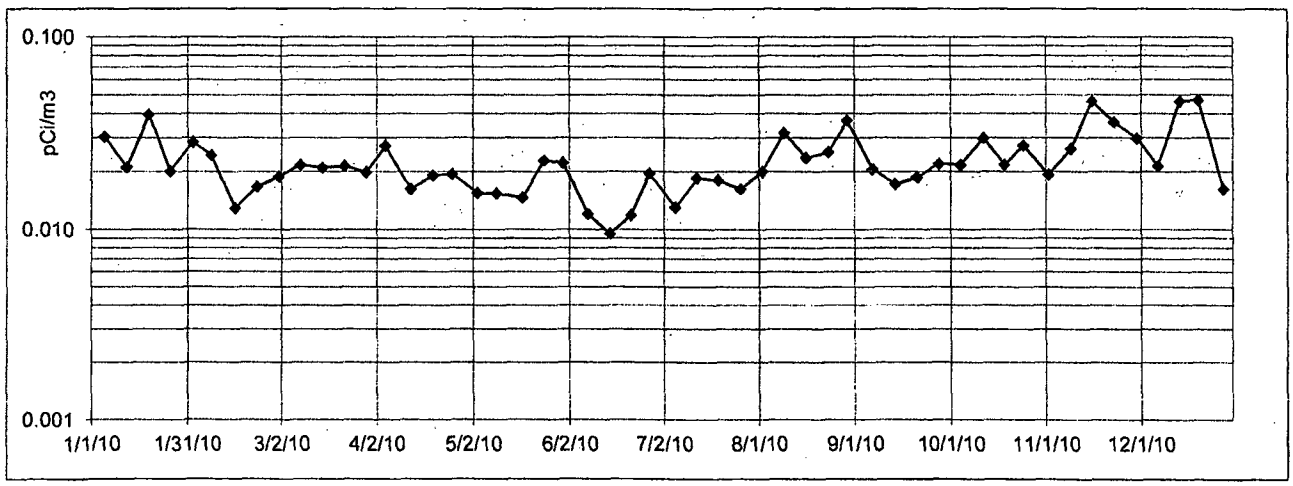

Figure 7. Location K-41 (weekly samples, 2010).

Kewaunee Power Station
Air Particulates - Gross Beta

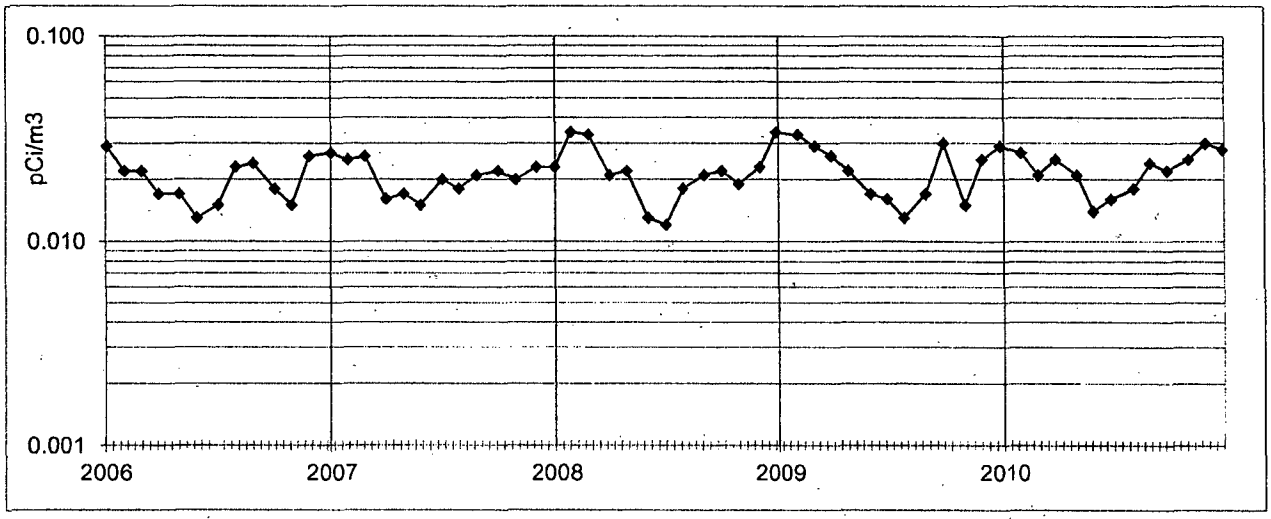

Figure 8. Location K-1f (monthly averages, 2006-2010).

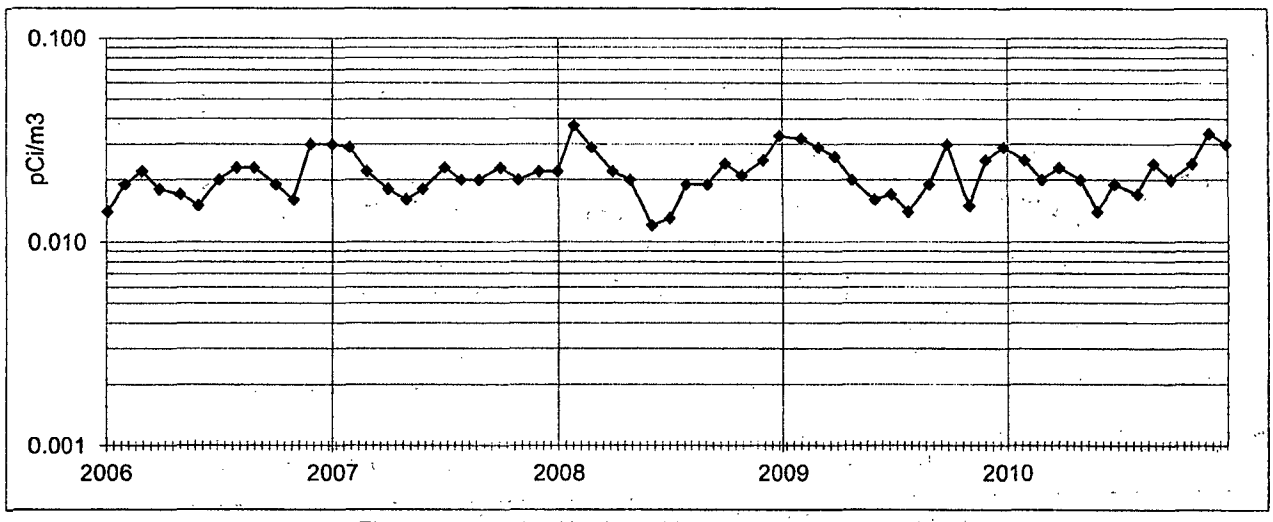

Figure 9. Location K-2 (monthly averages, 2006-2010).

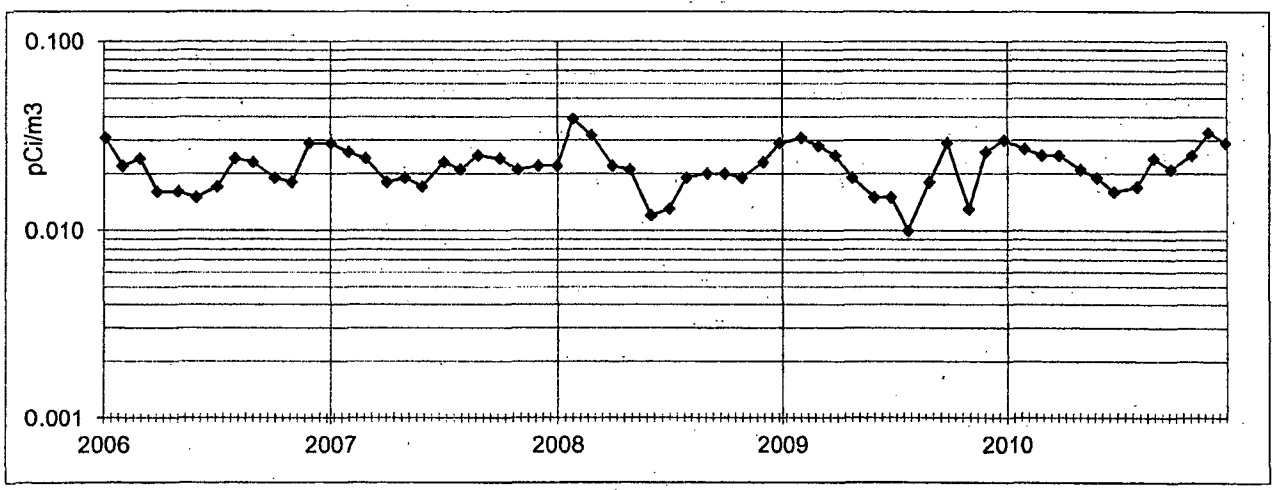

Figure 10. Location K-7 (monthly averages, 2006-2010).

Kewaunee Power Station
Air Particulates - Gross Beta

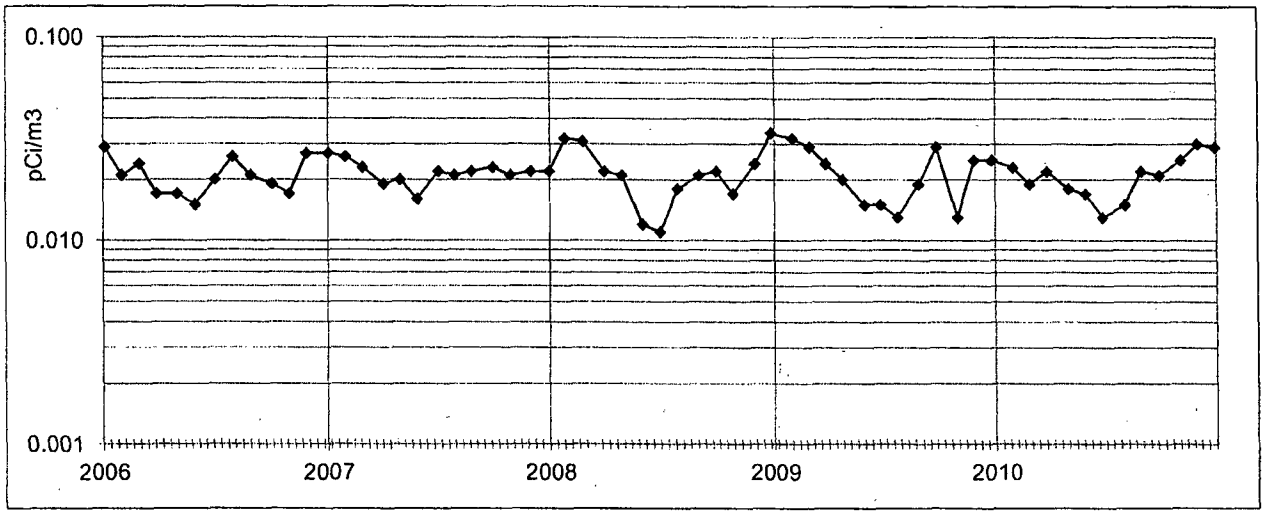

Figure 11. Location K-8 (monthly averages, 2006-2010).

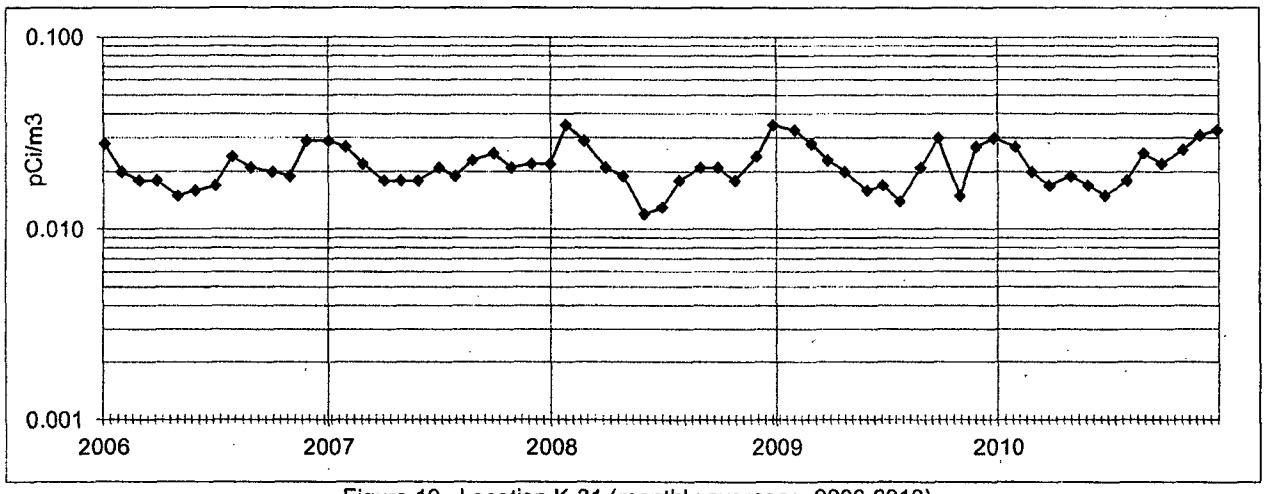

Figure 12. Location K-31 (monthly averages, 2006-2010).

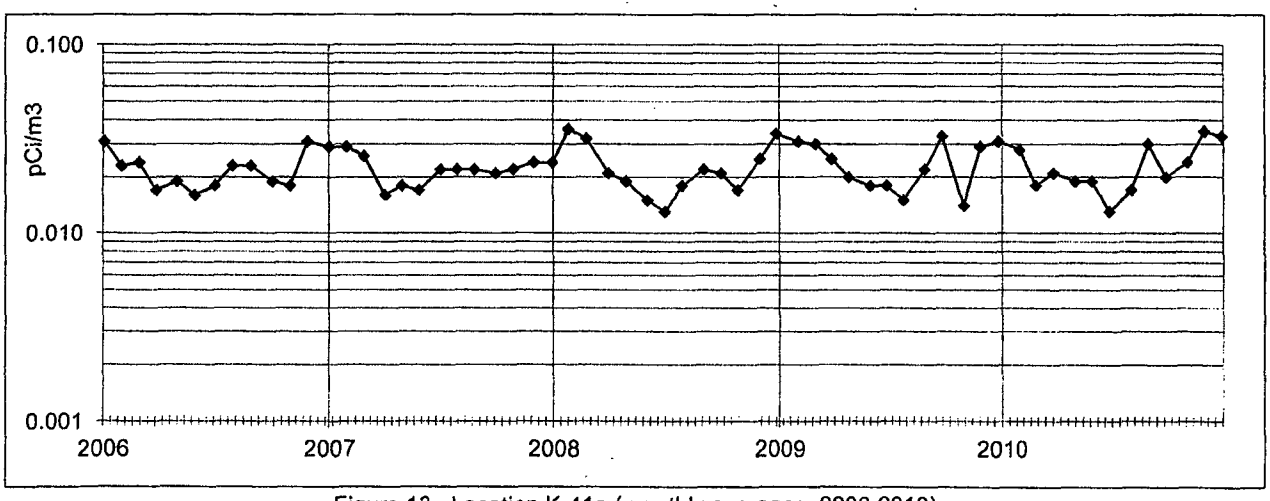

Figure 13. Location K-41a (monthly averages, 2006-2010).

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

Kewaunee

WELL WATER-GROSS ALPHA

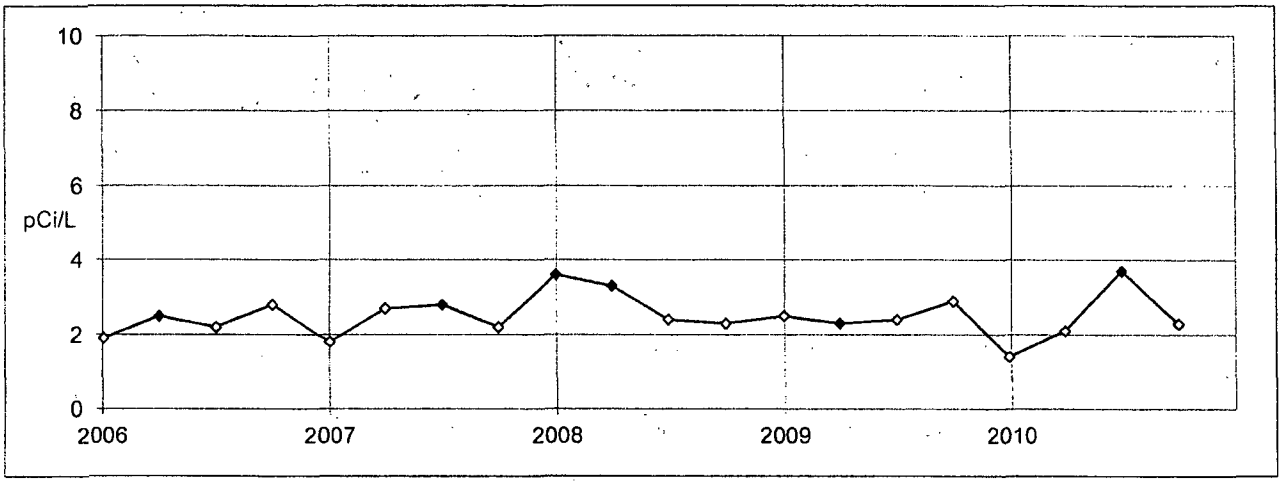

Figure 14. Location K-1g. Total Residue. Quarterly collection.

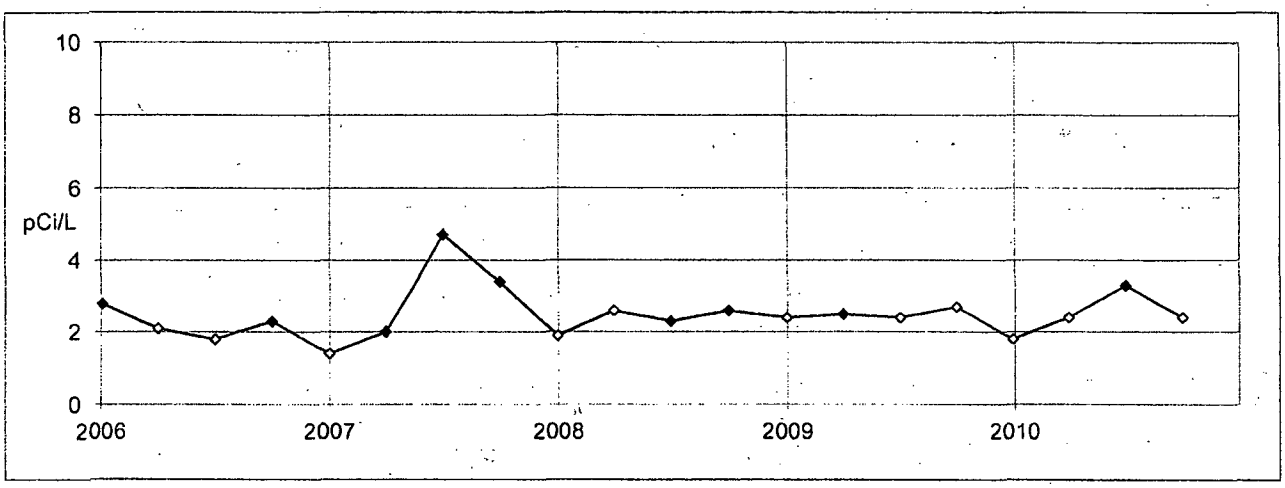

Figure 15. Location K-1h. Total Residue. Quarterly collection.

Kewaunee Power Station
WELL WATER-GROSS BETA

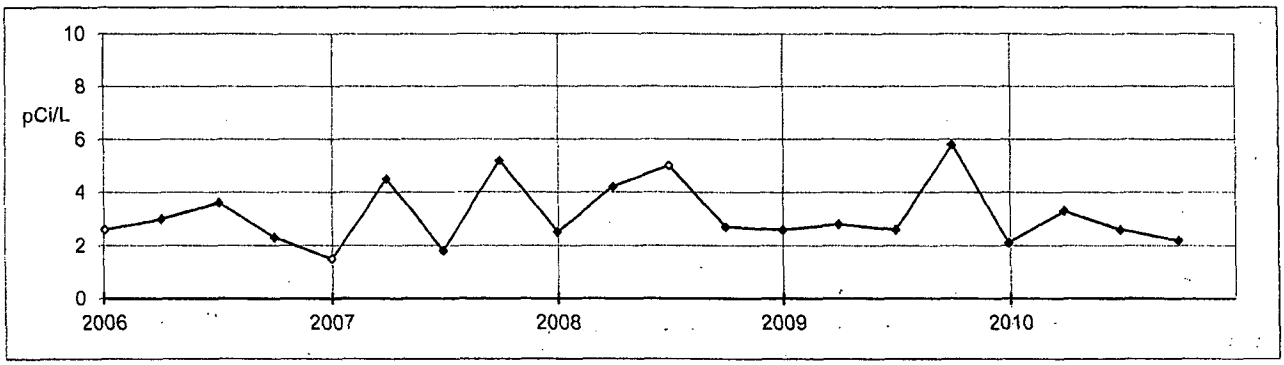

Figure 16. Location K-1g. Total Residue. Quarterly collection.

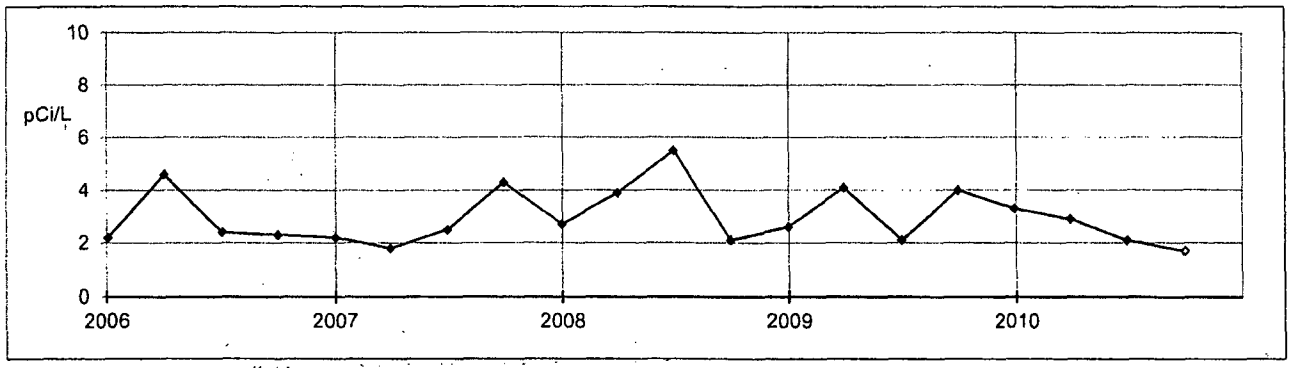

Figure 17. Location K-1h. Total Residue. Quarterly collection.

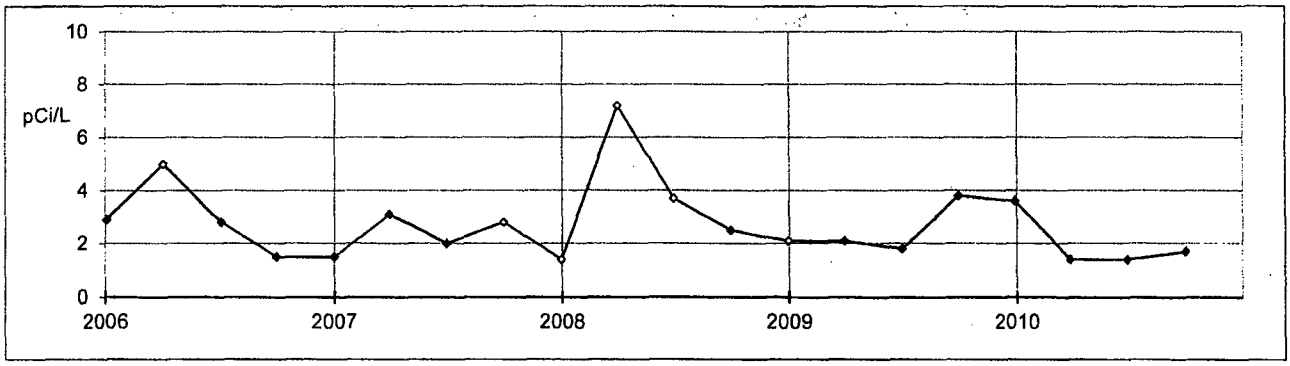

Figure 18. Location K-10. Total Residue. Quarterly collection.

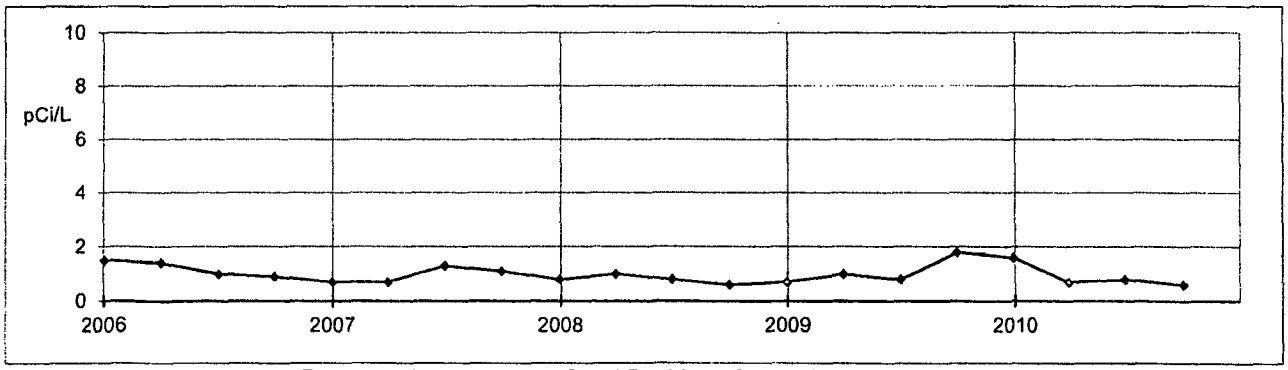

Figure 19. Location K-11. Total Residue. Quarterly collection.

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

Kewaunee Power Station
WELL WATER-GROSS BETA

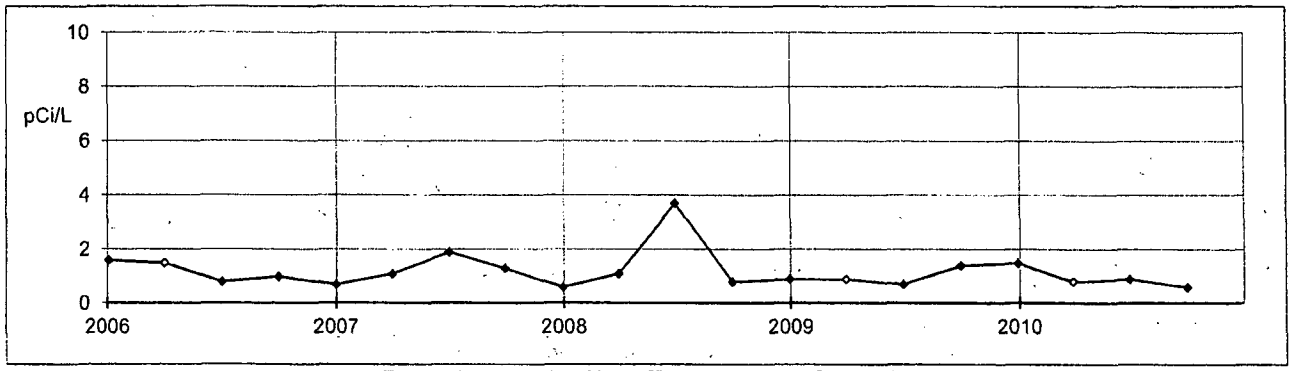

Figure 20. Location K-13. Total Residue. Quarterly collection.

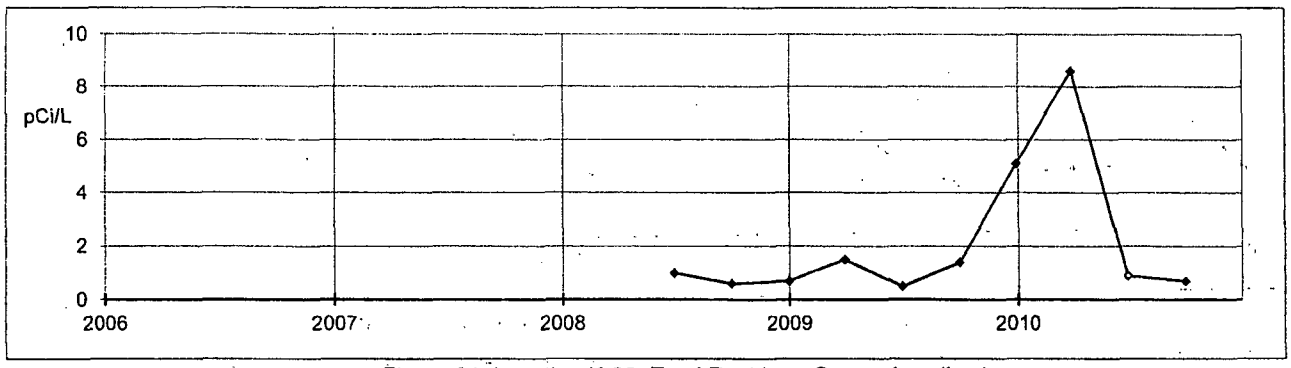

Figure 21. Location K-38. Total Residue. Quarterly collection.

Kewaunee Power Station
Milk - Strontium-90

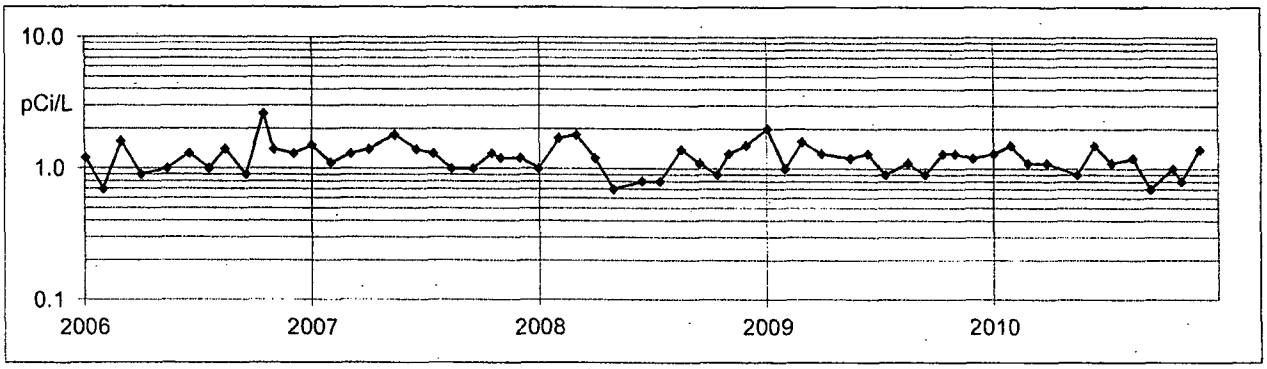

Figure 22. Milk samples. Location K-3.

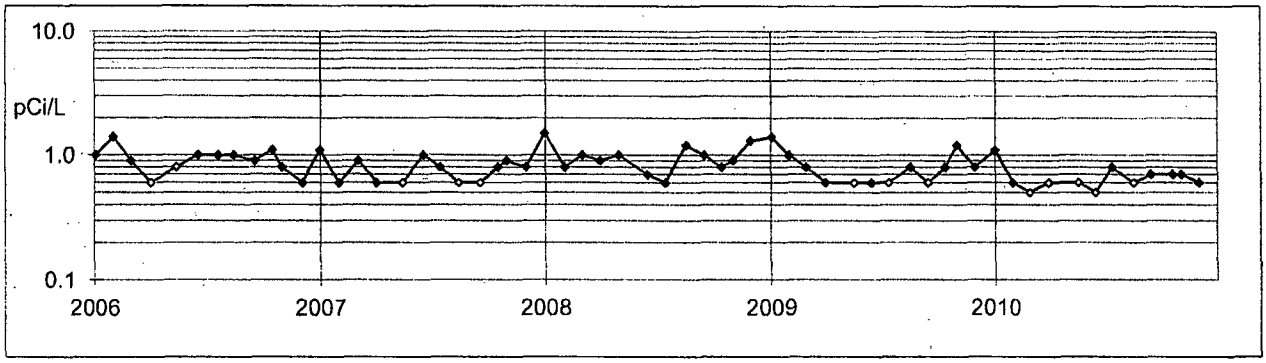

Figure 23. Milk samples. Location K-5.

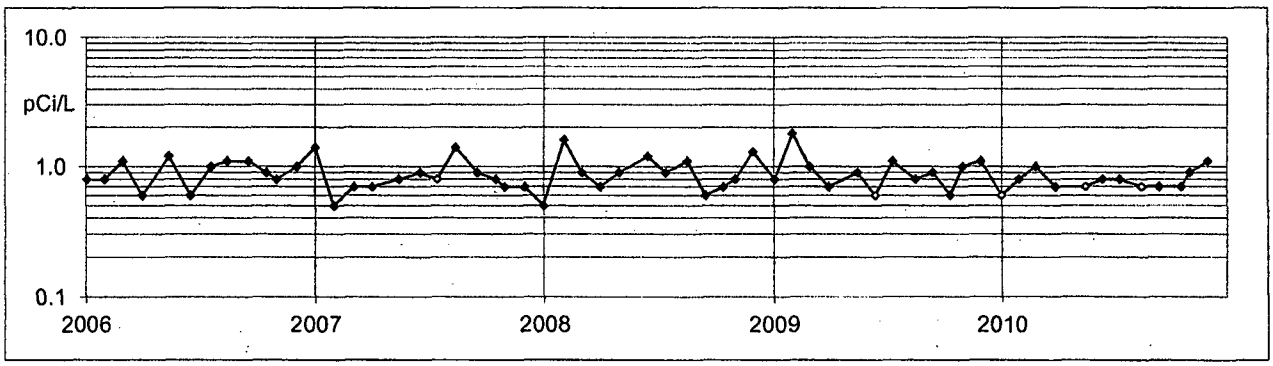

Figure 24. Milk samples. Location K-28 / K-42.

Note: K-42 (Lamer's Dairy Products) replaced K-28 in March, 2010.

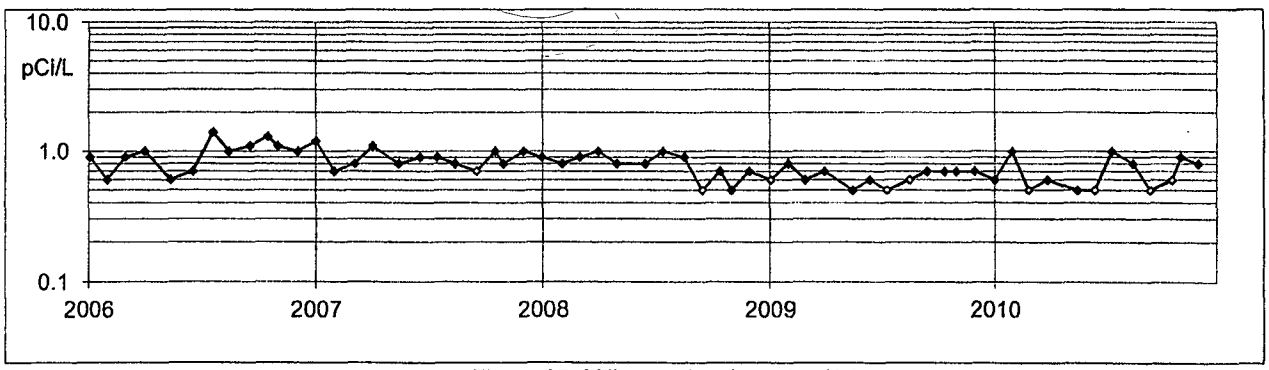

Figure 25. Milk samples. Location K-34.

Kewaunee Power Station
Milk - Strontium-90

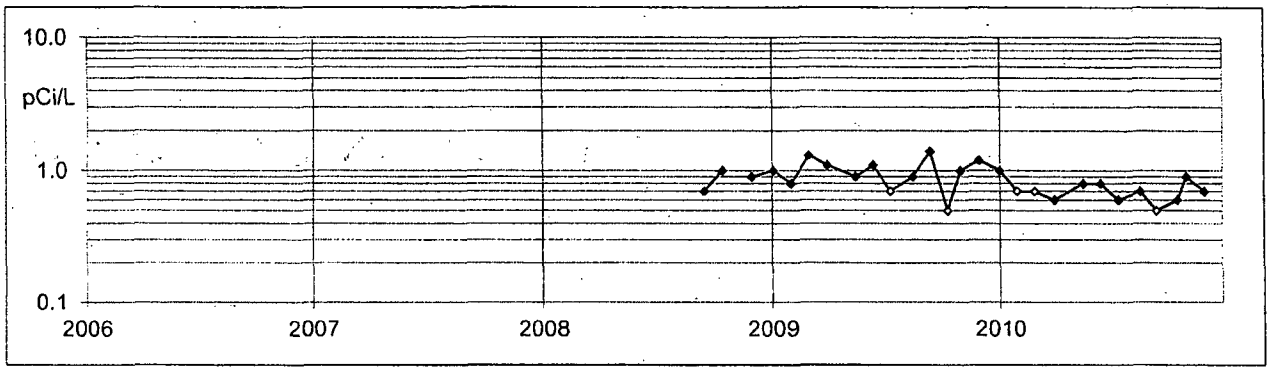

Figure 26. Milk samples. Location K-35.

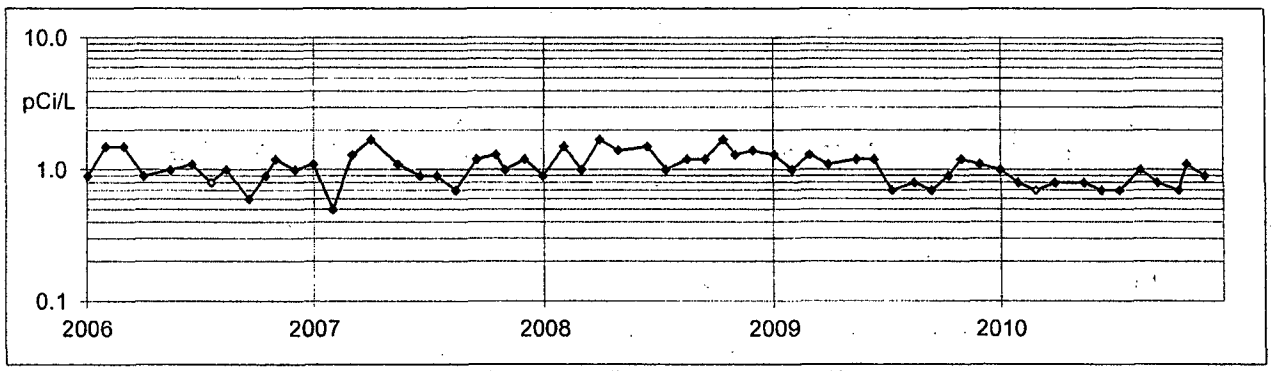

Figure 27. Milk samples. Location K-38.

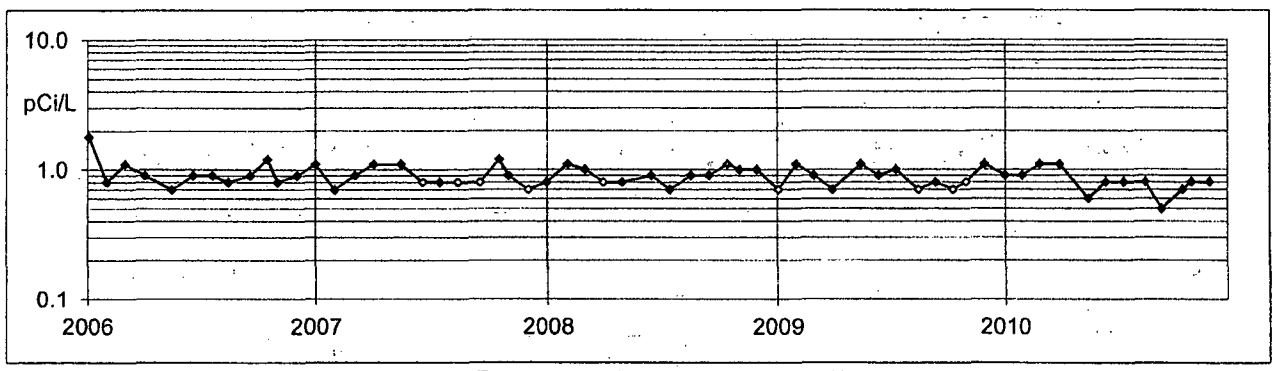

Figure 28. Milk samples. Location K-39.

Kewaunee Power Station
Surface Water - Gross Beta

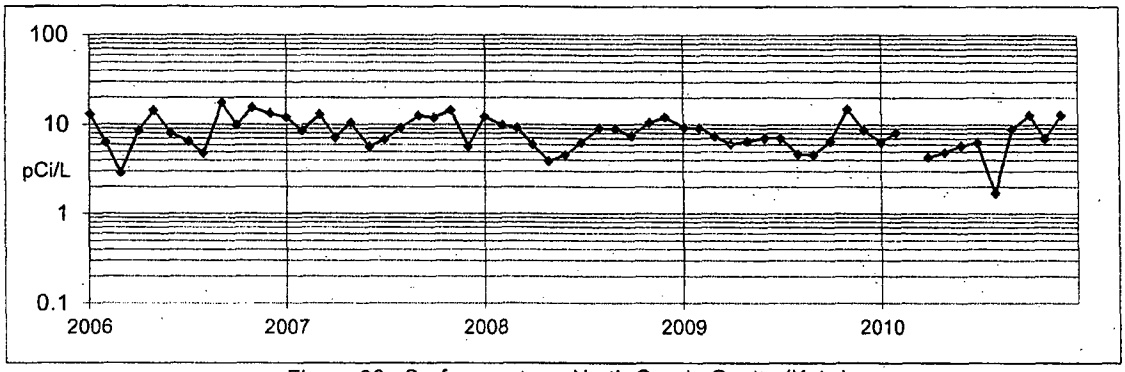

Figure 30. Surface water . North Creek, Onsite (K-1a).

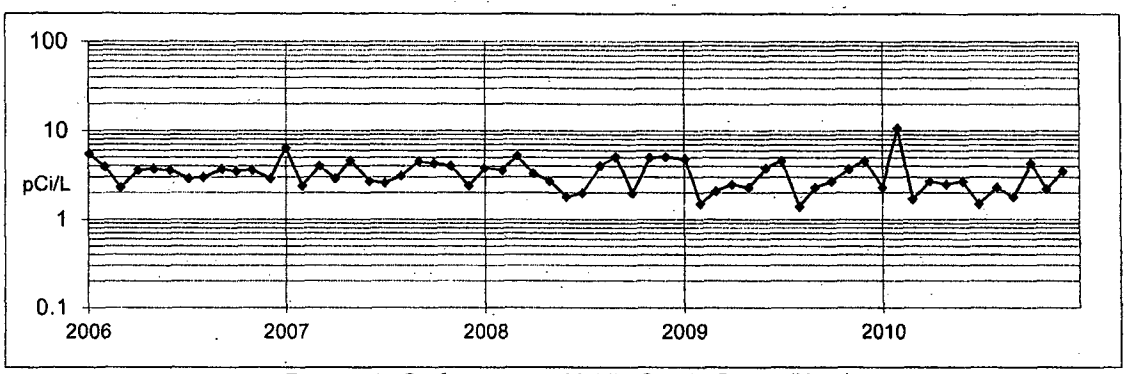

Figure 31. Surface water . Middle Creek, Onsite (K-1b).

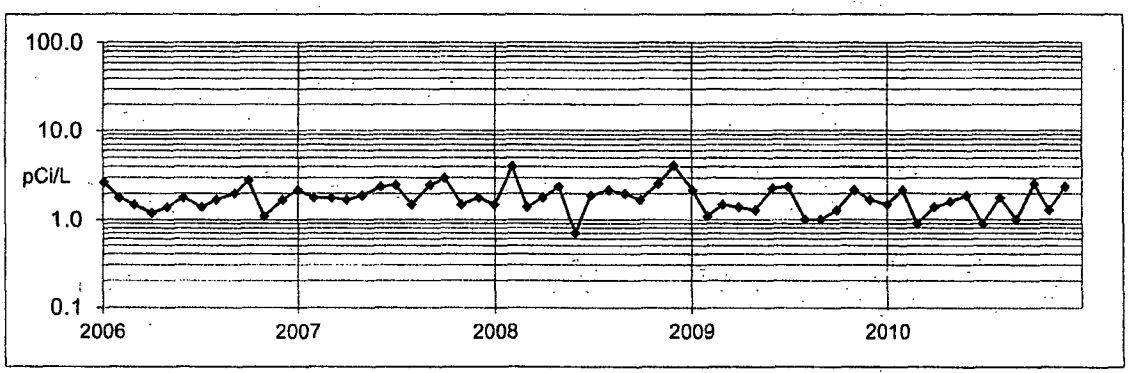

Figure 32. Surface water. Lake Michigan, condenser discharge, Onsite (K-1d).

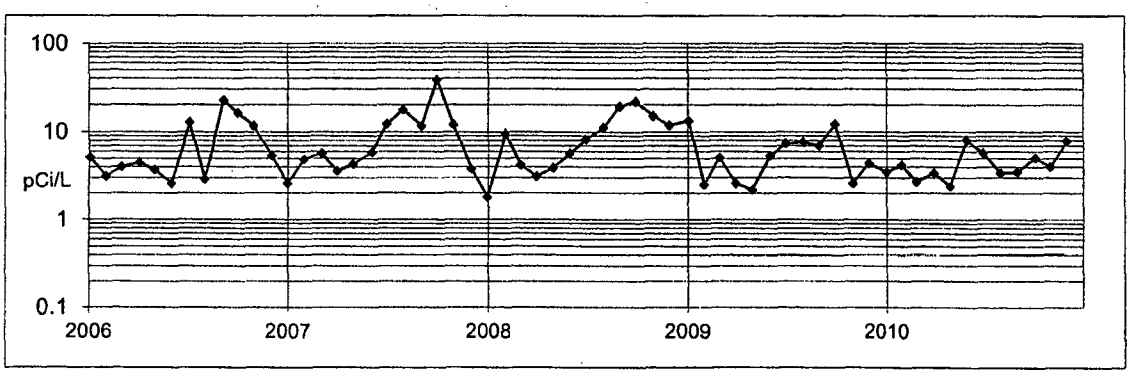

Figure 33. Surface water. South Creek, Onsite (K-1e).

Kewaunee Power Station
Surface Water - Gross Beta

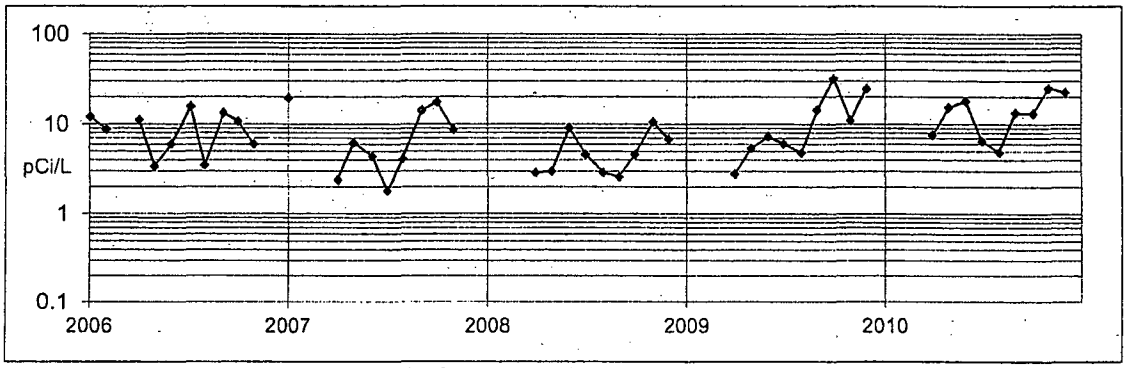

Figure 34. Surface water. School Forest Pond (K-1k).

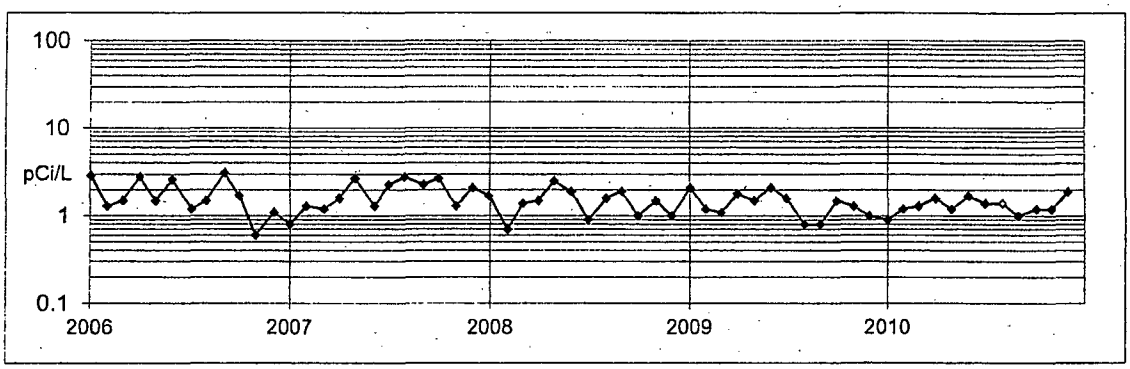

Figure 35. Surface water (raw). Lake Michigan, Rostok Intake (K-9)

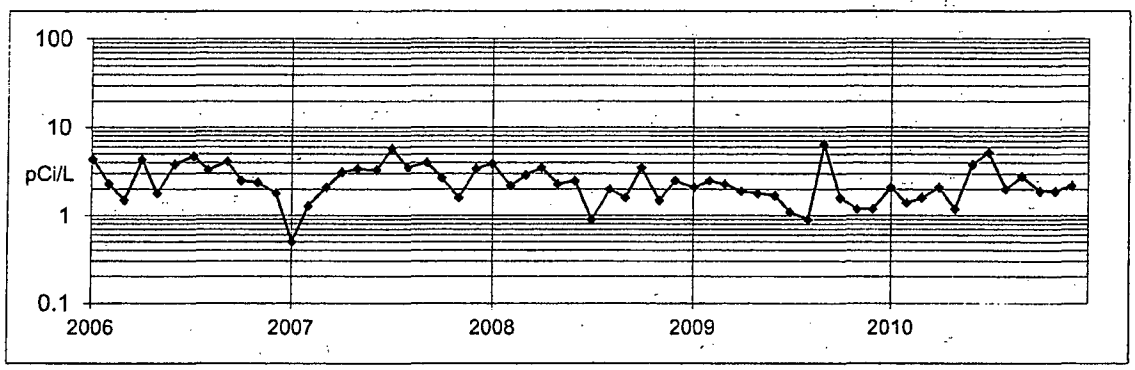

Figure 36. Surface water . Lake Michigan, Two Creeks Park (K-14a).

Kewaunee

Surface Water - Tritium

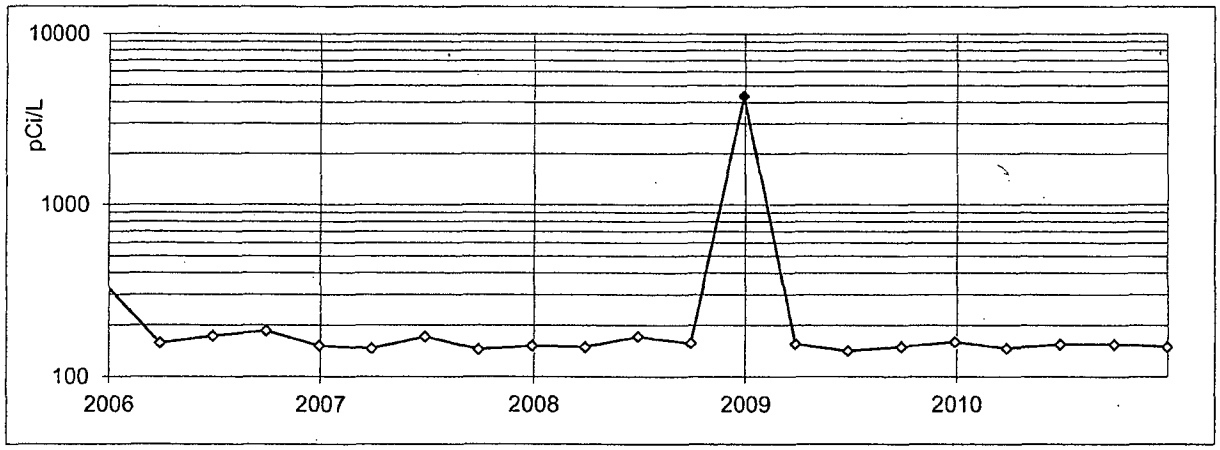

Figure 37. Surface water. Lake Michigan, condenser discharge, K-1d. Quarterly collection.

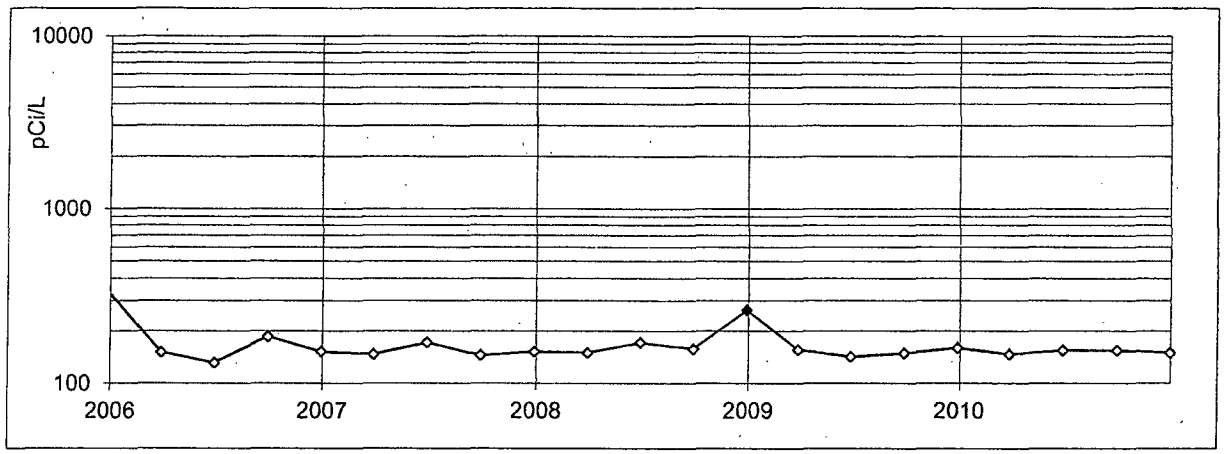

Figure 38. Surface water. Lake Michigan, Two Creeks Park, K-14a. Quarterly collection.

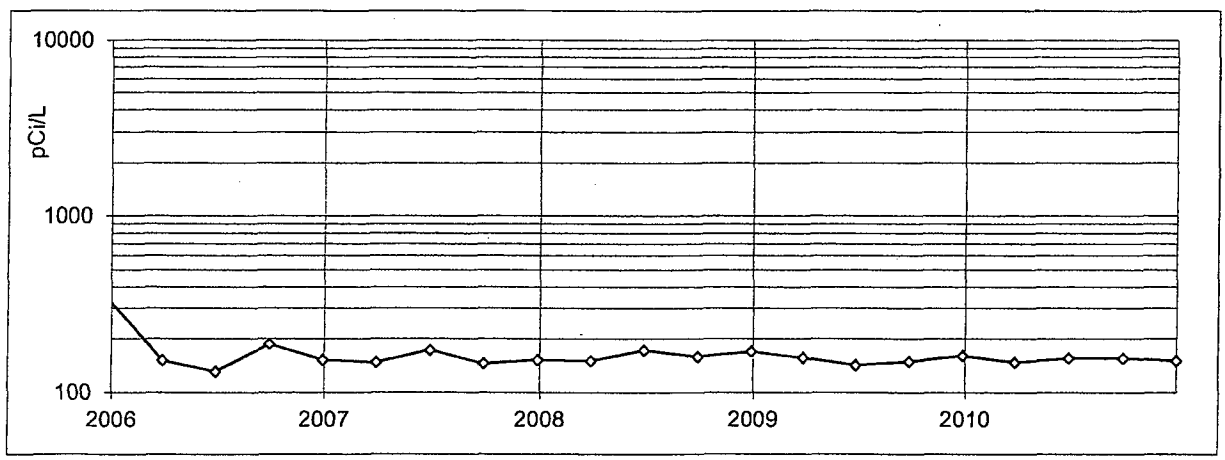

Figure 39. Surface water. Lake Michigan, Rostok Intake, K-9. Quarterly collection.

Note: Prior to 2006, LLD values were reported as compliant with technical specifications (< 330 pCi/L).

6.0 DATA TABULATIONS

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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
01-05-10	354	0.024 ± 0.003	07-06-10	403	0.015 ± 0.002
01-12-10	355	0.025 ± 0.003	07-13-10	363	0.015 ± 0.003
01-19-10	351	0.040 ± 0.004	07-20-10	319	0.018 ± 0.003
01-26-10	352	0.019 ± 0.003	07-27-10	338	0.020 ± 0.003
02-02-10	354	0.026 ± 0.003	08-03-10	341	0.020 ± 0.003
02-08-10	302	0.028 ± 0.003	08-10-10	354	0.026 ± 0.003
02-16-10	401	0.015 ± 0.002	08-17-10	361	0.021 ± 0.003
02-23-10	354	0.018 ± 0.003	08-24-10	335	0.021 ± 0.003
03-02-10	338	0.021 ± 0.003	08-30-10	229	0.029 ± 0.004
03-09-10	323	0.026 ± 0.003	09-07-10	344	0.022 ± 0.003
03-16-10	321	0.027 ± 0.003	09-14-10	302	0.018 ± 0.003
03-23-10	320	0.025 ± 0.003	09-21-10	303	0.020 ± 0.003
03-30-10	324	0.022 ± 0.003	09-28-10	303	0.026 ± 0.003
1st Quarter Mean ± s.d.		0.024 ± 0.006	3rd Quarter Mean ± s.d.		0.021 ± 0.004
04-05-10	277	0.030 ± 0.004	10-05-10	296	0.020 ± 0.003
04-13-10	367	0.018 ± 0.003	10-12-10	293	0.031 ± 0.004
04-20-10	336	0.018 ± 0.003	10-19-10	309	0.022 ± 0.003
04-26-10	303	0.020 ± 0.003	10-25-10	252	0.030 ± 0.004
05-04-10	403	0.018 ± 0.002	11-02-10	315	0.021 ± 0.003
05-10-10	304	0.012 ± 0.003	11-09-10	274	0.026 ± 0.004
05-18-10	398	0.013 ± 0.002	11-16-10	298	0.037 ± 0.004
05-25-10	361	0.019 ± 0.003	11-23-10	311	0.033 ± 0.004
05-31-10	297	0.013 ± 0.003	11-30-10	348	0.023 ± 0.003
06-08-10	404	0.012 ± 0.002	12-07-10	301	0.024 ± 0.003
06-15-10	348	0.017 ± 0.003	12-14-10	300	0.040 ± 0.004
06-22-10	357	0.012 ± 0.002	12-20-10	252	0.036 ± 0.004
06-28-10	301	0.021 ± 0.003	12-28-10	331	0.013 ± 0.003
2nd Quarter Mean ± s.d.		0.017 ± 0.005	4th Quarter Mean ± s.d.		0.027 ± 0.008
			Cumulative Average		0.022

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

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
01-05-10	339	0.025 ± 0.003	07-06-10	346	0.014 ± 0.003
01-12-10	356	0.023 ± 0.003	07-13-10	303	0.017 ± 0.003
01-19-10	351	0.037 ± 0.003	07-20-10	307	0.016 ± 0.003
01-26-10	336	0.017 ± 0.003	07-27-10	306	0.018 ± 0.003
02-02-10	339	0.022 ± 0.003	08-03-10	293	0.022 ± 0.003
02-08-10	306	0.026 ± 0.003	08-10-10	304	0.027 ± 0.003
02-16-10	381	0.014 ± 0.002	08-17-10	302	0.023 ± 0.003
02-23-10	324	0.018 ± 0.003	08-24-10	325	0.020 ± 0.003
03-02-10	338	0.020 ± 0.003	08-30-10	266	0.026 ± 0.004
03-09-10	338	0.023 ± 0.003	09-07-10	333	0.020 ± 0.003
03-16-10	311	0.024 ± 0.003	09-14-10	302	0.015 ± 0.003
03-23-10	300	0.021 ± 0.003	09-21-10	303	0.018 ± 0.003
03-30-10	304	0.022 ± 0.003	09-28-10	305	0.026 ± 0.003
1st Quarter Mean ± s.d.		0.022 ± 0.006	3rd Quarter Mean ± s.d.		0.020 ± 0.004
04-05-10	260	0.026 ± 0.004	10-05-10	296	0.020 ± 0.003
04-13-10	345	0.017 ± 0.003	10-12-10	314	0.025 ± 0.003
04-20-10	311	0.019 ± 0.003	10-19-10	303	0.022 ± 0.003
04-26-10	268	0.021 ± 0.003	10-25-10	258	0.032 ± 0.004
05-04-10	347	0.015 ± 0.002	11-02-10	353	0.022 ± 0.003
05-10-10	260	0.011 ± 0.003	11-09-10	311	0.024 ± 0.003
05-18-10	356	0.013 ± 0.002	11-16-10	264	0.045 ± 0.004
05-25-10	315	0.019 ± 0.003	11-23-10	281	0.041 ± 0.004
05-31-10	257	0.012 ± 0.003	11-30-10	306	0.025 ± 0.004
06-08-10	345	0.012 ± 0.002	12-07-10	302	0.024 ± 0.003
06-15-10	302	0.013 ± 0.003	12-14-10	306	0.038 ± 0.004
06-22-10	303	0.016 ± 0.003	12-20-10	248	0.041 ± 0.004
06-28-10	258	0.034 ± 0.004	12-28-10	320	0.016 ± 0.003
2nd Quarter Mean ± s.d.		0.018 ± 0.007	4th Quarter Mean ± s.d.		0.029 ± 0.009
			Cumulative Average		0.022

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

Table 6. Airborne particulates and charcoal canisters, analyses for gross beta and iodine-131[a].
Location: K-7 / K-43 [b]
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
01-05-10	332	0.027 ± 0.003	07-06-10	346	0.015 ± 0.003
01-12-10	330	0.024 ± 0.003	07-13-10	309	0.019 ± 0.003
01-19-10	320	0.037 ± 0.004	07-20-10	296	0.016 ± 0.003
01-26-10	309	0.023 ± 0.003	07-27-10	343	0.017 ± 0.003
02-02-10	301	0.026 ± 0.003	08-03-10	335	0.018 ± 0.003
02-08-10	254	0.027 ± 0.004	08-10-10	361	0.024 ± 0.003
02-16-10	231	0.026 ± 0.004	08-17-10	327	0.020 ± 0.003
02-23-10	223	0.026 ± 0.004	08-24-10	302	0.025 ± 0.003
03-02-10	307	0.021 ± 0.003	08-30-10	255	0.026 ± 0.004
03-09-10	298	0.027 ± 0.004	09-07-10	350	0.020 ± 0.003
03-16-10	301	0.023 ± 0.003	09-14-10	317	0.017 ± 0.003
03-23-10	300	0.024 ± 0.003	09-21-10	326	0.024 ± 0.003
03-30-10	312	0.024 ± 0.003	09-28-10	327	0.023 ± 0.003
1st Quarter Mean ± s.d.		0.026 ± 0.004	3rd Quarter Mean ± s.d.		0.020 ± 0.004
04-05-10	252	0.027 ± 0.004	10-05-10	304	0.021 ± 0.003
04-13-10	345	0.019 ± 0.003	10-12-10	306	0.031 ± 0.003
04-20-10	306	0.018 ± 0.003	10-19-10	293	0.021 ± 0.003
04-26-10	268	0.020 ± 0.003	10-25-10	267	0.032 ± 0.004
05-04-10	363	0.020 ± 0.003	11-02-10	360	0.019 ± 0.003
05-10-10	278	0.013 ± 0.003	11-09-10	299	0.027 ± 0.003
05-18-10	353	0.013 ± 0.002	11-16-10	319	0.039 ± 0.004
05-25-10	309	0.024 ± 0.003	11-23-10	307	0.040 ± 0.004
05-31-10	255	0.024 ± 0.003	11-30-10	309	0.027 ± 0.004
06-08-10	352	0.014 ± 0.002	12-07-10	299	0.024 ± 0.003
06-15-10	296	0.013 ± 0.003	12-14-10	305	0.038 ± 0.004
06-22-10	305	0.012 ± 0.003	12-20-10	260	0.037 ± 0.004
06-28-10	257	0.024 ± 0.003	12-28-10	375	0.015 ± 0.003
2nd Quarter Mean ± s.d.		0.019 ± 0.005	4th Quarter Mean ± s.d.		0.029 ± 0.008
			Cumulative Average		0.023

[a] Iodine-131 is sampled biweekly. Concentrations are < 0.03 pCi/m^3 unless otherwise noted.
[b] In August, 2010, Location K-07 (2.51 mi. SSW) was relocated. New location, K-43 (2.71 mi. SSW).

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
01-05-10	342	0.020 ± 0.003	07-06-10	346	0.012 ± 0.002
01-12-10	340	0.021 ± 0.003	07-13-10	309	0.017 ± 0.003
01-19-10	345	0.032 ± 0.003	07-20-10	297	0.014 ± 0.003
01-26-10	334	0.020 ± 0.003	07-27-10	316	0.018 ± 0.003
02-02-10	311	0.022 ± 0.003	08-03-10	288	0.016 ± 0.003
02-08-10	272	0.027 ± 0.004	08-10-10	309	0.024 ± 0.003
02-16-10	391	0.014 ± 0.002	08-17-10	302	0.018 ± 0.003
02-23-10	347	0.015 ± 0.002	08-24-10	312	0.017 ± 0.003
03-02-10	334	0.018 ± 0.003	08-30-10	235	0.029 ± 0.004
03-09-10	319	0.023 ± 0.003	09-07-10	345	0.021 ± 0.003
03-16-10	311	0.022 ± 0.003	09-14-10	302	0.015 ± 0.003
03-23-10	300	0.021 ± 0.003	09-21-10	303	0.023 ± 0.003
03-30-10	311	0.023 ± 0.003	09-28-10	308	0.023 ± 0.003
1st Quarter Mean ± s.d.		0.021 ± 0.005	3rd Quarter Mean ± s.d.		0.019 ± 0.005
04-05-10	253	0.024 ± 0.004	10-05-10	296	0.019 ± 0.003
04-13-10	345	0.018 ± 0.003	10-12-10	297	0.029 ± 0.003
04-20-10	331	0.014 ± 0.003	10-19-10	309	0.019 ± 0.003
04-26-10	302	0.017 ± 0.003	10-25-10	266	0.035 ± 0.004
05-04-10	369	0.015 ± 0.002	11-02-10	363	0.021 ± 0.003
05-10-10	261	0.014 ± 0.003	11-09-10	305	0.025 ± 0.003
05-18-10	341	0.012 ± 0.002	11-16-10	321	0.034 ± 0.004
05-25-10	309	0.023 ± 0.003	11-23-10	315	0.034 ± 0.004
05-31-10	255	0.018 ± 0.003	11-30-10	297	0.028 ± 0.004
06-08-10	381	0.011 ± 0.002	12-07-10	299	0.022 ± 0.003
06-15-10	321	0.011 ± 0.002	12-14-10	299	0.036 ± 0.004
06-22-10	305	0.009 ± 0.002	12-20-10	249	0.041 ± 0.004
06-28-10	257	0.021 ± 0.003	12-28-10	349	0.015 ± 0.003
2nd Quarter Mean ± s.d.		0.016 ± 0.005	4th Quarter Mean ± s.d.		0.028 ± 0.008
			Cumulative Average		0.021

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

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
01-05-10	303	0.026 ± 0.003	07-06-10	346	0.013 ± 0.002
01-12-10	305	0.029 ± 0.003	07-13-10	303	0.018 ± 0.003
01-19-10	301	0.040 ± 0.004	07-20-10	305	0.017 ± 0.003
01-26-10	301	0.020 ± 0.003	07-27-10	308	0.019 ± 0.003
02-02-10	255	0.024 ± 0.004	08-03-10	293	0.022 ± 0.003
02-08-10	259	0.027 ± 0.004	08-10-10	303	0.027 ± 0.003
02-16-10	341	0.015 ± 0.003	08-17-10	301	0.021 ± 0.003
02-23-10	304	0.018 ± 0.003	08-24-10	306	0.020 ± 0.003
03-02-10	302	0.020 ± 0.003	08-30-10	262	0.030 ± 0.004
03-09-10	303	0.022 ± 0.003	09-07-10	351	0.022 ± 0.003
03-16-10	301	0.022 ± 0.003	09-14-10	302	0.018 ± 0.003
03-23-10	300	0.022 ± 0.003	09-21-10	305	0.023 ± 0.003
03-30-10	40	< 0.023 [b]	09-28-10	306	0.024 ± 0.003
1st Quarter Mean ± s.d.		0.024 ± 0.006	3rd Quarter Mean ± s.d.		0.021 ± 0.004
04-05-10	254	0.028 ± 0.004	10-05-10	283	0.022 ± 0.003
04-13-10	345	0.015 ± 0.003	10-12-10	285	0.033 ± 0.004
04-20-10	300	0.015 ± 0.003	10-19-10	285	0.022 ± 0.003
04-26-10	260	0.020 ± 0.003	10-25-10	258	0.032 ± 0.004
05-04-10	346	0.016 ± 0.003	11-02-10	358	0.021 ± 0.003
05-10-10	261	0.012 ± 0.003	11-09-10	299	0.026 ± 0.003
05-18-10	345	0.016 ± 0.002	11-16-10	312	0.035 ± 0.004
05-25-10	305	0.021 ± 0.003	11-23-10	293	0.037 ± 0.004
05-31-10	257	0.017 ± 0.003	11-30-10	296	0.026 ± 0.004
06-08-10	344	0.012 ± 0.002	12-07-10	302	0.023 ± 0.003
06-15-10	302	0.013 ± 0.002	12-14-10	197	0.057 ± 0.006
06-22-10	306	0.015 ± 0.003	12-20-10	248	0.038 ± 0.004
06-28-10	254	0.021 ± 0.003	12-28-10	334	0.014 ± 0.003
2nd Quarter Mean ± s.d.		0.017 ± 0.004	4th Quarter Mean ± s.d.		0.030 ± 0.011
			Cumulative Average		0.023

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

[b] No explanation for low volume, sampler pump run-time, 22 hours.

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
01-05-10	301	0.030 ± 0.003	07-06-10	346	0.013 ± 0.002
01-12-10	306	0.021 ± 0.003	07-13-10	304	0.019 ± 0.003
01-19-10	300	0.040 ± 0.004	07-20-10	301	0.018 ± 0.003
01-26-10	302	0.020 ± 0.003	07-27-10	312	0.016 ± 0.003
02-02-10	303	0.028 ± 0.003	08-03-10	293	0.020 ± 0.003
02-08-10	258	0.024 ± 0.004	08-10-10	303	0.032 ± 0.003
02-16-10	345	0.013 ± 0.002	08-17-10	302	0.024 ± 0.003
02-23-10	303	0.017 ± 0.003	08-24-10	307	0.025 ± 0.003
03-02-10	338	0.019 ± 0.003	08-30-10	201	0.037 ± 0.005
03-09-10	353	0.022 ± 0.003	09-07-10	345	0.021 ± 0.003
03-16-10	351	0.021 ± 0.003	09-14-10	302	0.017 ± 0.003
03-23-10	350	0.021 ± 0.003	09-21-10	303	0.019 ± 0.003
03-30-10	355	0.020 ± 0.003	09-28-10	306	0.022 ± 0.003
1st Quarter Mean ± s.d.		0.023 ± 0.007	3rd Quarter Mean ± s.d.		0.022 ± 0.007
04-05-10	303	0.027 ± 0.003	10-05-10	296	0.022 ± 0.003
04-13-10	373	0.016 ± 0.002	10-12-10	302	0.030 ± 0.003
04-20-10	300	0.019 ± 0.003	10-19-10	303	0.022 ± 0.003
04-26-10	259	0.019 ± 0.003	10-25-10	259	0.027 ± 0.004
05-04-10	347	0.016 ± 0.003	11-02-10	357	0.019 ± 0.003
05-10-10	260	0.015 ± 0.003	11-09-10	331	0.026 ± 0.003
05-18-10	345	0.015 ± 0.002	11-16-10	267	0.046 ± 0.004
05-25-10	305	0.023 ± 0.003	11-23-10	283	0.036 ± 0.004
05-31-10	254	0.022 ± 0.003	11-30-10	284	0.030 ± 0.004
06-08-10	358	0.012 ± 0.002	12-07-10	300	0.021 ± 0.003
06-15-10	324	0.009 ± 0.002	12-14-10	262	0.046 ± 0.005
06-22-10	323	0.012 ± 0.002	12-20-10	217	0.047 ± 0.005
06-28-10	266	0.020 ± 0.003	12-28-10	346	0.016 ± 0.003
2nd Quarter Mean ± s.d.		0.017 ± 0.005	4th Quarter Mean ± s.d.		0.030 ± 0.011
			Cumulative Average		0.023

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

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

January

Location	Average	Minima	Maxima
Indicators	0.027	0.019	0.040
K-1f	0.027	0.019	0.040
K-7	0.027	0.023	0.037
Controls	0.026	0.017	0.040
K-2	0.025	0.017	0.037
K-8	0.023	0.020	0.032
K-31	0.028	0.020	0.040
K-41	0.028	0.020	0.040

February

Location	Average	Minima	Maxima
Indicators	0.022	0.013	0.028
K-1f	0.021	0.015	0.028
K-7	0.025	0.021	0.027
Controls	0.019	0.013	0.027
K-2	0.020	0.014	0.026
K-8	0.019	0.014	0.027
K-31	0.020	0.015	0.027
K-41	0.018	0.013	0.024

March

Location	Average	Minima	Maxima
Indicators	0.025	0.022	0.027
K-1f	0.025	0.022	0.027
K-7	0.025	0.023	0.027
Controls	0.022	0.020	0.024
K-2	0.023	0.021	0.024
K-8	0.022	0.021	0.023
K-31	0.022	0.022	0.022
K-41	0.021	0.020	0.022

April

Location	Average	Minima	Maxima
Indicators	0.021	0.018	0.030
K-1f	0.021	0.018	0.030
K-7	0.021	0.018	0.027
Controls	0.019	0.014	0.028
K-2	0.020	0.015	0.026
K-8	0.018	0.014	0.024
K-31	0.019	0.015	0.028
K-41	0.019	0.015	0.028

May

Location	Average	Minima	Maxima
Indicators	0.016	0.009	0.035
K-1f	0.014	0.012	0.019
K-7	0.019	0.013	0.024
Controls	0.017	0.011	0.023
K-2	0.014	0.011	0.019
K-8	0.017	0.012	0.023
K-31	0.017	0.012	0.021
K-41	0.019	0.015	0.023

June

Location	Average	Minima	Maxima
Indicators	0.016	0.012	0.024
K-1f	0.016	0.012	0.021
K-7	0.016	0.012	0.024
Controls	0.020	0.009	0.035
K-2	0.019	0.012	0.034
K-8	0.013	0.009	0.021
K-31	0.015	0.012	0.021
K-41	0.013	0.009	0.020

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	0.018	0.015	0.020
K-1f	0.018	0.015	0.020
K-7	0.017	0.015	0.019
Controls	0.017	0.012	0.022
K-2	0.017	0.014	0.022
K-8	0.015	0.012	0.018
K-31	0.018	0.013	0.022
K-41	0.017	0.013	0.020

August			
Location	Average	Minima	Maxima
Indicators	0.024	0.020	0.029
K-1f	0.024	0.021	0.029
K-7	0.024	0.020	0.026
Controls	0.025	0.017	0.037
K-2	0.024	0.020	0.027
K-8	0.022	0.017	0.029
K-31	0.025	0.020	0.030
K-41	0.030	0.024	0.037

September			
Location	Average	Minima	Maxima
Indicators	0.022	0.017	0.026
K-1f	0.022	0.018	0.026
K-7	0.021	0.017	0.024
Controls	0.021	0.015	0.026
K-2	0.020	0.015	0.026
K-8	0.021	0.015	0.023
K-31	0.022	0.018	0.024
K-41	0.020	0.017	0.022

October			
Location	Average	Minima	Maxima
Indicators	0.025	0.019	0.032
K-1f	0.025	0.020	0.031
K-7	0.025	0.019	0.032
Controls	0.025	0.019	0.035
K-2	0.024	0.020	0.032
K-8	0.025	0.019	0.035
K-31	0.026	0.021	0.033
K-41	0.024	0.019	0.030

November			
Location	Average	Minima	Maxima
Indicators	0.032	0.023	0.040
K-1f	0.030	0.023	0.037
K-7	0.033	0.027	0.040
Controls	0.033	0.024	0.046
K-2	0.034	0.024	0.045
K-8	0.030	0.025	0.034
K-31	0.031	0.026	0.037
K-41	0.035	0.026	0.046

December			
Location	Average	Minima	Maxima
Indicators	0.029	0.013	0.040
K-1f	0.028	0.013	0.040
K-7	0.029	0.015	0.038
Controls	0.031	0.014	0.057
K-2	0.030	0.016	0.041
K-8	0.029	0.015	0.041
K-31	0.033	0.014	0.057
K-41	0.033	0.016	0.047

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- 1782	KAP- 3655	KAP- 6146	KAP- 7682
Volume (m^3)	4449	4456	4295	3880
Be-7	0.082 ± 0.014	0.070 ± 0.013	0.059 ± 0.013	0.068 ± 0.017
Nb-95	< 0.0008	< 0.0008	< 0.0005	< 0.0007
Zr-95	< 0.0016	< 0.0011	< 0.0012	< 0.0010
Ru-103	< 0.0010	< 0.0005	< 0.0003	< 0.0008
Ru-106	< 0.0077	< 0.0056	< 0.0072	< 0.0046
Cs-134	< 0.0007	< 0.0008	< 0.0003	< 0.0007
Cs-137	< 0.0006	< 0.0006	< 0.0005	< 0.0006
Ce-141	< 0.0010	< 0.0013	< 0.0008	< 0.0015
Ce-144	< 0.0033	< 0.0032	< 0.0040	< 0.0031
K-7				
Lab Code	KAP- 1785	KAP- 3657	KAP- 6149	KAP- 7684
Volume (m^3)	3818	3939	4194	4003
Be-7	0.090 ± 0.013	0.083 ± 0.015	0.068 ± 0.014	0.054 ± 0.013
Nb-95	< 0.0007	< 0.0008	< 0.0009	< 0.0009
Zr-95	< 0.0009	< 0.0009	< 0.0009	< 0.0007
Ru-103	< 0.0009	< 0.0009	< 0.0007	< 0.0010
Ru-106	< 0.0023	< 0.0056	< 0.0056	< 0.0054
Cs-134	< 0.0003	< 0.0004	< 0.0006	< 0.0004
Cs-137	< 0.0006	< 0.0005	< 0.0006	< 0.0007
Ce-141	< 0.0009	< 0.0008	< 0.0011	< 0.0022
Ce-144	< 0.0032	< 0.0032	< 0.0038	< 0.0045

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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- 1784	KAP- 3656	KAP- 6148	KAP- 7683
Volume (m^3)	4323	3927	3995	3862
Be-7	0.079 ± 0.012	0.075 ± 0.014	0.075 ± 0.016	0.068 ± 0.015
Nb-95	< 0.0010	< 0.0012	< 0.0009	< 0.0011
Zr-95	< 0.0014	< 0.0010	< 0.0015	< 0.0016
Ru-103	< 0.0008	< 0.0007	< 0.0007	< 0.0008
Ru-106	< 0.0067	< 0.0072	< 0.0062	< 0.0096
Cs-134	< 0.0007	< 0.0008	< 0.0005	< 0.0009
Cs-137	< 0.0006	< 0.0004	< 0.0007	< 0.0010
Ce-141	< 0.0014	< 0.0014	< 0.0009	< 0.0016
Ce-144	< 0.0037	< 0.0036	< 0.0026	< 0.0052
K-8				
Lab Code	KAP- 1786	KAP- 3658	KAP- 6150	KAP- 7685
Volume (m^3)	4257	4030	3972	3965
Be-7	0.067 ± 0.014	0.065 ± 0.016	0.074 ± 0.018	0.056 ± 0.015
Nb-95	< 0.0005	< 0.0010	< 0.0013	< 0.0011
Zr-95	< 0.0015	< 0.0013	< 0.0013	< 0.0010
Ru-103	< 0.0010	< 0.0010	< 0.0006	< 0.0011
Ru-106	< 0.0031	< 0.0051	< 0.0082	< 0.0071
Cs-134	< 0.0009	< 0.0006	< 0.0007	< 0.0004
Cs-137	< 0.0007	< 0.0010	< 0.0005	< 0.0005
Ce-141	< 0.0012	< 0.0016	< 0.0013	< 0.0012
Ce-144	< 0.0037	< 0.0047	< 0.0041	< 0.0043

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- 1787	KAP- 3659	KAP- 6151	KAP- 7686
Volume (m^3)	3615	3879	3991	3750
Be-7	0.076 ± 0.013	0.073 ± 0.015	0.078 ± 0.015	0.066 ± 0.016
Nb-95	< 0.0009	< 0.0010	< 0.0010	< 0.0008
Zr-95	< 0.0017	< 0.0011	< 0.0017	< 0.0011
Ru-103	< 0.0013	< 0.0011	< 0.0005	< 0.0009
Ru-106	< 0.0076	< 0.0033	< 0.0056	< 0.0099
Cs-134	< 0.0008	< 0.0010	< 0.0008	< 0.0005
Cs-137	< 0.0010	< 0.0007	< 0.0007	< 0.0006
Ce-141	< 0.0022	< 0.0010	< 0.0009	< 0.0014
Ce-144	< 0.0047	< 0.0054	< 0.0042	< 0.0045
K-41				
Lab Code	KAP- 1788	KAP- 3660	KAP- 6152	KAP- 7687
Volume (m^3)	4165	4017	3925	3807
Be-7	0.072 ± 0.013	0.077 ± 0.015	0.072 ± 0.014	0.055 ± 0.014
Nb-95	< 0.0005	< 0.0009	< 0.0008	< 0.0010
Zr-95	< 0.0013	< 0.0012	< 0.0016	< 0.0017
Ru-103	< 0.0011	< 0.0007	< 0.0005	< 0.0008
Ru-106	< 0.0071	< 0.0059	< 0.0068	< 0.0079
Cs-134	< 0.0007	< 0.0006	< 0.0005	< 0.0005
Cs-137	< 0.0006	< 0.0005	< 0.0007	< 0.0008
Ce-141	< 0.0010	< 0.0009	< 0.0020	< 0.0012
Ce-144	< 0.0031	< 0.0034	< 0.0036	< 0.0033

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

	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	
Date Placed	01-04-10	04-01-10	07-01-10	10-04-10	
Date Removed	04-01-10	07-01-10	10-04-10	01-03-11	
	mR/91 days				
Indicator					Mean±s.d.
K-1f	12.1 ± 0.7	11.7 ± 0.3	10.8 ± 0.5	12.7 ± 0.4	11.8 ± 0.8
K-5	16.1 ± 0.5	18.5 ± 0.7	16.6 ± 0.6	19.6 ± 0.8	17.7 ± 1.6
K-7 / K-43	17.8 ± 1.1	18.8 ± 0.5	15.2 ± 0.8	16.2 ± 0.6	17.0 ± 1.6
K-17	12.8 ± 0.5	13.3 ± 0.4	11.5 ± 0.4	13.8 ± 0.3	12.9 ± 1.0
K-25	13.4 ± 0.4	17.4 ± 0.6	13.3 ± 0.3	18.2 ± 0.8	15.6 ± 2.6
K-27	15.7 ± 0.8	17.6 ± 0.9	14.6 ± 0.3	18.6 ± 1.0	16.6 ± 1.8
K-30	13.7 ± 1.2	14.9 ± 0.7	14.1 ± 0.6	16.2 ± 0.9	14.7 ± 1.1
K-39	14.5 ± 0.3	15.7 ± 0.4	13.6 ± 0.3	18.3 ± 0.4	15.5 ± 2.0
Mean ± s.d.	14.5 ± 1.9	16.0 ± 2.6	13.7 ± 1.9	16.7 ± 2.4	15.2 ± 1.4
Control					
K-2	14.8 ± 0.3	15.9 ± 0.8	14.6 ± 0.5	15.9 ± 0.6	15.3 ± 0.7
K-3	16.3 ± 0.7	16.8 ± 0.7	16.0 ± 0.6	17.8 ± 0.7	16.7 ± 0.8
K-8	14.3 ± 0.5	15.2 ± 0.6	14.0 ± 0.7	16.1 ± 0.6	14.9 ± 0.9
K-15	12.5 ± 0.3	14.0 ± 0.3	12.1 ± 0.4	14.8 ± 0.6	13.4 ± 1.3
K-31	10.9 ± 0.3	12.7 ± 0.2	10.2 ± 0.2	13.7 ± 0.4	11.9 ± 1.6
K-41	12.5 ± 0.7	13.7 ± 0.5	11.6 ± 0.5	16.5 ± 0.8	13.6 ± 2.1
Mean ± s.d.	13.6 ± 1.9	14.7 ± 1.5	13.1 ± 2.2	15.8 ± 1.4	14.3 ± 1.2

Inside the Protected Area

	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	
Date Placed	12-29-09	03-24-10	06-24-10	09-24-10	
Date Removed	03-24-10	06-24-10	09-24-10	12-23-10	
K-1L	14.4 ± 0.4	14.4 ± 0.6	14.0 ± 0.8	14.7 ± 0.8	14.4 ± 0.3
K-1M	15.9 ± 0.5	16.2 ± 0.7	13.8 ± 0.5	15.9 ± 0.7	15.5 ± 1.2
K-1N	13.6 ± 0.5	15.0 ± 1.0	12.9 ± 0.5	15.2 ± 0.8	14.5 ± 1.1
K-1O	12.7 ± 0.3	14.5 ± 0.5	12.4 ± 0.1	15.1 ± 1.1	14.1 ± 1.2
K-1P	13.2 ± 0.4	14.8 ± 1.0	12.6 ± 0.2	14.6 ± 1.0	14.2 ± 1.1
K-1Q	12.1 ± 0.9	13.1 ± 0.3	11.3 ± 0.6	12.9 ± 0.5	12.6 ± 0.9
K-1R	13.3 ± 0.5	14.4 ± 0.3	15.0 ± 0.5	15.7 ± 0.3	14.9 ± 0.6
K-1S	13.4 ± 0.6	14.3 ± 0.2	14.4 ± 0.5	15.0 ± 0.4	14.5 ± 0.3
Mean ± s.d.	13.6 ± 1.2	14.6 ± 0.9	13.3 ± 1.2	14.9 ± 0.9	14.1 ± 0.8

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

Date Collected	Lab Code	H-3 pCi/L	H-3 T.U. (100 T.U. = 320 pCi/L)
01/05/10	KP- 74	< 152	< 48
02/02/10	KP- 448	< 153	< 48
03/02/10	KP- 885	< 151	< 47
04/05/10	KP- 1491	< 144	< 45
05/04/10	KP- 2241	< 156	< 49
06/08/10	KP- 2977	< 140	< 44
07/06/10	KP- 3561	< 163	< 51
08/03/10	KP- 4241	< 164	< 51
09/07/10	KP- 5038	< 153	< 48
09/28/10	KP- 5463	< 156	< 49
11/02/10	KP- 6590	< 163	< 51
12/10/10	KP- 7287	< 141	< 44

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						
01-04-10	KMI- 7	< 0.5	< 10	< 10	< 15	1428 ± 114
02-01-10	KMI- 345	< 0.5	< 10	< 10	< 15	1355 ± 107
03-01-10	KMI- 786	< 0.5	< 10	< 10	< 15	1468 ± 120
04-01-10	KMI- 1395	< 0.5	< 10	< 10	< 15	1406 ± 96
05-03-10	KMI- 2141	< 0.5	< 10	< 10	< 15	1396 ± 111
05-18-10	KMI- 2493	< 0.5	< 10	< 10	< 15	1266 ± 117
06-01-10	KMI- 2779	< 0.5	< 10	< 10	< 15	1339 ± 110
06-15-10	KMI- 3075	< 0.5	< 10	< 10	< 15	1308 ± 113
07-01-10	KMI- 3414	< 0.5	< 10	< 10	< 15	1373 ± 110
07-13-10	KMI- 3785	< 0.5	< 10	< 10	< 15	1411 ± 133
08-02-10	KMI- 4098	< 0.5	< 10	< 10	< 15	1343 ± 119
08-17-10	KMI- 4564	< 0.5	< 10	< 10	< 15	1453 ± 111
09-01-10	KMI- 4889	< 0.5	< 10	< 10	< 15	1369 ± 120
09-14-10	KMI- 5165	< 0.5	< 10	< 10	< 15	1395 ± 116
10-04-10	KMI- 5495	< 0.5	< 10	< 10	< 15	1272 ± 112
10-19-10	KMI- 6001	< 0.5	< 10	< 10	< 15	1353 ± 123
11-02-10	KMI- 6469	< 0.5	< 10	< 10	< 15	1418 ± 124
12-02-10	KMI- 7039	< 0.5	< 10	< 10	< 15	1373 ± 132
K-34						
01-05-10	KMI- 9	< 0.5	< 10	< 10	< 15	1536 ± 116
02-02-10	KMI- 347	< 0.5	< 10	< 10	< 15	1465 ± 129
03-02-10	KMI- 788	< 0.5	< 10	< 10	< 15	1505 ± 118
04-01-10	KMI- 1397	< 0.5	< 10	< 10	< 15	1506 ± 131
05-03-10	KMI- 2143	< 0.5	< 10	< 10	< 15	1470 ± 119
05-18-10	KMI- 2494	< 0.5	< 10	< 10	< 15	1441 ± 110
06-02-10	KMI- 2780	< 0.5	< 10	< 10	< 15	1504 ± 117
06-15-10	KMI- 3076	< 0.5	< 10	< 10	< 15	1465 ± 113
07-02-10	KMI- 3415	< 0.5	< 10	< 10	< 15	1411 ± 120
07-13-10	KMI- 3786	< 0.5	< 10	< 10	< 15	1432 ± 117
08-02-10	KMI- 4099	< 0.5	< 10	< 10	< 15	1367 ± 114
08-17-10	KMI- 4565	< 0.5	< 10	< 10	< 15	1372 ± 115
09-02-10	KMI- 4890	< 0.5	< 10	< 10	< 15	1407 ± 118
09-14-10	KMI- 5166	< 0.5	< 10	< 10	< 15	1423 ± 110
10-04-10	KMI- 5496	< 0.5	< 10	< 10	< 15	1404 ± 128
10-19-10	KMI- 6002	< 0.5	< 10	< 10	< 15	1430 ± 115
11-01-10	KMI- 6470	< 0.5	< 10	< 10	< 15	1518 ± 120
12-01-10	KMI- 7040	< 0.5	< 10	< 10	< 15	1433 ± 124

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						
01-05-10	KMI- 11	< 0.5	< 10	< 10	< 15	1411 ± 114
02-02-10	KMI- 349	< 0.5	< 10	< 10	< 15	1382 ± 116
03-02-10	KMI- 790	< 0.5	< 10	< 10	< 15	1273 ± 106
04-01-10	KMI- 1399	< 0.5	< 10	< 10	< 15	1390 ± 110
05-03-10	KMI- 2145	< 0.5	< 10	< 10	< 15	1316 ± 112
05-18-10	KMI- 2496	< 0.5	< 10	< 10	< 15	1385 ± 121
06-02-10	KMI- 2782	< 0.5	< 10	< 10	< 15	1412 ± 114
06-15-10	KMI- 3078	< 0.5	< 10	< 10	< 15	1354 ± 114
07-02-10	KMI- 3417	< 0.5	< 10	< 10	< 15	1317 ± 110
07-13-10	KMI- 3788	< 0.5	< 10	< 10	< 15	1381 ± 103
08-03-10	KMI- 4101	< 0.5	< 10	< 10	< 15	1272 ± 116
08-17-10	KMI- 4567	< 0.5	< 10	< 10	< 15	1365 ± 100
09-02-10	KMI- 4892	< 0.5	< 10	< 10	< 15	1367 ± 114
09-14-10	KMI- 5168	< 0.5	< 10	< 10	< 15	1281 ± 115
10-05-10	KMI- 5498	< 0.5	< 10	< 10	< 15	1210 ± 103
10-19-10	KMI- 6004	< 0.5	< 10	< 10	< 15	1272 ± 126
11-01-10	KMI- 6472	< 0.5	< 10	< 10	< 15	1391 ± 124
12-01-10	KMI- 7042	< 0.5	< 10	< 10	< 15	1421 ± 111
K-39						
01-05-10	KMI- 12	< 0.5	< 10	< 10	< 15	1439 ± 101
02-02-10	KMI- 350	< 0.5	< 10	< 10	< 15	1398 ± 114
03-02-10	KMI- 791	< 0.5	< 10	< 10	< 15	1421 ± 111
04-01-10	KMI- 1400	< 0.5	< 10	< 10	< 15	1349 ± 94
05-03-10	KMI- 2146	< 0.5	< 10	< 10	< 15	1391 ± 111
05-18-10	KMI- 2497	< 0.5	< 10	< 10	< 15	1325 ± 122
06-02-10	KMI- 2783	< 0.5	< 10	< 10	< 15	1463 ± 113
06-15-10	KMI- 3079	< 0.5	< 10	< 10	< 15	1384 ± 113
07-02-10	KMI- 3418	< 0.5	< 10	< 10	< 15	1324 ± 113
07-13-10	KMI- 3789	< 0.5	< 10	< 10	< 15	1323 ± 127
08-03-10	KMI- 4102	< 0.5	< 10	< 10	< 15	1308 ± 107
08-17-10	KMI- 4568	< 0.5	< 10	< 10	< 15	1381 ± 112
09-02-10	KMI- 4893	< 0.5	< 10	< 10	< 15	1339 ± 102
09-14-10	KMI- 5169	< 0.5	< 10	< 10	< 15	1291 ± 110
10-04-10	KMI- 5499	< 0.5	< 10	< 10	< 15	1413 ± 106
10-19-10	KMI- 6005	< 0.5	< 10	< 10	< 15	1329 ± 104
11-01-10	KMI- 6473	< 0.5	< 10	< 10	< 15	1307 ± 120
12-01-10	KMI- 7043	< 0.5	< 10	< 10	< 15	1338 ± 115

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						
01-05-10	KMI- 6	< 0.5	< 10	< 10	< 15	1293 ± 108
02-01-10	KMI- 344	< 0.5	< 10	< 10	< 15	1390 ± 116
03-02-10	KMI- 785	< 0.5	< 10	< 10	< 15	1292 ± 131
04-02-10	KMI- 1394	< 0.5	< 10	< 10	< 15	1328 ± 106
05-04-10	KMI- 2140	< 0.5	< 10	< 10	< 15	1323 ± 112
05-18-10	KMI- 2492	< 0.5	< 10	< 10	< 15	1310 ± 113
06-02-10	KMI- 2778	< 0.5	< 10	< 10	< 15	1396 ± 126
06-15-10	KMI- 3074	< 0.5	< 10	< 10	< 15	1362 ± 117
07-02-10	KMI- 3413	< 0.5	< 10	< 10	< 15	1228 ± 116
07-13-10	KMI- 3784	< 0.5	< 10	< 10	< 15	1268 ± 113
08-03-10	KMI- 4097	< 0.5	< 10	< 10	< 15	1342 ± 120
08-17-10	KMI- 4563	< 0.5	< 10	< 10	< 15	1223 ± 106
09-01-10	KMI- 4888	< 0.5	< 10	< 10	< 15	1253 ± 125
09-14-10	KMI- 5164	< 0.5	< 10	< 10	< 15	1448 ± 121
10-05-10	KMI- 5494	< 0.5	< 10	< 10	< 15	1391 ± 125
10-19-10	KMI- 6000	< 0.5	< 10	< 10	< 15	1410 ± 109
11-02-10	KMI- 6468	< 0.5	< 10	< 10	< 15	1282 ± 120
12-02-10	KMI- 7038	< 0.5	< 10	< 10	< 15	1406 ± 139
K-28, K-42 [a]						
01-05-10	KMI- 8	< 0.5	< 10	< 10	< 15	1420 ± 112
02-02-10	KMI- 346	< 0.5	< 10	< 10	< 15	1420 ± 108
03-02-10	KMI- 787	< 0.5	< 10	< 10	< 15	1428 ± 111
04-02-10	KMI- 1396	< 0.5	< 10	< 10	< 15	1389 ± 125
05-04-10	KMI- 2142	< 0.5	< 10	< 10	< 15	1459 ± 123
05-18-10	KMI- 2498	< 0.5	< 10	< 10	< 15	1353 ± 109
06-01-10	KMI- 2784	< 0.5	< 10	< 10	< 15	1439 ± 130
06-15-10	KMI- 3080	< 0.5	< 10	< 10	< 15	1292 ± 110
07-01-10	KMI- 3419	< 0.5	< 10	< 10	< 15	1438 ± 111
07-13-10	KMI- 3790	< 0.5	< 10	< 10	< 15	1379 ± 108
08-02-10	KMI- 4103	< 0.5	< 10	< 10	< 15	1352 ± 105
08-17-10	KMI- 4569	< 0.5	< 10	< 10	< 15	1358 ± 105
09-02-10	KMI- 4894	< 0.5	< 10	< 10	< 15	1334 ± 129
09-14-10	KMI- 5170	< 0.5	< 10	< 10	< 15	1270 ± 106
10-04-10	KMI- 5500	< 0.5	< 10	< 10	< 15	1432 ± 121
10-19-10	KMI- 6006	< 0.5	< 10	< 10	< 15	1438 ± 127
11-01-10	KMI- 6474	< 0.5	< 10	< 10	< 15	1416 ± 126
12-01-10	KMI- 7044	< 0.5	< 10	< 10	< 15	1316 ± 112

[a] K-42 (Lamer's Dairy Products) replaces K-28 in March, 2010.

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-35						
01-04-10	KMI- 10	< 0.5	< 10	< 10	< 15	1458 ± 116
02-02-10	KMI- 348	< 0.5	< 10	< 10	< 15	1523 ± 126
03-02-10	KMI- 789	< 0.5	< 10	< 10	< 15	1480 ± 120
04-02-10	KMI- 1398	< 0.5	< 10	< 10	< 15	1465 ± 114
05-04-10	KMI- 2144	< 0.5	< 10	< 10	< 15	1450 ± 117
05-18-10	KMI- 2495	< 0.5	< 10	< 10	< 15	1390 ± 125
06-02-10	KMI- 2781	< 0.5	< 10	< 10	< 15	1564 ± 121
06-15-10	KMI- 3077	< 0.5	< 10	< 10	< 15	1632 ± 132
07-02-10	KMI- 3416	< 0.5	< 10	< 10	< 15	1498 ± 118
07-13-10	KMI- 3787	< 0.5	< 10	< 10	< 15	1069 ± 105
08-02-10	KMI- 4100	< 0.5	< 10	< 10	< 15	1392 ± 116
08-17-10	KMI- 4566	< 0.5	< 10	< 10	< 15	1269 ± 124
09-01-10	KMI- 4891	< 0.5	< 10	< 10	< 15	1061 ± 113
09-14-10	KMI- 5167	< 0.5	< 10	< 10	< 15	1173 ± 133
10-05-10	KMI- 5497	< 0.5	< 10	< 10	< 15	1442 ± 109
10-19-10	KMI- 6003	< 0.5	< 10	< 10	< 15	1452 ± 115
11-02-10	KMI- 6471	< 0.5	< 10	< 10	< 15	1365 ± 123
12-02-10	KMI- 7041	< 0.5	< 10	< 10	< 15	1413 ± 115

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 Sr-89 (pCi/L)	Sr-90 (pCi/L)	K (g/L)	Ca (g/L)	Ratios Sr-90 per gram Ca	Cs-137 per gram K
Indicators							
				K-5			
January	KMI - 7	< 1.2	1.1 ± 0.4	1.68 ± 0.13	1.22	0.90	< 5.95
February	- 345	< 0.9	0.6 ± 0.3	1.60 ± 0.13	1.12	0.54	< 6.25
March	- 786	< 1.0	< 0.5	1.73 ± 0.14	1.06	< 0.47	< 5.78
April	- 1395	< 1.2	< 0.6	1.66 ± 0.11	1.00	< 0.60	< 6.02
May	- 2581	< 1.0	< 0.6	1.57 ± 0.13	0.96	< 0.63	< 6.37
June	- 3085	< 0.7	< 0.5	1.56 ± 0.13	1.06	< 0.47	< 6.41
July	- 4088	< 0.9	0.8 ± 0.5	1.64 ± 0.14	0.93	0.86	< 6.10
August	- 4793	< 1.2	< 0.6	1.65 ± 0.14	1.09	< 0.55	< 6.06
September	- 5189	< 0.8	0.7 ± 0.3	1.63 ± 0.14	0.94	0.74	< 6.13
October	- 6604	< 0.8	0.7 ± 0.4	1.55 ± 0.14	0.95	0.74	< 6.45
November	- 6469	< 0.9	0.7 ± 0.3	1.67 ± 0.15	1.02	0.69	< 5.99
December	- 7039	< 0.8	0.6 ± 0.3	1.62 ± 0.16	1.18	0.51	< 6.17
				K-34			
January	KMI - 9	< 1.0	0.6 ± 0.3	1.81 ± 0.14	1.06	0.57	< 5.52
February	- 347	< 0.8	1.0 ± 0.3	1.73 ± 0.15	1.18	0.85	< 5.78
March	- 788	< 0.9	< 0.5	1.77 ± 0.14	1.16	< 0.43	< 5.65
April	- 1397	< 0.8	0.6 ± 0.3	1.78 ± 0.15	1.19	0.50	< 5.62
May	- 2582	< 0.7	0.5 ± 0.3	1.72 ± 0.14	0.99	0.51	< 5.81
June	- 3086	< 0.8	< 0.5	1.75 ± 0.14	0.94	< 0.53	< 5.71
July	- 4089	< 0.9	1.0 ± 0.4	1.68 ± 0.14	0.88	1.14	< 5.95
August	- 4794	< 0.8	0.8 ± 0.4	1.61 ± 0.14	1.07	0.75	< 6.21
September	- 5190	< 0.8	< 0.5	1.67 ± 0.13	0.99	< 0.51	< 5.99
October	- 6605	< 0.8	< 0.6	1.67 ± 0.14	1.01	< 0.59	< 5.99
November	- 6470	< 1.0	0.9 ± 0.3	1.79 ± 0.14	1.13	0.80	< 5.59
December	- 7040	< 0.9	0.8 ± 0.3	1.69 ± 0.15	1.01	0.79	< 5.92

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 Sr-89 (pCi/L)	Sr-90 (pCi/L)	K (g/L)	Ca (g/L)	Ratios Sr-90 per gram Ca	Cs-137 per gram K
Indicators							
				K-38			
January	KMI - 11	< 1.0	1.0 ± 0.4	1.66 ± 0.13	1.02	0.98	< 6.02
February	- 349	< 1.0	0.8 ± 0.4	1.63 ± 0.14	1.01	0.79	< 6.13
March	- 790	< 1.2	< 0.7	1.50 ± 0.13	1.08	< 0.65	< 6.67
April	- 1399	< 0.9	0.8 ± 0.3	1.64 ± 0.13	1.17	0.68	< 6.10
May	- 2584	< 0.7	0.8 ± 0.3	1.59 ± 0.14	1.00	0.80	< 6.29
June	- 3088	< 0.8	0.7 ± 0.4	1.63 ± 0.13	1.11	0.63	< 6.13
July	- 4091	< 0.8	0.7 ± 0.3	1.59 ± 0.13	0.95	0.74	< 6.29
August	- 4796	< 0.7	1.0 ± 0.4	1.55 ± 0.13	1.08	0.93	< 6.45
September	- 5192	< 0.7	0.8 ± 0.3	1.56 ± 0.14	0.95	0.84	< 6.41
October	- 6607	< 0.8	0.7 ± 0.3	1.46 ± 0.14	0.90	0.78	< 6.85
November	- 6472	< 0.9	1.1 ± 0.4	1.64 ± 0.15	1.19	0.92	< 6.10
December	- 7042	< 1.1	0.9 ± 0.4	1.68 ± 0.13	1.17	0.77	< 5.95
				K-39			
January	KMI - 12	< 1.2	0.9 ± 0.4	1.70 ± 0.12	1.06	0.85	< 5.88
February	- 350	< 0.9	0.9 ± 0.4	1.65 ± 0.13	1.09	0.83	< 6.06
March	- 791	< 1.0	1.1 ± 0.4	1.68 ± 0.13	1.12	0.98	< 5.95
April	- 1400	< 1.1	1.1 ± 0.4	1.59 ± 0.11	1.23	0.89	< 6.29
May	- 2585	< 0.8	0.6 ± 0.4	1.60 ± 0.14	1.02	0.59	< 6.25
June	- 3089	< 0.9	0.8 ± 0.3	1.68 ± 0.13	1.08	0.74	< 5.95
July	- 4092	< 0.8	0.8 ± 0.3	1.56 ± 0.14	1.00	0.80	< 6.41
August	- 4797	< 0.8	0.8 ± 0.4	1.59 ± 0.13	1.16	0.69	< 6.29
September	- 5193	< 0.7	0.5 ± 0.3	1.55 ± 0.13	1.06	0.47	< 6.45
October	- 6608	< 0.7	0.7 ± 0.3	1.62 ± 0.12	1.07	0.65	< 6.17
November	- 6473	< 0.9	0.8 ± 0.3	1.54 ± 0.14	1.04	0.77	< 6.49
December	- 7043	< 0.8	0.8 ± 0.4	1.58 ± 0.14	1.20	0.67	< 6.33

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 Sr-89 (pCi/L)	Sr-90 (pCi/L)	K (g/L)	Ca (g/L)	Ratios Sr-90 per gram Ca	Cs-137 per gram K
Control				K-3			
January	KMI - 6	< 1.0	1.3 ± 0.4	1.52 ± 0.13	1.31	0.99	< 6.58
February	- 344	< 1.3	1.5 ± 0.5	1.64 ± 0.14	1.29	1.16	< 6.10
March	- 785	< 0.9	1.1 ± 0.4	1.52 ± 0.15	1.17	0.94	< 6.58
April	- 1394	< 0.9	1.1 ± 0.4	1.57 ± 0.13	1.17	0.94	< 6.37
May	- 2580	< 0.8	0.9 ± 0.4	1.55 ± 0.13	1.05	0.86	< 6.45
June	- 3084	< 1.1	1.5 ± 0.5	1.63 ± 0.14	1.13	1.33	< 6.13
July	- 4087	< 0.8	1.1 ± 0.3	1.47 ± 0.14	0.99	1.11	< 6.80
August	- 4792	< 0.8	1.1 ± 0.4	1.51 ± 0.13	1.23	0.89	< 6.62
September	- 5188	< 0.7	0.7 ± 0.3	1.59 ± 0.15	1.05	0.67	< 6.29
October	- 6603	< 0.8	1.0 ± 0.4	1.65 ± 0.14	1.20	0.83	< 6.06
November	- 6468	< 0.8	0.8 ± 0.3	1.51 ± 0.14	1.14	0.70	< 6.62
December	- 7038	< 0.9	1.4 ± 0.3	1.66 ± 0.16	1.19	1.18	< 6.02
				K-28, K-42 [a]			
January	KMI - 8	< 1.1	< 0.6	1.67 ± 0.13	0.94	< 0.64	< 5.99
February	- 346	< 1.1	0.8 ± 0.4	1.67 ± 0.13	0.95	0.84	< 5.99
March	- 787	< 1.1	1.0 ± 0.4	1.68 ± 0.13	1.21	0.83	< 5.95
April	- 1396	< 0.8	0.7 ± 0.3	1.64 ± 0.15	1.13	0.62	< 6.10
May	- 2586	< 1.0	< 0.7	1.66 ± 0.14	0.98	< 0.71	< 6.02
June	- 3090	< 0.8	0.8 ± 0.4	1.61 ± 0.14	1.01	0.79	< 6.21
July	- 4093	< 0.8	0.8 ± 0.3	1.66 ± 0.13	0.93	0.86	< 6.02
August	- 4798	< 0.9	< 0.7	1.60 ± 0.12	1.22	< 0.57	< 6.25
September	- 5194	< 0.8	0.7 ± 0.3	1.54 ± 0.14	0.91	0.77	< 6.49
October	- 6609	< 0.8	0.7 ± 0.4	1.69 ± 0.15	0.92	0.76	< 5.92
November	- 6474	< 0.9	0.9 ± 0.4	1.67 ± 0.15	1.02	0.88	< 5.99
December	- 7044	< 0.8	1.1 ± 0.4	1.55 ± 0.13	1.23	0.89	< 6.45
				K-35			
January	KMI - 10	< 0.9	1.0 ± 0.3	1.72 ± 0.14	1.18	0.85	< 5.81
February	- 348	< 1.1	< 0.7	1.80 ± 0.15	1.20	< 0.58	< 5.56
March	- 789	< 1.0	< 0.7	1.75 ± 0.14	1.13	< 0.62	< 5.71
April	- 1398	< 0.8	0.6 ± 0.3	1.73 ± 0.13	1.29	0.47	< 5.78
May	- 2583	< 0.8	0.8 ± 0.3	1.67 ± 0.14	1.06	0.75	< 5.99
June	- 3087	< 0.8	0.8 ± 0.4	1.88 ± 0.15	0.94	0.85	< 5.32
July	- 4090	< 0.7	0.6 ± 0.3	1.51 ± 0.13	0.90	0.67	< 6.62
August	- 4795	< 0.7	0.7 ± 0.3	1.57 ± 0.14	1.20	0.58	< 6.37
September	- 5191	< 0.9	< 0.5	1.32 ± 0.15	0.87	< 0.57	< 7.58
October	- 6606	< 0.7	0.6 ± 0.3	1.71 ± 0.13	1.03	0.29	< 5.85
November	- 6471	< 0.9	0.9 ± 0.3	1.61 ± 0.15	1.18	0.76	< 6.21
December	- 7041	< 0.9	0.7 ± 0.4	1.67 ± 0.14	1.14	0.61	< 5.99

[a] K-42 (Lamer's Dairy Products) replaces K-28 in March, 2010.

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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	01-04-10	04-01-10	07-01-10	10-04-10
Lab Code	KWW- 31	KWW- 1401	KWW- 3452	KWW- 5519
Gross alpha	< 1.4	< 2.1	3.7 ± 1.9	< 2.3
Gross beta	2.1 ± 1.3	3.3 ± 1.3	2.6 ± 1.3	2.2 ± 1.2
H-3	< 154	< 142	< 182	< 190
Sr-89	< 0.6	< 0.6	< 0.8	< 0.5
Sr-90	< 0.5	< 0.4	< 0.5	< 0.4
K-40 (ICP)	2.46	3.11	2.51	2.60
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	01-04-10	04-01-10	07-01-10	10-04-10
Lab Code	KWW- 32	KWW- 1402	KWW- 3453	KWW- 5520
Gross alpha	< 1.8	< 2.4	3.3 ± 1.7	< 2.4
Gross beta	3.3 ± 1.5	2.9 ± 1.3	2.1 ± 1.2	< 1.7
H-3	< 154	< 142	< 182	< 190
K-40 (ICP)	2.49	2.92	2.77	2.42
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.

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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	01-04-10	04-01-10	07-01-10	10-04-10
Lab Code	KWW- 33	KWW- 1403	KWW- 3454	KWW- 5521
Gross beta	3.6 ± 1.4	1.4 ± 0.8	1.4 ± 0.7	1.7 ± 0.8
H-3	< 154	< 142	< 182	< 190
K-40 (ICP)	2.21	2.34	3.20	2.85
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	01-04-10	04-01-10	07-01-10	10-04-10
Lab Code	KWW- 34	KWW- 1404	KWW- 3455	KWW- 5522
Gross beta	< 1.6	< 0.7	0.8 ± 0.6	0.6 ± 0.3
H-3	< 154	< 142	< 182	< 164
K-40 (ICP)	0.87	0.95	0.95	1.04
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

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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-38				
Date Collected	01-04-10	04-01-10	07-01-10	10-04-10
Lab Code	KWW- 36	KWW- 1406	KWW- 3457	KWW- 5524
Gross beta	5.1 ± 1.3	7.2 ± 1.5	< 0.9	0.7 ± 0.4
H-3	< 154	< 142	< 182	< 190
K-40 (ICP)	4.81	10.73	0.78	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
Control				
K-13				
Date Collected	01-04-10	04-01-10	07-01-10	10-04-10
Lab Code	KWW- 35	KWW- 1405	KWW- 3456	KWW- 5523
Gross beta	< 1.5	< 1.7	0.9 ± 0.6	0.6 ± 0.3
H-3	< 154	< 142	< 182	< 190
K-40 (ICP)	0.92	1.06	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

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-32
Date Collected	09-01-10	09-02-10	09-01-10
Lab Code	KME- 4895	KME- 4896	KME- 4897
Gross Alpha	0.078 ± 0.033	0.071 ± 0.029	0.096 ± 0.030
Gross Beta	2.54 ± 0.10	3.16 ± 0.10	2.83 ± 0.09
Be-7	< 0.15	< 0.097	< 0.11
K-40	2.97 ± 0.46	2.64 ± 0.34	2.73 ± 0.38
Nb-95	< 0.027	< 0.012	< 0.012
Zr-95	< 0.032	< 0.023	< 0.039
Ru-103	< 0.013	< 0.012	< 0.015
Ru-106	< 0.187	< 0.122	< 0.132
Cs-134	< 0.019	< 0.015	< 0.012
Cs-137	< 0.018	< 0.008	< 0.007
Ce-141	< 0.037	< 0.014	< 0.024
Ce-144	< 0.060	< 0.095	< 0.083

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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	01-04-10	04-01-10	07-01-10	10-04-10
Lab Code	KE- 13	KE- 1391	KE- 3423	KE- 5491
Gross beta	1.90 ± 0.06	1.91 ± 0.09	1.85 ± 0.09	1.87 ± 0.06
Sr-89	< 0.006	< 0.006	< 0.008	< 0.006
Sr-90	< 0.004	< 0.003	< 0.003	< 0.002
Be-7	< 0.046	< 0.055	< 0.056	< 0.061
K-40	1.29 ± 0.14	1.15 ± 0.16	1.22 ± 0.13	1.43 ± 0.16
Nb-95	< 0.005	< 0.006	< 0.005	< 0.011
Zr-95	< 0.008	< 0.010	< 0.012	< 0.010
Ru-103	< 0.007	< 0.006	< 0.007	< 0.008
Ru-106	< 0.037	< 0.067	< 0.042	< 0.056
Cs-134	< 0.005	< 0.005	< 0.005	< 0.005
Cs-137	< 0.005	< 0.006	< 0.005	< 0.008
Ce-141	< 0.011	< 0.015	< 0.010	< 0.017
Ce-144	< 0.035	< 0.039	< 0.039	< 0.047

Location	K-32			
Date Collected	01-04-10	04-01-10	07-01-10	10-04-10
Lab Code	KE- 14	KE- 1392	KE- 3424	KE- 5492
Gross beta	1.53 ± 0.05	1.59 ± 0.07	1.66 ± 0.08	1.74 ± 0.05
Sr-89	< 0.004	< 0.006	< 0.012	< 0.010
Sr-90	< 0.002	< 0.003	< 0.005	< 0.004
Be-7	< 0.051	< 0.062	< 0.043	< 0.052
K-40	1.32 ± 0.13	1.08 ± 0.20	1.17 ± 0.13	1.55 ± 0.18
Nb-95	< 0.006	< 0.009	< 0.007	< 0.013
Zr-95	< 0.006	< 0.011	< 0.010	< 0.015
Ru-103	< 0.005	< 0.008	< 0.004	< 0.011
Ru-106	< 0.048	< 0.067	< 0.046	< 0.068
Cs-134	< 0.004	< 0.006	< 0.005	< 0.009
Cs-137	< 0.004	< 0.005	< 0.004	< 0.005
Ce-141	< 0.011	< 0.021	< 0.015	< 0.019
Ce-144	< 0.023	< 0.060	< 0.042	< 0.067

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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	08-02-10	08-02-10	08-02-10
Lab Code	KVE- 4238	KVE- 4239	KVE- 4240
Type	Clover A	Corn B	Oats C
Gross beta	4.85 ± 0.17	2.60 ± 0.07	8.67 ± 0.35
Sr-89	< 0.008	< 0.005	< 0.029
Sr-90	< 0.003	< 0.002	< 0.013
Be-7	1.25 ± 0.20	< 0.061	2.42 ± 0.24
K-40	3.69 ± 0.38	2.07 ± 0.21	4.50 ± 0.40
Nb-95	< 0.015	< 0.010	< 0.010
Zr-95	< 0.019	< 0.013	< 0.027
Ru-103	< 0.011	< 0.005	< 0.008
Ru-106	< 0.163	< 0.051	< 0.111
Cs-134	< 0.013	< 0.008	< 0.010
Cs-137	< 0.014	< 0.005	< 0.017
Ce-141	< 0.027	< 0.018	< 0.026
Ce-144	< 0.085	< 0.072	< 0.11

Location	K-29	K-38	
Date Collected	10-05-10	09-01-10	09-01-10
Lab Code	KVE- 5533	KVE- 4934	KVE- 4935
Type	Pumpkin	Cucumber	Zucchini
Gross beta	1.48 ± 0.03	3.13 ± 0.05	4.35 ± 0.07
Sr-89	< 0.002	< 0.003	< 0.006
Sr-90	< 0.001	< 0.002	< 0.004
Be-7	< 0.050	< 0.079	< 0.089
K-40	1.77 ± 0.17	2.03 ± 0.23	4.18 ± 0.31
Nb-95	< 0.007	< 0.008	< 0.008
Zr-95	< 0.006	< 0.017	< 0.012
Ru-103	< 0.005	< 0.009	< 0.010
Ru-106	< 0.037	< 0.069	< 0.050
Cs-134	< 0.005	< 0.006	< 0.008
Cs-137	< 0.005	< 0.011	< 0.008
Ce-141	< 0.016	< 0.019	< 0.017
Ce-144	< 0.045	< 0.086	< 0.066

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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	09-02-10	09-02-10	09-02-10	09-02-10
Lab Code	KVE- 4927	KVE- 4928	KVE- 4930	KVE- 4931
Type	Kohlrabi	Squash	Melon	Corn
Gross beta	4.88 ± 0.09	4.60 ± 0.08	2.15 ± 0.04	3.65 ± 0.07
Sr-89	< 0.004	< 0.007	< 0.002	< 0.005
Sr-90	< 0.002	< 0.004	0.001 ± 0.001	0.005 ± 0.002
Be-7	< 0.096	< 0.127	< 0.101	< 0.089
K-40	2.99 ± 0.29	2.99 ± 0.41	1.80 ± 0.26	2.52 ± 0.26
Nb-95	< 0.010	< 0.013	< 0.008	< 0.007
Zr-95	< 0.019	< 0.013	< 0.013	< 0.008
Ru-103	< 0.011	< 0.014	< 0.010	< 0.007
Ru-106	< 0.118	< 0.060	< 0.067	< 0.077
Cs-134	< 0.012	< 0.009	< 0.008	< 0.009
Cs-137	< 0.012	< 0.016	< 0.014	< 0.008
Ce-141	< 0.020	< 0.026	< 0.020	< 0.019
Ce-144	< 0.080	< 0.115	< 0.065	< 0.062

Date Collected	09-02-10	09-02-10	10-05-10
Lab Code	KVE- 4932	KVE- 4933	KVE- 5532
Type	Potatoes	Cucumber	Pumpkin
Gross beta	5.29 ± 0.10	2.79 ± 0.05	2.50 ± 0.05
Sr-89	< 0.008	< 0.003	< 0.004
Sr-90	< 0.005	< 0.002	< 0.002
Be-7	< 0.088	< 0.061	< 0.056
K-40	3.86 ± 0.31	1.81 ± 0.22	1.61 ± 0.17
Nb-95	< 0.010	< 0.008	< 0.006
Zr-95	< 0.008	< 0.017	< 0.009
Ru-103	< 0.011	< 0.010	< 0.005
Ru-106	< 0.096	< 0.076	< 0.069
Cs-134	< 0.007	< 0.007	< 0.005
Cs-137	< 0.010	< 0.007	< 0.007
Ce-141	< 0.018	< 0.020	< 0.017
Ce-144	< 0.065	< 0.064	< 0.054

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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	K-35	K-35
Date Collected	01-05-10	01-04-10	01-04-10	01-04-10
Lab Code	KCF- 16	KCF- 40	KCF- 19	KCF- 44
Type	Hay	Silage	Hay	Silage
Gross beta	11.22 ± 0.27	4.02 ± 0.14	18.66 ± 0.41	2.93 ± 0.09
Sr-89	< 0.012	< 0.015	< 0.019	< 0.013
Sr-90	0.018 ± 0.005	0.009 ± 0.004	0.021 ± 0.007	< 0.007
Be-7	0.19 ± 0.11	0.35 ± 0.15	< 0.11	< 0.071
K-40	7.87 ± 0.42	3.30 ± 0.29	13.00 ± 0.50	2.92 ± 0.23
Nb-95	< 0.010	< 0.009	< 0.018	< 0.009
Zr-95	< 0.015	< 0.016	< 0.019	< 0.007
Ru-103	< 0.013	< 0.011	< 0.007	< 0.009
Ru-106	< 0.115	< 0.082	< 0.057	< 0.072
Cs-134	< 0.011	< 0.012	< 0.010	< 0.007
Cs-137	< 0.012	< 0.011	< 0.011	< 0.006
Ce-141	< 0.022	< 0.022	< 0.019	< 0.018
Ce-144	< 0.109	< 0.086	< 0.084	< 0.059

	Indicator			
Location	K-5	K-5	K-34	K-34
Date Collected	01-04-10	01-04-10	01-04-10	01-04-10
Lab Code	KCF- 17	KCF- 41	KCF- 18	KCF- 43
Type	Hay	Silage	Hay	Silage
Gross beta	19.61 ± 0.46	3.26 ± 0.10	21.64 ± 0.62	2.58 ± 0.10
Sr-89	< 0.024	< 0.016	< 0.037	< 0.009
Sr-90	0.020 ± 0.009	0.012 ± 0.005	< 0.019	0.005 ± 0.002
Be-7	< 0.11	0.45 ± 0.11	< 0.10	< 0.076
K-40	16.06 ± 0.44	3.04 ± 0.22	18.35 ± 0.40	2.18 ± 0.20
Nb-95	< 0.010	< 0.007	< 0.013	< 0.010
Zr-95	< 0.016	< 0.013	< 0.022	< 0.009
Ru-103	< 0.009	< 0.005	< 0.010	< 0.008
Ru-106	< 0.091	< 0.069	< 0.101	< 0.038
Cs-134	< 0.011	< 0.006	< 0.009	< 0.006
Cs-137	< 0.011	< 0.009	0.032 ± 0.012	< 0.007
Ce-141	< 0.021	< 0.015	< 0.020	< 0.012
Ce-144	< 0.059	< 0.063	< 0.073	< 0.053

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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-38	K-38	K-39	K-39
Date Collected	01-04-10	01-04-10	01-04-10	01-04-10
Lab Code	KCF- 20	KCF- 45	KCF- 22	KCF- 46
Type	Hay	Silage	Hay	Silage
Gross beta	10.96 ± 0.27	3.00 ± 0.11	21.07 ± 0.55	3.28 ± 0.11
Sr-89	< 0.016	< 0.016	< 0.027	< 0.013
Sr-90	0.020 ± 0.006	0.010 ± 0.005	< 0.015	0.008 ± 0.004
Be-7	< 0.16	1.01 ± 0.16	< 0.10	0.39 ± 0.112
K-40	8.88 ± 0.48	3.38 ± 0.34	13.88 ± 0.37	2.87 ± 0.23
Nb-95	< 0.016	< 0.009	< 0.015	< 0.012
Zr-95	< 0.020	< 0.014	< 0.022	< 0.017
Ru-103	< 0.013	< 0.013	< 0.009	< 0.012
Ru-106	< 0.146	< 0.094	< 0.098	< 0.071
Cs-134	< 0.011	< 0.009	< 0.009	< 0.008
Cs-137	< 0.015	< 0.011	< 0.010	< 0.007
Ce-141	< 0.021	< 0.035	< 0.022	< 0.017
Ce-144	< 0.097	< 0.085	< 0.088	< 0.067

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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-34
Date Collected	05-03-10	05-03-10	05-03-10	05-03-10
Lab Code	KG- 2168	KG- 2169	KG- 2172	KG- 2173
Gross beta	6.92 ± 0.17	7.93 ± 0.19	9.87 ± 0.25	8.79 ± 0.21
Sr-89	< 0.008	< 0.011	< 0.014	< 0.009
Sr-90	< 0.004	< 0.007	< 0.008	< 0.005
Be-7	0.63 ± 0.17	0.45 ± 0.19	0.43 ± 0.20	0.52 ± 0.15
K-40	5.11 ± 0.38	6.93 ± 0.53	7.76 ± 0.53	6.91 ± 0.48
Mn-54	< 0.009	< 0.012	< 0.016	< 0.013
Co-58	< 0.009	< 0.020	< 0.012	< 0.011
Co-60	< 0.009	< 0.016	< 0.011	< 0.012
Nb-95	< 0.010	< 0.013	< 0.015	< 0.010
Zr-95	< 0.014	< 0.025	< 0.023	< 0.013
Ru-103	< 0.012	< 0.018	< 0.017	< 0.014
Ru-106	< 0.083	< 0.125	< 0.094	< 0.148
Cs-134	< 0.010	< 0.014	< 0.014	< 0.012
Cs-137	< 0.008	< 0.014	< 0.015	< 0.014
Ce-141	< 0.031	< 0.032	< 0.018	< 0.028
Ce-144	< 0.082	< 0.170	< 0.104	< 0.120

	Indicator		Control	
Location	K-38	K-39	K-3	K-35
Date Collected	05-03-10	05-03-10	05-03-10	05-03-10
Lab Code	KG- 2175	KG- 2176	KG- 2170	KG- 2174
Gross beta	8.66 ± 0.23	6.12 ± 0.16	8.73 ± 0.22	7.78 ± 0.19
Sr-89	< 0.010	< 0.010	< 0.011	< 0.006
Sr-90	< 0.006	< 0.006	< 0.007	< 0.003
Be-7	0.99 ± 0.16	0.69 ± 0.14	0.91 ± 0.32	1.20 ± 0.24
K-40	6.49 ± 0.47	5.87 ± 0.39	7.48 ± 0.78	7.14 ± 0.56
Mn-54	< 0.009	< 0.014	< 0.028	< 0.016
Co-58	< 0.012	< 0.012	< 0.014	< 0.016
Co-60	< 0.013	< 0.009	< 0.015	< 0.015
Nb-95	< 0.009	< 0.015	< 0.014	< 0.010
Zr-95	< 0.018	< 0.016	< 0.033	< 0.034
Ru-103	< 0.015	< 0.012	< 0.023	< 0.016
Ru-106	< 0.118	< 0.075	< 0.219	< 0.108
Cs-134	< 0.011	< 0.011	< 0.022	< 0.015
Cs-137	< 0.012	< 0.014	< 0.025	< 0.016
Ce-141	< 0.027	< 0.024	< 0.025	< 0.027
Ce-144	< 0.127	< 0.074	< 0.113	< 0.128

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

Sample Description and Concentration				
	Indicator			
Location	K-1b	K-1f	K-5	K-34
Date Collected	07-01-10	07-01-10	07-01-10	07-02-10
Lab Code	KG- 3425	KG- 3426	KG- 3429	KG- 3430
Gross beta	8.98 ± 0.19	8.43 ± 0.17	8.36 ± 0.17	9.07 ± 0.19
Sr-89	< 0.012	< 0.007	< 0.010	< 0.012
Sr-90	< 0.009	< 0.005	< 0.007	< 0.009
Be-7	1.38 ± 0.20	1.21 ± 0.18	2.28 ± 0.31	1.14 ± 0.22
K-40	6.01 ± 0.48	6.01 ± 0.45	6.08 ± 0.52	6.41 ± 0.47
Mn-54	< 0.007	< 0.014	< 0.018	< 0.010
Co-58	< 0.015	< 0.014	< 0.014	< 0.009
Co-60	< 0.012	< 0.010	< 0.016	< 0.016
Nb-95	< 0.014	< 0.010	< 0.010	< 0.016
Zr-95	< 0.029	< 0.024	< 0.025	< 0.026
Ru-103	< 0.015	< 0.014	< 0.017	< 0.017
Ru-106	< 0.141	< 0.126	< 0.118	< 0.139
Cs-134	< 0.015	< 0.013	< 0.016	< 0.016
Cs-137	< 0.016	< 0.018	< 0.017	< 0.019
Ce-141	< 0.035	< 0.034	< 0.024	< 0.034
Ce-144	< 0.089	< 0.123	< 0.126	< 0.144

	Indicator		Control	
Location	K-38	K-39	K-3	K-35
Date Collected	07-01-10	07-01-10	07-01-10	07-01-10
Lab Code	KG- 3432	KG- 3433	KG- 3427	KG- 3431
Gross beta	8.10 ± 0.17	8.58 ± 0.19	10.60 ± 0.33 [a]	8.71 ± 0.18
Sr-89	< 0.009	< 0.008	< 0.009	< 0.008
Sr-90	< 0.007	< 0.007	< 0.008	0.007 ± 0.004
Be-7	1.55 ± 0.18	1.45 ± 0.20	1.18 ± 0.29	2.22 ± 0.23
K-40	5.81 ± 0.42	5.40 ± 0.44	8.79 ± 0.64	6.17 ± 0.43
Mn-54	< 0.006	< 0.014	< 0.020	< 0.013
Co-58	< 0.008	< 0.017	< 0.018	< 0.012
Co-60	< 0.010	< 0.014	< 0.021	< 0.014
Nb-95	< 0.009	< 0.013	< 0.021	< 0.011
Zr-95	< 0.022	< 0.017	< 0.022	< 0.017
Ru-103	< 0.014	< 0.016	< 0.014	< 0.015
Ru-106	< 0.069	< 0.078	< 0.140	< 0.108
Cs-134	< 0.012	< 0.015	< 0.022	< 0.013
Cs-137	< 0.011	< 0.015	< 0.018	< 0.013
Ce-141	< 0.026	< 0.031	< 0.033	< 0.026
Ce-144	< 0.086	< 0.101	< 0.193	< 0.098

[a] Result of reanalysis.

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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			
Location	K-1b	K-1f	K-5	K-34
Date Collected	10-04-10	10-04-10	10-04-10	10-04-10
Lab Code	KG- 5510	KG- 5511	KG- 5513	KG- 5515
Gross beta	10.05 ± 0.28	8.91 ± 0.24	10.86 ± 0.44	10.26 ± 0.24
Sr-89	< 0.027	< 0.026	< 0.028	< 0.016
Sr-90	0.023 ± 0.009	0.022 ± 0.008	< 0.014	< 0.009
Be-7	4.15 ± 0.35	4.26 ± 0.32	6.73 ± 0.40	2.83 ± 0.30
K-40	5.34 ± 0.46	5.68 ± 0.48	7.10 ± 0.54	8.35 ± 0.56
Mn-54	< 0.022	< 0.014	< 0.018	< 0.013
Co-58	< 0.021	< 0.011	< 0.011	< 0.017
Co-60	< 0.014	< 0.017	< 0.014	< 0.019
Nb-95	< 0.020	< 0.016	< 0.023	< 0.021
Zr-95	< 0.029	< 0.032	< 0.036	< 0.027
Ru-103	< 0.018	< 0.017	< 0.019	< 0.023
Ru-106	< 0.144	< 0.128	< 0.141	< 0.205
Cs-134	< 0.015	< 0.018	< 0.018	< 0.015
Cs-137	< 0.010	< 0.013	< 0.020	< 0.009
Ce-141	< 0.047	< 0.034	< 0.039	< 0.029
Ce-144	< 0.152	< 0.084	< 0.131	< 0.170

	Indicator		Control	
Location	K-38	K-39	K-3	K-35
Date Collected	10-04-10	10-04-10	10-04-10	10-04-10
Lab Code	KG- 5517	KG- 5518	KG- 5512	KG- 5516
Gross beta	8.50 ± 0.22	9.68 ± 0.24	11.17 ± 0.25	19.80 ± 0.50
Sr-89	< 0.020	< 0.016	< 0.016	< 0.034
Sr-90	< 0.010	< 0.008	0.010 ± 0.005	0.028 ± 0.010
Be-7	4.10 ± 0.42	4.40 ± 0.36	3.03 ± 0.28	5.39 ± 0.38
K-40	7.41 ± 0.67	8.33 ± 0.63	6.73 ± 0.47	13.40 ± 0.84
Mn-54	< 0.015	< 0.016	< 0.015	< 0.025
Co-58	< 0.025	< 0.026	< 0.013	< 0.017
Co-60	< 0.031	< 0.018	< 0.014	< 0.015
Nb-95	< 0.017	< 0.019	< 0.012	< 0.020
Zr-95	< 0.032	< 0.032	< 0.026	< 0.039
Ru-103	< 0.018	< 0.011	< 0.017	< 0.016
Ru-106	< 0.238	< 0.170	< 0.162	< 0.182
Cs-134	< 0.023	< 0.014	< 0.012	< 0.021
Cs-137	< 0.027	< 0.020	< 0.016	< 0.025
Ce-141	< 0.054	< 0.029	< 0.032	< 0.052
Ce-144	< 0.192	< 0.128	< 0.077	< 0.156

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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	05-03-10	05-03-10
Lab Code	KSO- 2177	KSO- 2179
Gross alpha	5.34 ± 2.84	11.85 ± 3.69
Gross beta	24.25 ± 3.17	36.68 ± 3.57
Sr-89	< 0.091	< 0.053
Sr-90	< 0.045	< 0.024
Be-7	< 0.18	< 0.23
K-40	17.58 ± 0.83	22.06 ± 0.91
Nb-95	< 0.014	< 0.019
Zr-95	< 0.018	< 0.027
Ru-103	< 0.017	< 0.017
Ru-106	< 0.135	< 0.131
Cs-134	< 0.010	< 0.017
Cs-137	< 0.018	0.095 ± 0.037
Ce-141	< 0.030	< 0.037
Ce-144	< 0.102	< 0.122
Location	K-1f	K-5
Date Collected	10-04-10	10-04-10
Lab Code	KSO- 5525	KSO- 5527
Gross alpha	7.02 ± 3.40	7.09 ± 2.99
Gross beta	26.65 ± 3.64	28.60 ± 3.37
Sr-89	< 0.036	< 0.036
Sr-90	< 0.017	0.031 ± 0.011
Be-7	< 0.23	0.70 ± 0.30
K-40	17.56 ± 0.81	19.76 ± 0.93
Nb-95	< 0.019	< 0.023
Zr-95	< 0.029	< 0.023
Ru-103	< 0.010	< 0.021
Ru-106	< 0.174	< 0.137
Cs-134	< 0.018	< 0.009
Cs-137	< 0.018	0.090 ± 0.027
Ce-141	< 0.051	< 0.047
Ce-144	< 0.101	< 0.077

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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	05-03-10	05-03-10	05-03-10
Lab Code	KSO- 2180	KSO- 2182	KSO- 2183
Gross alpha	8.45 ± 3.52	5.14 ± 2.78	5.77 ± 3.07
Gross beta	35.49 ± 3.90	30.79 ± 3.41	27.42 ± 3.54
Sr-89	< 0.039	< 0.040	< 0.037
Sr-90	< 0.019	0.035 ± 0.013	< 0.018
Be-7	< 0.31	< 0.21	0.42 ± 0.20
K-40	20.63 ± 1.19	23.69 ± 0.97	18.95 ± 0.86
Nb-95	< 0.025	< 0.013	< 0.010
Zr-95	< 0.034	< 0.027	< 0.024
Ru-103	< 0.032	< 0.020	< 0.014
Ru-106	< 0.356	< 0.082	< 0.206
Cs-134	< 0.038	< 0.020	< 0.016
Cs-137	0.078 ± 0.036	0.11 ± 0.044	0.10 ± 0.024
Ce-141	< 0.052	< 0.027	< 0.029
Ce-144	< 0.120	< 0.142	< 0.124
Location	K-34	K-38	K-39
Date Collected	10-04-10	10-04-10	10-04-10
Lab Code	KSO- 5528	KSO- 5530	KSO- 5531
Gross alpha	7.69 ± 3.54	9.48 ± 3.41	6.71 ± 3.33
Gross beta	31.35 ± 3.91	30.95 ± 3.58	36.25 ± 4.00
Sr-89	< 0.057	< 0.036	< 0.038
Sr-90	< 0.030	< 0.017	0.029 ± 0.012
Be-7	< 0.27	< 0.21	< 0.27
K-40	20.52 ± 0.98	21.03 ± 0.92	20.84 ± 0.92
Nb-95	< 0.024	< 0.030	< 0.027
Zr-95	< 0.028	< 0.031	< 0.023
Ru-103	< 0.012	< 0.027	< 0.017
Ru-106	< 0.139	< 0.189	< 0.138
Cs-134	< 0.022	< 0.017	< 0.016
Cs-137	0.099 ± 0.033	< 0.029	0.14 ± 0.027
Ce-141	< 0.045	< 0.054	< 0.055
Ce-144	< 0.135	< 0.131	< 0.126

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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)		
	Control	
Location	K-3	K-35
Date Collected	05-03-10	05-03-10
Lab Code	KSO- 2178	KSO- 2181
Gross alpha	4.61 ± 2.49	3.73 ± 2.53
Gross beta	20.75 ± 2.82	23.96 ± 3.25
Sr-89	< 0.050	< 0.037
Sr-90	< 0.036	0.022 ± 0.010
Be-7	0.67 ± 0.24	< 0.19
K-40	11.83 ± 0.74	16.08 ± 0.83
Nb-95	< 0.014	< 0.019
Zr-95	< 0.038	< 0.021
Ru-103	< 0.018	< 0.011
Ru-106	< 0.121	< 0.096
Cs-134	< 0.020	< 0.014
Cs-137	0.084 ± 0.027	0.132 ± 0.034
Ce-141	< 0.027	< 0.036
Ce-144	< 0.177	< 0.132
Location	K-3	K-35
Date Collected	10-04-10	10-04-10
Lab Code	KSO- 5526	KSO- 5529
Gross alpha	7.22 ± 3.21	6.25 ± 3.12
Gross beta	24.58 ± 3.21	28.43 ± 3.46
Sr-89	< 0.036	< 0.048
Sr-90	0.019 ± 0.010	0.049 ± 0.015
Be-7	< 0.24	0.45 ± 0.22
K-40	15.59 ± 0.79	17.06 ± 0.89
Nb-95	< 0.014	< 0.022
Zr-95	< 0.037	< 0.046
Ru-103	< 0.012	< 0.027
Ru-106	< 0.145	< 0.221
Cs-134	< 0.021	< 0.018
Cs-137	0.098 ± 0.035	0.15 ± 0.036
Ce-141	< 0.049	< 0.060
Ce-144	< 0.117	< 0.107

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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	01-04-10	02-01-10	03-01-10
Lab Code	KSW- 23	KSW- 380	NS [b]
Gross beta			
Suspended Solids	< 0.8	< 0.7	-
Dissolved Solids	6.3 ± 0.6	8.2 ± 2.1	-
Total Residue	6.3 ± 0.6	8.2 ± 2.1	-
K-40 (ICP)	6.08	5.79	-
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	-
K-1b			
Date Collected	01-04-10	02-01-10	03-01-10
Lab Code	KSW- 24	KSW- 381	KSW- 777
Gross beta			
Suspended Solids	< 0.7	< 0.8	< 0.8
Dissolved Solids	2.3 ± 0.3	10.8 ± 1.3 [a]	1.7 ± 0.6
Total Residue	2.3 ± 0.3	10.8 ± 1.3	1.7 ± 0.6
K-40 (ICP)	2.06	2.33	1.80
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

[a] Analysis was repeated, result of reanalysis; 12.6 ± 1.7 pCi/L. [b] NS = No sample; water frozen.

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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	04-01-10	05-03-10	06-01-10
Lab Code	KSW- 1382	KSW- 2159	KSW- 2762
Gross beta			
Suspended Solids	< 0.2	< 1.3	< 0.8
Dissolved Solids	4.3 ± 1.0	4.9 ± 0.6	5.8 ± 1.6
Total Residue	4.3 ± 1.0	4.9 ± 0.6	5.8 ± 1.6
K-40 (ICP)	4.92	5.26	4.83
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	04-01-10	05-03-10	06-01-10
Lab Code	KSW- 1383	KSW- 2160	KSW- 2763
Gross beta			
Suspended Solids	< 0.2	< 1.0	< 0.7
Dissolved Solids	2.7 ± 0.7	2.5 ± 0.4	2.7 ± 1.0
Total Residue	2.7 ± 0.7	2.5 ± 0.4	2.7 ± 1.0
K-40 (ICP)	1.87	2.54	1.63
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	07-01-10	08-02-10	09-01-10
Lab Code	KSW- 3434	KSW- 4109	KSW- 4936
Gross beta			
Suspended Solids	< 0.9	< 0.5	0.5 ± 0.3
Dissolved Solids	6.3 ± 1.2	1.7 ± 1.0	8.4 ± 0.7
Total Residue	6.3 ± 1.2	1.7 ± 1.0	8.9 ± 0.8
K-40 (ICP)	7.17	1.70	10.09
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	07-01-10	08-02-10	09-01-10
Lab Code	KSW- 3435	KSW- 4110	KSW- 4937
Gross beta			
Suspended Solids	< 0.8	< 0.5	< 0.4
Dissolved Solids	1.5 ± 0.6	2.3 ± 0.7	1.8 ± 0.4
Total Residue	1.5 ± 0.6	2.3 ± 0.7	1.8 ± 0.4
K-40 (ICP)	1.95	2.57	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

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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	10-04-10	11-01-10	12-01-10
Lab Code	KSW- 5501	KSW- 6459	KSW- 7045
Gross beta			
Suspended Solids	< 0.8	< 0.5	< 0.8
Dissolved Solids	12.8 ± 2.0	7.0 ± 0.9	12.8 ± 1.1
Total Residue	12.8 ± 2.0	7.0 ± 0.9	12.8 ± 1.1
K-40 (ICP)	7.08	7.22	12.14
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-1b			
Date Collected	10-04-10	11-01-10	12-01-10
Lab Code	KSW- 5502	KSW- 6460	KSW- 7046
Gross beta			
Suspended Solids	< 0.7	< 0.5	< 0.7
Dissolved Solids	4.3 ± 1.1	2.2 ± 0.5	3.5 ± 0.6
Total Residue	4.3 ± 1.1	2.2 ± 0.5	3.5 ± 0.6
K-40 (ICP)	3.12	2.42	2.12
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-1d			
Date Collected	01-04-10	02-01-10	03-01-10
Lab Code	KSW- 25	KSW- 382	KSW- 778
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.7
Dissolved Solids	1.5 ± 0.2	2.2 ± 0.7	0.9 ± 0.4
Total Residue	1.5 ± 0.2	2.2 ± 0.7	0.9 ± 0.4
K-40 (ICP)	1.22	1.09	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
K-1e			
Date Collected	01-04-10	02-01-10	03-01-10
Lab Code	KSW- 26	KSW- 384	KSW- 779
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.8
Dissolved Solids	3.5 ± 0.5	4.2 ± 1.0	6.8 ± 1.8
Total Residue	3.5 ± 0.5	4.2 ± 1.0	6.8 ± 1.8
K-40 (ICP)	3.20	3.77	6.32
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

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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	04-01-10	05-03-10	06-01-10
Lab Code	KSW- 1384	KSW- 2161	KSW- 2764
Gross beta			
Suspended Solids	< 0.2	< 0.6	< 0.7
Dissolved Solids	1.4 ± 0.4	1.6 ± 0.3	1.9 ± 0.7
Total Residue	1.4 ± 0.4	1.6 ± 0.3	1.9 ± 0.7
K-40 (ICP)	1.27	1.27	1.10
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	04-01-10	05-03-10	06-01-10
Lab Code	KSW- 1385	KSW- 2162	KSW- 2765
Gross beta			
Suspended Solids	< 0.2	< 1.3	< 0.7
Dissolved Solids	3.4 ± 0.9	2.4 ± 0.5	8.1 ± 1.8
Total Residue	3.4 ± 0.9	2.4 ± 0.5	8.1 ± 1.8
K-40 (ICP)	3.88	2.29	4.12
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-1d			
Date Collected	07-01-10	08-02-10	09-01-10
Lab Code	KSW- 3436	KSW- 4111	KSW- 4938
Gross beta			
Suspended Solids	< 0.8	< 0.5	< 0.4
Dissolved Solids	0.9 ± 0.4	1.8 ± 0.4	1.0 ± 0.2
Total Residue	0.9 ± 0.4	1.8 ± 0.4	1.0 ± 0.2
K-40 (ICP)	1.13	1.14	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-1e			
Date Collected	07-01-10	08-02-10	09-01-10
Lab Code	KSW- 3437	KSW- 4112	KSW- 4939
Gross beta			
Suspended Solids	< 0.8	< 0.5	< 0.7
Dissolved Solids	5.8 ± 1.1	3.4 ± 0.9	3.5 ± 0.5
Total Residue	5.8 ± 1.1	3.4 ± 0.9	3.5 ± 0.5
K-40 (ICP)	4.70	2.73	4.54
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	10-04-10	11-01-10	12-01-10
Lab Code	KSW- 5503	KSW- 6461	KSW- 7047
Gross beta			
Suspended Solids	< 0.7	< 0.5	< 0.8
Dissolved Solids	2.6 ± 0.8	1.3 ± 0.4	2.4 ± 0.4
Total Residue	2.6 ± 0.8	1.3 ± 0.4	2.4 ± 0.4
K-40 (ICP)	1.27	1.27	1.26
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	10-04-10	11-01-10	12-01-10
Lab Code	KSW- 5504	KSW- 6462	KSW- 7048
Gross beta			
Suspended Solids	0.9 ± 0.4	< 0.5	< 0.8
Dissolved Solids	4.2 ± 1.0	4.0 ± 0.7	7.9 ± 1.5
Total Residue	5.1 ± 1.1	4.0 ± 0.7	7.9 ± 1.5
K-40 (ICP)	4.22	4.53	3.84
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

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	01-04-10	02-01-10	03-01-10
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	04-01-10	05-03-10	06-01-10
Lab Code	KSW- 1386	KSW- 2163	KSW- 2766
Gross beta			
Suspended Solids	< 0.4	1.0 ± 0.6	< 0.8
Dissolved Solids	7.6 ± 0.8	14.4 ± 0.5	18.0 ± 2.8
Total Residue	7.6 ± 0.8	15.4 ± 0.8	18.0 ± 2.8
K-40 (ICP)	6.65	11.53	8.28
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.

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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	07-01-10	08-02-10	09-01-10
Lab Code	KSW- 3438	KSW- 4113	KSW- 4940
Gross beta			
Suspended Solids	< 0.7	0.8 ± 0.4	< 0.7
Dissolved Solids	6.5 ± 0.7	4.1 ± 0.6	13.4 ± 0.6
Total Residue	6.5 ± 0.7	4.9 ± 0.7	13.4 ± 0.6
K-40 (ICP)	5.77	2.88	22.05
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	10-04-10	11-01-10	12-01-10
Lab Code	KSW- 5505	KSW- 6463	KSW- 7049
Gross beta			
Suspended Solids	< 0.8	3.4 ± 0.5	< 0.8
Dissolved Solids	13.2 ± 1.0	21.6 ± 1.0	22.6 ± 1.3
Total Residue	13.2 ± 1.0	25.0 ± 1.1	22.6 ± 1.3
K-40 (ICP)	14.10	12.14	14.27
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.
Collection: Monthly

	Sample Description and Concentration (pCi/L)		
Indicator			
K-9 (Raw)			
Date Collected	01-04-10	02-01-10	03-01-10
Lab Code	KSW- 27	KSW- 385	KSW- 780
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.7
Dissolved Solids	0.9 ± 0.4	1.2 ± 0.4	1.3 ± 0.4
Total Residue	0.9 ± 0.4	1.2 ± 0.4	1.3 ± 0.4
K-40 (ICP)	1.09	0.99	1.18
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	01-04-10	02-01-10	03-01-10
Lab Code	KSW- 28	KSW- 386	KSW- 781
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.8
Dissolved Solids	1.0 ± 0.4	< 0.6	1.1 ± 0.4
Total Residue	1.0 ± 0.4	< 0.8	1.1 ± 0.4
K-40 (ICP)	1.09	1.03	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

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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	04-01-10	05-03-10	06-01-10
Lab Code	KSW- 1387	KSW- 2164	KSW- 2767
Gross beta			
Suspended Solids	< 0.3	< 1.4	< 0.8
Dissolved Solids	1.6 ± 0.4	1.2 ± 0.2	1.7 ± 0.4
Total Residue	1.6 ± 0.4	1.2 ± 0.2	1.7 ± 0.4
K-40 (ICP)	1.19	1.19	1.10
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	04-01-10	05-03-10	06-01-10
Lab Code	KSW- 1388	KSW- 2165	KSW- 2768
Gross beta			
Suspended Solids	< 0.3	< 0.7	< 0.7
Dissolved Solids	0.9 ± 0.3	1.6 ± 0.4	1.9 ± 0.7
Total Residue	0.9 ± 0.3	1.6 ± 0.4	1.9 ± 0.7
K-40 (ICP)	1.16	1.19	1.10
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	07-01-10	08-02-10	09-01-10
Lab Code	KSW- 3439	KSW- 4114	KSW- 4941
Gross beta			
Suspended Solids	< 0.7	< 0.8	< 0.7
Dissolved Solids	1.4 ± 0.4	1.4 ± 0.4	1.0 ± 0.2
Total Residue	1.4 ± 0.4	1.4 ± 0.4	1.0 ± 0.2
K-40 (ICP)	1.13	1.08	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	07-01-10	08-02-10	09-01-10
Lab Code	KSW- 3440	KSW- 4115	KSW- 4942
Gross beta			
Suspended Solids	< 0.7	< 0.7	< 0.7
Dissolved Solids	2.6 ± 0.8	1.6 ± 0.7	1.9 ± 0.4
Total Residue	2.6 ± 0.8	1.6 ± 0.7	1.9 ± 0.4
K-40 (ICP)	1.15	1.10	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

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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	10-04-10	11-01-10	12-01-10
Lab Code	KSW- 5506	KSW- 6464	KSW- 7050
Gross beta			
Suspended Solids	< 0.7	< 0.7	< 0.9
Dissolved Solids	1.2 ± 0.4	1.2 ± 0.3	1.9 ± 0.7
Total Residue	1.2 ± 0.4	1.2 ± 0.3	1.9 ± 0.7
K-40 (ICP)	1.23	1.21	1.22
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
K-9 (Tap)			
Date Collected	10-04-10	11-01-10	12-01-10
Lab Code	KSW- 5507	KSW- 6465	KSW- 7051
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.8
Dissolved Solids	0.8 ± 0.4	1.1 ± 0.3	1.4 ± 0.7
Total Residue	0.8 ± 0.4	1.1 ± 0.3	1.4 ± 0.7
K-40 (ICP)	1.18	1.19	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

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

Indicator	Sample Description and Concentration (pCi/L)		
K-14a			
Date Collected	01-04-10	02-01-10	03-01-10
Lab Code	KSW- 29	KSW- 387	KSW- 783
Gross beta			
Suspended Solids	< 0.7	< 0.7	< 0.7
Dissolved Solids	2.1 ± 0.5	1.4 ± 0.4	1.6 ± 0.5
Total Residue	2.1 ± 0.5	1.4 ± 0.4	1.6 ± 0.5
K-40 (ICP)	1.36	1.26	1.29
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	01-04-10	02-01-10	03-01-10
Lab Code	KSW- 30	KSW- 388	KSW- 784
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.8
Dissolved Solids	1.7 ± 0.4	1.3 ± 0.4	1.6 ± 0.4
Total Residue	1.7 ± 0.4	1.3 ± 0.4	1.6 ± 0.4
K-40 (ICP)	1.27	1.37	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

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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	04-01-10	05-03-10	06-01-10
Lab Code	KSW- 1389	KSW- 2166	KSW- 2769
Gross beta			
Suspended Solids	< 0.3	< 0.8	< 0.7
Dissolved Solids	2.1 ± 0.4	1.2 ± 0.4	3.8 ± 0.8
Total Residue	2.1 ± 0.4	1.2 ± 0.4	3.8 ± 0.8
K-40 (ICP)	1.87	1.27	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
K-14b			
Date Collected	04-01-10	05-03-10	06-01-10
Lab Code	KSW- 1390	KSW- 2167	KSW- 2770
Gross beta			
Suspended Solids	< 0.3	< 0.7	< 0.7
Dissolved Solids	2.1 ± 0.4	1.4 ± 0.4	3.0 ± 0.8
Total Residue	2.1 ± 0.4	1.4 ± 0.4	3.0 ± 0.8
K-40 (ICP)	1.95	1.27	1.10
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	07-01-10	08-02-10	09-01-10
Lab Code	KSW- 3441	KSW- 4116	KSW- 4943
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.8
Dissolved Solids	5.2 ± 0.9	2.0 ± 0.7	2.8 ± 0.4
Total Residue	5.2 ± 0.9	2.0 ± 0.7	2.8 ± 0.4
K-40 (ICP)	1.79	1.21	1.09
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	07-01-10	08-02-10	09-01-10
Lab Code	KSW- 3442	KSW- 4117	KSW- 4944
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.5
Dissolved Solids	4.5 ± 1.0	2.2 ± 0.7	2.3 ± 0.5
Total Residue	4.5 ± 1.0	2.2 ± 0.7	2.3 ± 0.5
K-40 (ICP)	1.82	1.24	1.15
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	10-04-10	11-01-10	12-01-10
Lab Code	KSW- 5508	KSW- 6466	KSW- 7052
Gross beta			
Suspended Solids	< 0.5	< 0.8	< 0.8
Dissolved Solids	1.9 ± 0.5	1.9 ± 0.3	2.2 ± 0.7
Total Residue	1.9 ± 0.5	1.9 ± 0.3	2.2 ± 0.7
K-40 (ICP)	1.37	1.39	1.38
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	10-04-10	11-01-10	12-01-10
Lab Code	KSW- 5509	KSW- 6467	KSW- 7053
Gross beta			
Suspended Solids	< 0.5	< 0.8	< 0.8
Dissolved Solids	2.6 ± 0.5	2.1 ± 0.4	3.0 ± 0.8
Total Residue	2.6 ± 0.5	2.1 ± 0.4	3.0 ± 0.8
K-40 (ICP)	1.39	1.36	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

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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 [a]	KSW -935	< 148	< 1.3	< 0.5
2nd Quarter	-3296	< 155	< 0.8	< 0.5
3rd Quarter	-5093	< 155	< 0.8	< 0.5
4th Quarter	-7265	< 150	< 1.0	< 0.7
K-1b				
1st Quarter	KSW -936	< 147	< 1.1	< 0.6
2nd Quarter	-3297	< 155	< 1.0	< 0.6
3rd Quarter	-5095	< 155	< 0.8	< 0.5
4th Quarter	-7266	< 150	< 1.0	< 0.5
K-1d				
1st Quarter	KSW -937	< 147	< 0.8	< 0.4
2nd Quarter	-3298	< 155	< 0.9	< 0.5
3rd Quarter	-5096	< 155	< 0.8	< 0.5
4th Quarter	-7267	< 150	< 0.9	< 0.5
K-1e				
1st Quarter	KSW -938	< 147	< 1.1	< 0.4
2nd Quarter	-3299	< 155	< 0.8	< 0.5
3rd Quarter	-5097	< 155	< 0.9	< 0.6
4th Quarter	-7268	< 150	< 1.1	< 0.5

[a] The composite consisted of January and February collections, no sample was available for the March collection.

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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 -941		< 147	< 1.0	< 0.5
2nd Quarter	-3303		< 155	< 0.9	< 0.6
3rd Quarter	-5101		< 155	< 0.7	< 0.5
4th Quarter	-7272		< 150	< 1.2	< 0.7
K-14b					
1st Quarter	KSW -942		< 147	< 0.9	< 0.5
2nd Quarter	-3304		< 155	< 0.9	< 0.5
3rd Quarter	-5102		< 155	< 0.8	< 0.5
4th Quarter	-7273		< 150	< 0.9	< 0.4
K-1k					
1st Quarter	NS [b]		-	-	-
2nd Quarter	KSW -3300		163 ± 90	< 0.8	< 0.8
3rd Quarter	-5098		< 155	< 0.7	0.5 ± 0.3
4th Quarter	-7269		< 150	< 1.0	< 0.7
Control					
K-9					
1st Quarter	KSW -939	(Raw)	< 147	< 1.0	< 0.5
	-940	(Tap)	< 147	< 0.9	< 0.5
2nd Quarter	KSW -3301	(Raw)	< 155	< 1.0	< 0.6
	-3302	(Tap)	< 155	< 1.1	< 0.6
3rd Quarter	KSW -5099	(Raw)	< 155	< 0.9	< 0.5
	-5100	(Tap)	< 155	< 1.0	< 0.7
4th Quarter	KSW -7270	(Raw)	< 150	< 1.2	< 0.7
	-7271	(Tap)	< 150	< 1.1	< 0.5

[b] No data; water frozen.

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	04-09-10		07-09-10	
Lab Code	KF- 2153		KF- 4108	
Type	Carp		Sucker	
Portion	Flesh	Bones	Flesh	Bones
Gross beta	3.17 ± 0.08	2.12 ± 0.71	3.18 ± 0.07	3.26 ± 0.99
Sr-89	NA[a]	< 0.21	NA[a]	< 0.36
Sr-90	NA	0.14 ± 0.06	NA	0.21 ± 0.07
K-40	2.49 ± 0.47	NA[a]	1.80 ± 0.29	NA[a]
Mn-54	< 0.015	NA	< 0.012	NA
Fe-59	< 0.050	NA	< 0.015	NA
Co-58	< 0.011	NA	< 0.010	NA
Co-60	< 0.020	NA	< 0.008	NA
Cs-134	< 0.019	NA	< 0.012	NA
Cs-137	< 0.028	NA	< 0.017	NA

Collected	10-08-10	
Lab Code	KF- 6481	
Type	White Fish	
Portion	Flesh	Bones
Gross beta	2.88 ± 0.06	1.64 ± 0.67
Sr-89	NA[a]	< 0.38
Sr-90	NA	0.26 ± 0.11
K-40	1.90 ± 0.35	NA[a]
Mn-54	< 0.019	NA
Fe-59	< 0.045	NA
Co-58	< 0.017	NA
Co-60	< 0.013	NA
Cs-134	< 0.017	NA
Cs-137	< 0.020	NA

[a] NA = Not analyzed; analyses not required.

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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	06-01-10	06-01-10	06-01-10	06-01-10
Lab Code	KSL- 2771	KSL- 2773	KSL- 2774	KSL- 2776
Gross beta	5.33 ± 0.18	5.25 ± 0.10	3.07 ± 0.20	5.86 ± 0.11
Sr-89	< 0.007	< 0.005	< 0.025	< 0.006
Sr-90	< 0.005	< 0.003	< 0.017	< 0.005
Be-7	< 0.19	< 0.16	1.47 ± 0.17	< 0.14
K-40	4.67 ± 0.46	3.89 ± 0.37	1.31 ± 0.25	4.53 ± 0.39
Mn-54	< 0.018	< 0.012	< 0.010	< 0.014
Co-58	< 0.012	< 0.014	< 0.011	< 0.015
Co-60	< 0.008	< 0.013	< 0.009	< 0.018
Nb-95	< 0.015	< 0.017	< 0.013	< 0.011
Zr-95	< 0.028	< 0.011	< 0.026	< 0.016
Ru-103	< 0.012	< 0.015	< 0.013	< 0.011
Ru-106	< 0.166	< 0.090	< 0.069	< 0.073
Cs-134	< 0.017	< 0.011	< 0.014	< 0.014
Cs-137	< 0.017	< 0.013	0.041 ± 0.017	< 0.015
Ce-141	< 0.040	< 0.034	< 0.028	< 0.036
Ce-144	< 0.135	< 0.091	< 0.072	< 0.118

Location	K-1e	K-1k	K-14
Date Collected	05-03-10	06-01-10	06-01-10
Lab Code	KSL- 2189	KSL- 2775	KSL- 2777
Gross beta	3.49 ± 0.31	5.61 ± 0.10	4.86 ± 0.30
Sr-89	< 0.040	< 0.005	< 0.036
Sr-90	< 0.019	< 0.003	< 0.024
Be-7	1.79 ± 0.21	< 0.11	1.12 ± 0.20
K-40	1.23 ± 0.20	4.85 ± 0.35	2.49 ± 0.32
Mn-54	< 0.011	< 0.010	< 0.010
Co-58	0.039 ± 0.023	< 0.011	< 0.012
Co-60	< 0.009	< 0.008	< 0.011
Nb-95	< 0.008	< 0.014	< 0.009
Zr-95	< 0.017	< 0.013	< 0.012
Ru-103	< 0.010	< 0.010	< 0.007
Ru-106	< 0.095	< 0.079	< 0.073
Cs-134	< 0.005	< 0.010	< 0.009
Cs-137	< 0.011	< 0.009	< 0.012
Ce-141	< 0.028	< 0.019	< 0.020
Ce-144	< 0.060	< 0.077	< 0.076

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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	09-01-10	09-01-10	08-02-10	09-01-10
Lab Code	KSL- 4882	KSL- 4883	KSL- 4105	KSL- 4887
Gross beta	8.30 ± 0.28	6.90 ± 0.20	3.63 ± 0.48	2.60 ± 0.12
Sr-89	< 0.013	< 0.016	< 0.074	< 0.015
Sr-90	< 0.005	< 0.006	< 0.029	< 0.006
Be-7	1.73 ± 0.21	< 0.36	1.26 ± 0.17	0.77 ± 0.20
K-40	5.40 ± 0.40	7.15 ± 0.99	2.05 ± 0.19	2.88 ± 0.45
Mn-54	< 0.010	< 0.024	< 0.007	< 0.017
Co-58	< 0.011	< 0.019	< 0.006	< 0.017
Co-60	< 0.009	< 0.030	< 0.006	< 0.020
Nb-95	< 0.012	< 0.029	< 0.013	< 0.017
Zr-95	< 0.017	< 0.044	< 0.011	< 0.025
Ru-103	< 0.011	< 0.023	< 0.009	< 0.013
Ru-106	< 0.104	< 0.290	< 0.056	< 0.097
Cs-134	< 0.011	< 0.031	< 0.007	< 0.016
Cs-137	< 0.012	< 0.035	0.016 ± 0.008	< 0.017
Ce-141	< 0.024	< 0.078	< 0.029	< 0.038
Ce-144	< 0.056	< 0.266	< 0.066	< 0.132

Location	K-1e	K-1k	K-14
Date Collected	09-01-10	09-01-10	08-02-10
Lab Code	KSL- 4885	KSL- 4886	KSL- 4106
Gross beta	6.48 ± 0.88	4.28 ± 0.38	4.62 ± 0.30
Sr-89	< 0.16	< 0.048	< 0.077
Sr-90	< 0.061	0.037 ± 0.012	< 0.034
Be-7	2.01 ± 0.20	1.45 ± 0.36	2.05 ± 0.20
K-40	2.35 ± 0.27	3.37 ± 0.48	1.89 ± 0.24
Mn-54	< 0.007	< 0.019	< 0.011
Co-58	< 0.010	< 0.016	< 0.013
Co-60	< 0.008	< 0.018	< 0.007
Nb-95	< 0.016	< 0.045	< 0.017
Zr-95	< 0.024	< 0.039	< 0.019
Ru-103	< 0.016	< 0.028	< 0.012
Ru-106	< 0.054	< 0.159	< 0.050
Cs-134	< 0.009	< 0.013	< 0.006
Cs-137	0.023 ± 0.009	< 0.021	< 0.013
Ce-141	< 0.039	< 0.048	< 0.019
Ce-144	< 0.072	< 0.144	< 0.061

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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	05-03-10	05-03-10	05-03-10	05-03-10	05-03-10
Lab Code	KBS- 2184	KBS- 2185	KBS- 2186	KBS- 2188	KBS- 2187
Gross beta	13.88 ± 2.07	10.89 ± 1.91	7.54 ± 1.64	10.60 ± 1.72	12.31 ± 1.66
Sr-89	< 0.024	< 0.025	< 0.025	< 0.023	< 0.026
Sr-90	< 0.016	< 0.016	< 0.017	0.029 ± 0.011	< 0.015
K-40	8.62 ± 0.65	6.99 ± 0.59	6.81 ± 0.44	9.26 ± 0.52	7.94 ± 0.49
Co-58	< 0.020	< 0.019	< 0.007	< 0.010	< 0.013
Co-60	< 0.019	< 0.021	< 0.009	< 0.010	< 0.010
Cs-134	< 0.017	< 0.014	< 0.008	< 0.009	< 0.009
Cs-137	< 0.021	< 0.021	< 0.012	< 0.015	< 0.012
Location	K-1c	K-1d	K-1j	K-14	K-9
Collection Date	11-01-10	11-01-10	11-01-10	11-01-10	11-01-10
Lab Code	KBS- 6475	KBS- 6477	KBS- 6478	KBS- 6480	KBS- 6479
Gross beta	13.13 ± 1.83	11.51 ± 1.76	13.83 ± 1.84	15.93 ± 1.95	15.38 ± 1.84
Sr-89	< 0.027	< 0.029	< 0.026	< 0.028	< 0.029
Sr-90	< 0.025	< 0.018	< 0.022	< 0.019	< 0.017
K-40	7.68 ± 0.45	7.97 ± 0.48	8.63 ± 0.49	8.60 ± 0.48	9.42 ± 0.68
Co-58	< 0.010	< 0.014	< 0.011	< 0.016	< 0.022
Co-60	< 0.008	< 0.007	< 0.007	< 0.010	< 0.014
Cs-134	< 0.008	< 0.013	< 0.010	< 0.011	< 0.019
Cs-137	0.027 ± 0.011	< 0.013	0.028 ± 0.013	< 0.010	< 0.020

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Dominion®

2010 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 BRANTMEIER, MICHELLE L	2/16/2010 13:31:39 Owner : BRANTMEIER, MICHELLE L	by BRANTMEIER, MICHELLE L	2/16/2010 13:32:33 Owner : BERNSDORF, MIKE A	by BERNSDORF, MIKE A	2/16/2010 14:54:11 Owner : FICTUM, HOLLY C	by DYKSTRA, DALE E	2/16/2010 16:55:07 Owner : FICTUM, HOLLY C

CA	CRT Assignment Creation	Complete	Assignments Pending
by ERICSON, JANICE L	2/17/2010 9:48:13 Owner : FICTUM, HOLLY C	by ERICSON, JANICE L	2/17/2010 9:49:45 Owner : FICTUM, HOLLY C

Section 1

Applicable to site:	KEWA
Record #:	CR369046
Revision Number:	0
Submitter:	BRANTMEIER, MICHELLE L
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	920-388-8214
Submitter Pager Number:	000-000-0000
One-Line Description:	K-7 Air Sampler-Unexpected Run Hours Found during Air Filter Collection
Description:	K-7 Air Sampler-Unexpected Run Hours Found during Air Filter Collection K-7 Air Sampler located at 17620 Nero Road was found to have a shortage of run hours. On 02/08/10@ 0949 run hours was 16361.5. On 2/16/10 @ 1210 run hours was found to be 16490.0 for a total of 128.5 run hours. Expected run hours would be approximately 194 hours. Rechecked meter reading and sampler functionality. Pump was working correctly. 02/16/10 1430 sampler was rechecked and the meter is running but the hour meter is not progressing
Discovery Date:	2/16/2010
Discovery Time:	12:10:00
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:	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:	Checked Air Sampler for proper functioning and contacted supervision. Returned that afternoon to ensure air sampler was working properly.
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:	NA
Additional Contacts:	
Supervisor - CR Review:	BERNSDORF, MIKE 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:	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:	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: The K-7 Environmental Air Sampler was NON-FUNCTIONAL at the time of discovery since it can't be determined definitively that the sampler operated for the required amount of time with the hour meter not functioning. 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 hour meter must be repaired to satisfy REMM Table 2.2.1-A requirements. I agree with the above assessment.
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.:	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:	Not Fully Qualified
Reportable condition?:	No
Text Question 3:	**Reportability Comments:**
Text Answer 3:	None

3

Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leak Classification:	(None)
Leakage Severity:	(None)
O/R Comments:	
Significance:	3
Deficiency Type:	Equipment
Potential Repeat:	Yes
Previous Issues (PIs, CRs):	searched "K-7 Air Sampler": -CR353663 [10/20/09], CR352454 [10/13/09], CR350028 [9/09], CR342776 [7/09]; all power found off and w/ ref to CA142447 [CR342776-7/09]. -Others CR13785, 101593, 92318, 116348, 325344.
CR FLAGS:	Environmental - VPDES
CRT Report Section(s):	2
Screening Date:	
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	CA to RP to ensure the Annual Environmental Monitoring Report notes are updated as necessary that the sample pump was not working during this time period. This CA will also be the 2010 placeholder for all environmental monitoring report notes. CA 142447 (CR 325344) to review K-7 performance for possible resolution of sampler not running resulted in obtaining replacement air sampler units that are planned to be installed later this year. Ref. and close to WO KW100656651 to repair the timer and CA to document issue in annual report if needed
Comments:	
Old Record #:	

Section 2

Trend Review Complete?:	No		
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)	**Procedures Hot Buttons:**	(None)
Reactivity Mgmt Hot Buttons:	(None)	**Other Hot Buttons:**	(None)

Section 3

Work Order Number(s):	KW100656651
Status Description:	CLOSED
Status Date:	5/7/2010 12:23:23
Actual Finish Date:	4/21/2010 11:32:24
Work Performed Description:	REPAIRED AIR SAMPLET PER W.O. AND PROCEDURE, THEN

Section 5

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

RM Attachment Links:

4

Subtasks

Show Subtasks

Expand All

Attachments

Principal to: CA160667: KEWA - Ensure the Annual Environmental Monitoring Report notes are updated as necessary by **ERICSON, JANICE L** (2/17/2010 9:49:26)

Change History

2/16/2010 13:32:33 by BRANTMEIER, MICHELLE L
System(s) Changed From (None) To N/A
Additional C/A processes req'd? Changed From (None) To N/A
Owner Changed From BRANTMEIER, MICHELLE L To BERNSDORF, MIKE A
Secondary Owner Changed From BERNSDORF, MIKE A To AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUINAN, PATRICIA B, GUM, CLARENCE L, HARRIS, BRIAN LLOYD, 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, SCACE, STEPHEN E, SIERACKI, DIANE J, SIMMONS JR, ROY L, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 2/16/2010 13:31:39 To 2/16/2010 13:32:33
Last State Change Date Changed From 2/16/2010 13:31:39 To 2/16/2010 13:32:33
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR369046: KEWA - K-7 Air Sampler-Unexpected Run Hours Found during Air Filter Collection

2/16/2010 14:53:43 by BERNSDORF, MIKE A
Description Changed From '[Original Text]' To '[Appended:] 02/16/10 1430 sampler was rechecked and the meter is running but the hour meter is not progressing'
Last Modified Date Changed From 2/16/2010 13:32:33 To 2/16/2010 14:53:43
Last Modifier Changed From BRANTMEIER, MICHELLE L To BERNSDORF, MIKE A

2/16/2010 14:54:11 by BERNSDORF, MIKE A
Owner Changed From BERNSDORF, MIKE A To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUINAN, PATRICIA B, GUM, CLARENCE L, HARRIS, BRIAN LLOYD, 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, SCACE, STEPHEN E, SIERACKI, DIANE J, SIMMONS JR, ROY L, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, 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, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, 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, GUINAN, PATRICIA B, HELING, DEBRA A., HENRY, WILLIAM GENE, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, 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, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 2/16/2010 14:53:43 To 2/16/2010 14:54:11
Last State Change Date Changed From 2/16/2010 13:32:33 To 2/16/2010 14:54:11
Last State Changer Changed From BRANTMEIER, MICHELLE L To BERNSDORF, MIKE A
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

2/16/2010 16:31:56 by PROKASH, ALVIN I
Tag Number Changed From '' To 'NA'
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: The K-7 Environmental Air Sampler was NON-FUNCTIONAL at the time of discovery since it can't be determined definitively that the sampler operated for the required amount of time with the hour meter not functioning. The K-7 En[...]'
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 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
Text Answer 3 Changed From '' To 'None'
Last Modified Date Changed From 2/16/2010 14:54:11 To 2/16/2010 16:31:56
Last Modifier Changed From BERNSDORF, MIKE A To PROKASH, ALVIN I

2/16/2010 16:55:07 by DYKSTRA, DALE E
Text Answer 2 Changed From '[Original Text]' To '[Appended:] I agree with the above assessment.'

Last Modified Date Changed From 2/16/2010 16:31:56 To 2/16/2010 16:55:07
Last Modifier Changed From PROKASH, ALVIN I To DYKSTRA, DALE E
Last State Change Date Changed From 2/16/2010 14:54:11 To 2/16/2010 16:55:07
Last State Changer Changed From BERNSDORF, MIKE A To DYKSTRA, DALE E
State Changed From O/R Review To CRT Review Via Transition: Complete

2/17/2010 6:31:26 by LANGER JR, JAMES E
Previous Issues (PIs, CRs) Changed From " To 'searched "K-7 Air Sampler": -CR353663 [10/20/09], CR352454 [10/13/09], CR350028 [9/09], CR342776 [7/09]; all power found off and w/ ref to CA142447 [CR342776-7/09]. -Others CR13785, 101593, 92318, 116348, 325344.'
CR FLAGS Changed From (None) To Environmental - VPDES
CRT Comments Changed From " To '[Appended:]-Ref CA 130373 (CR 325344) to ensure the Annual Environmental Monitoring Report notes, update as necessary that the sample pump was not working during this time period. [RP to update?] -Ref CA 142447 (CR 325344) to review K-7 performance fo[...]'
Last Modified Date Changed From 2/16/2010 16:55:07 To 2/17/2010 6:31:26
Last Modifier Changed From DYKSTRA, DALE E To LANGER JR, JAMES E

2/17/2010 6:32:30 by LANGER JR, JAMES E
CRT Comments Changed From '-Ref CA 130373 (CR 325344) to ensure the Annual Environmental Monitoring Report notes, update as necessary that the sample pump was not working during this time period. [RP to update?] -Ref CA 142447 (CR 325344) to review K-7 performance for pos[...]' To '-Ref CA 130373 (CR 325344) to ensure the Annual Environmental Monitoring Report notes, update as necessary that the sample pump was not working during this time period. [CHEM to update?] -Ref CA 142447 (CR 325344) to review K-7 performance for p[...]'
Last Modified Date Changed From 2/17/2010 6:31:26 To 2/17/2010 6:32:30

2/17/2010 6:32:53 by LANGER JR, JAMES E
Significance Changed From (None) To 3
Deficiency Type Changed From (None) To Equipment
Potential Repeat Changed From (None) To Yes
Last Modified Date Changed From 2/17/2010 6:32:30 To 2/17/2010 6:32:53

2/17/2010 6:46:17 by ADAMS, RICHARD W
Last Modified Date Changed From 2/17/2010 6:32:53 To 2/17/2010 6:46:17
Last Modifier Changed From LANGER JR, JAMES E To ADAMS, RICHARD W
Attachment Added: CA130373: KEWA - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period

2/17/2010 6:47:23 by ADAMS, RICHARD W
Last Modified Date Changed From 2/17/2010 6:46:17 To 2/17/2010 6:47:23
Attachment Deleted: CA130373: KEWA - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period

2/17/2010 8:07:53 by ADAMS, RICHARD W
CRT Comments Changed From '[...]-Ref CA 130373 (CR 325344) to ensure the Annual Environmental Monitoring Report notes, update as necessary that the sample pump was not working during this time period. [CHEM to update?] -Ref CA 142447 (CR 325344) to review K-7 performance [more diffs...]' To '[...]CA to RP to ensure the Annual Environmental Monitoring Report notes are updated as necessary that the sample pump was not working during this time period. This CA will also be the 2010 placeholder for all environmental monitoring report notes. [more diffs...]'
Last Modified Date Changed From 2/17/2010 6:47:23 To 2/17/2010 8:07:53

2/17/2010 8:08:00 by ADAMS, RICHARD W
Last Modified Date Changed From 2/17/2010 8:07:53 To 2/17/2010 8:08:00
To Work Management Changed From " To 'Y'

2/17/2010 8:08:35 by ADAMS, RICHARD W
Process Code Changed From (None) To UNK (Unknown)
RP Hot Buttons Changed From (None) To Environmental Monitoring (REMP)
Last Modified Date Changed From 2/17/2010 8:08:00 To 2/17/2010 8:08:35

2/17/2010 9:16:18 by ADAMS, RICHARD W
CRT Comments Changed From '[...]-7 performance for possible resolution of sampler not running resulted in obtaining replacement air sampler units that are planned to be installed later this year. Close to WO to repair the timer and CA to document issue in annual report if needed' To '[...]ce for possible resolution of sampler not running resulted in obtaining replacement air sampler units that are planned to be installed later this year. Close to WO KW100656651 to repair the timer and CA to document issue in annual report if needed'
Secondary Owner Changed From ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, 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, GUINAN, PATRICIA B, HELING, DEBRA A., HENRY, WILLIAM GENE, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, 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, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WHITE, DARYN A, WINKS III, GEORGE F To ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, 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, GUINAN, PATRICIA B, HELING, DEBRA A., HENRY, WILLIAM GENE, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, 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, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 2/17/2010 8:08:35 To 2/17/2010 9:16:18

2/17/2010 9:48:00 by ERICSON, JANICE L
CRT Report Section(s) Changed From (None) To 2
CRT Comments Changed From '[...]ce for possible resolution of sampler not running resulted in obtaining replacement air sampler units that are planned to be installed later this year. Close to WO KW100656651 to repair the timer and CA to document issue in annual report if needed' To '[...]ssible resolution of sampler not running resulted in obtaining replacement air sampler units that are planned to be installed later this year. Ref. and close to WO KW100656651 to repair the timer and CA to document issue in annual report if needed'
Last Modified Date Changed From 2/17/2010 9:16:18 To 2/17/2010 9:48:00
Last Modifier Changed From ADAMS, RICHARD W To ERICSON, JANICE L

2/17/2010 9:48:13 by ERICSON, JANICE L
Last Modified Date Changed From 2/17/2010 9:48:00 To 2/17/2010 9:48:13
Last State Change Date Changed From 2/16/2010 16:55:07 To 2/17/2010 9:48:13
Last State Changer Changed From DYKSTRA, DALE E To ERICSON, JANICE L
State Changed From CRT Review To CRT Assignment Creation Via Transition: CA

2/17/2010 9:49:26 by ERICSON, JANICE L

Attachment Added: CA160667: (None) - Ensure the Annual Environmental Monitoring Report notes are updated as necessary

2/17/2010 9:49:45 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, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, 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, GUINAN, PATRICIA B, HELING, DEBRA A., HENRY, WILLIAM GENE, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, 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, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WHITE, DARYN A, WINKS III, GEORGE F To AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GUINAN, PATRICIA B, HALE, JAMES M., HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 2/17/2010 9:49:26 To 2/17/2010 9:49:45
Last State Change Date Changed From 2/17/2010 9:48:13 To 2/17/2010 9:49:45
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

2/17/2010 9:51:30 by ERICSON, JANICE L - power
Description Changed From 'K-7 Air Sampler-Unexpected Run Hours Found during Air Filter Collection K-7 Air Sampler located at 17620 Nero Road was found to have a shortage of run hours. On 02/08/10@ 0949 run hours was 16361.5. On 12/16/10 @ 1210 run hours was found to be 16[...]' To 'K-7 Air Sampler-Unexpected Run Hours Found during Air Filter Collection K-7 Air Sampler located at 17620 Nero Road was found to have a shortage of run hours. On 02/08/10@ 0949 run hours was 16361.5. On 2/16/10 @ 1210 run hours was found to be 164[...]'
Last Modified Date Changed From 2/17/2010 9:49:45 To 2/17/2010 9:51:30
Last Modifier Changed From ERICSON, JANICE L To ERICSON, JANICE L - power

12/9/2010 12:39:50 by FICTUM, HOLLY C
Activity Codes Changed From (None) To UNK(Unknown)
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, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GUINAN, PATRICIA B, HALE, JAMES M., HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To AHRENS, GARY M, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FITZWATER, DAVID I, GUINAN, PATRICIA B, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, DARRYL D, MILLER, JEANNINE R, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, YEARGIN, BARRY K
Last Modified Date Changed From 2/17/2010 9:51:30 To 12/9/2010 12:39:50
Last Modifier Changed From ERICSON, JANICE L - power To FICTUM, HOLLY C

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State Change History

Submit by HICKMANN, MICHAEL A	**Draft** 3/2/2010 13:17:06 Owner : HICKMANN, MICHAEL A	**Submit** by HICKMANN, MICHAEL A	**Supervisor Review** 3/2/2010 13:17:24 Owner : BERNSDORF, MIKE A	**Complete** by THORPE, RANDAL	**O/R Review** 3/2/2010 13:41:14 Owner : FICTUM, HOLLY C	**Complete** by BROWN, DAN	**CRT Review** 3/2/2010 20:37:11 Owner : FICTUM, HOLLY C
Complete by ERICSON, JANICE L	**Trend Review** 3/4/2010 12:04:42 Owner : FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 3/16/2010 12:12:27 Owner : (None)	**Transfer** by RECORDS MGMT	**Transferred** 3/18/2010 16:44:40 Owner : (None)	**Print** by RECORDS MGMT	**Printed** 3/22/2010 11:23:19 Owner : (None)
Validate by RECORDS MGMT	**Validated** 3/22/2010 11:23:29 Owner : (None)						

Section 1

Applicable to site:	KEWA
Record #:	CR370747
Revision Number:	0
Submitter:	HICKMANN, MICHAEL A
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	8214
Submitter Pager Number:	9
One-Line Description:	k-8 air sampler hours not equal to time sample being taken
Description:	K-8 air sampler at Catholic church in Tisch Mills hours were off by 3.73 hours. The counter was observed to be working, there was one set of footprints observed that went just west of the sampler but not near the plug area. The footprints were fresh, not from last week sample collection. Possible power outage could have caused this. The sampler was found working fine and drawing sample as designed. Discrepancy was noted by time difference.
Discovery Date:	3/2/2010
Discovery Time:	11:55:00
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:	write cr, inform supervision
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:	BERNSDORF, MIKE 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:	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:	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:	FUNCTIONAL - Air Sampler required to support the Radiological Environmental Monitoring Program (REMP). At the time of discovery air sampler, K-8, was functional. The sampler was found working fine and drawing sample as designed. I agree with Mr. Gauger's assessment.
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:	Fully Qualified
Reportable condition?:	No
Text Question 3:	**Reportability Comments:**
Text Answer 3:	not an immediate reportable, accumulated run time and descrepancies maybe be required to be included in the Annual Environmental Report to the NRC.
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leak Classification:	(None)
Leakage Severity:	(None)
O/R Comments:	

9

Significance: 3

Deficiency Type: Equipment

Potential Repeat: No

Previous Issues (PIs, CRs): -Ref CR363969 w/WO KW100633894 to Install the new Offsite Air Sampling Systems to replace the old systems of RAS pumps [for locations K-7, K-1f, K-2, K-8, K-31 and K-41].
K-8 CRs350028, 349152, 345943, 332502, 103641.

CR FLAGS: Emergency Planning

CRT Report Section(s): 2

Screening Date:

License Renewal Flags: (None)

Affected Department: (None)

CRT Comments: -Ref to WO KW100633894 [status 20-schdl'd 7/10] to Install the new Offsite Air Sampling Systems.
-Ref. CA160667 - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period.
+Close to department trending & WO KW100633894.

Comments:

Old Record #:

Section 2

Trend Review Complete?: No

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)	**Procedures Hot Buttons:**	(None)
Reactivity Mgmt 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: 3/16/2010 13:12:27 **CR Printed Date:** 3/22/2010 11:23:19

CR Validated Date: 3/22/2010 11:23:29 **CR Who Validated:** RECORDS MGMT

RM Attachment Links:

Attachments

Linked to: CA160667: KEWA - Ensure the Annual Environmental Monitoring Report notes are updated as necessary by **ADAMS, RICHARD W** (3/4/2010 6:46:04)

Change History

3/2/2010 13:17:24 by HICKMANN, MICHAEL A
Owner Changed From HICKMANN, MICHAEL A To BERNSDORF, MIKE A

Secondary Owner Changed From BERNSDORF, MIKE A To AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUINAN, PATRICIA B, GUM, CLARENCE L, HARRIS, BRIAN LLOYD, 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, SCACE, STEPHEN E, SIERACKI, DIANE J, SIMMONS JR, ROY L, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 3/2/2010 13:17:06 To 3/2/2010 13:17:24
Last State Change Date Changed From 3/2/2010 13:17:06 To 3/2/2010 13:17:24
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR370747: KEWA - k-8 air sampler hours not equal to time sample being taken (Inactive)

1D

3/2/2010 13:41:14 by THORPE, RANDAL
Owner Changed From BERNSDORF, MIKE A To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUINAN, PATRICIA B, GUM, CLARENCE L, HARRIS, BRIAN LLOYD, 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, SCACE, STEPHEN E, SIERACKI, DIANE J, SIMMONS JR, ROY L, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, 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, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, 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, GUINAN, PATRICIA B, HELING, DEBRA A., HENRY, WILLIAM GENE, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, 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, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 3/2/2010 13:17:24 To 3/2/2010 13:41:14
Last Modifier Changed From HICKMANN, MICHAEL A To THORPE, RANDAL
Last State Change Date Changed From 3/2/2010 13:17:24 To 3/2/2010 13:41:14
Last State Changer Changed From HICKMANN, MICHAEL A To THORPE, RANDAL
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

3/2/2010 17:12:09 by GAUGER, BRAD R
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 'FUNCTIONAL - Air Sampler required to support the Radiological Environmental Monitoring Program (REMP). At the time of discovery air sampler, K-8, was functional. The sampler was found working fine and drawing sample as designed.'
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 Fully Qualified
Reportable condition? Changed From (None) To No
Text Answer 3 Changed From " To 'not an immediate reportable, accumulated run time and descrepancies maybe be required to be included in the Annual Environmental Report to the NRC.'
Last Modified Date Changed From 3/2/2010 13:41:14 To 3/2/2010 17:12:09
Last Modifier Changed From THORPE, RANDAL To GAUGER, BRAD R

3/2/2010 20:37:11 by BROWN, DAN
Text Answer 2 Changed From '[Original Text]' To '[Appended:] I agree with Mr. Gauger's assessment.'
Last Modified Date Changed From 3/2/2010 17:12:09 To 3/2/2010 20:37:11
Last Modifier Changed From GAUGER, BRAD R To BROWN, DAN
Last State Change Date Changed From 3/2/2010 13:41:14 To 3/2/2010 20:37:11
Last State Changer Changed From THORPE, RANDAL To BROWN, DAN
State Changed From O/R Review To CRT Review Via Transition: Complete

3/3/2010 5:50:00 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 3/2/2010 20:37:11 To 3/3/2010 5:50:00
Last Modifier Changed From BROWN, DAN To SMITH III, ROY E

3/3/2010 5:56:01 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 '-Ref CR363969 w/WO KW100633894 to Install the new Offsite Air Sampling Systems to replace the old system of RAS pumps [for locations K-7, K-1f, K-2, K-8, K-31 and K-41]. K-8 CRs350028, 349152, 345943, 332502, 103641.'
CR FLAGS Changed From (None) To Emergency Planning
CRT Comments Changed From " To '-Ref to WO KW100633894 [status 20-schdl'd 7/10] to Install the new Offsite Air Sampling Systems. -Ref. CA130373 - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period. +Close to department trending.'
Last Modified Date Changed From 3/3/2010 5:50:00 To 3/3/2010 5:56:01

3/3/2010 5:59:53 by SMITH III, ROY E
CRT Comments Changed From '-Ref to WO KW100633894 [status 20-schdl'd 7/10] to Install the new Offsite Air Sampling Systems. -Ref. CA130373 - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period. +Close to department trending.' To '-Ref to WO KW100633894 [status 20-schdl'd 7/10] to Install the new Offsite Air Sampling Systems. -Ref. CA130373 - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period. +Close to department trending & WO KW100633894.'
Last Modified Date Changed From 3/3/2010 5:56:01 To 3/3/2010 5:59:53

3/3/2010 6:10:05 by SMITH III, ROY E
CRT Report Section(s) Changed From (None) To 1

3/4/2010 6:45:37 by ADAMS, RICHARD W
CRT Comments Changed From '-Ref to WO KW100633894 [status 20-schdl'd 7/10] to Install the new Offsite Air Sampling Systems. -Ref. CA130373 - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period. +Close to department trending & WO KW100633894.' To '-Ref to WO KW100633894 [status 20-schdl'd 7/10] to Install the new Offsite Air Sampling Systems. -Ref. CA160667 - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period. +Close to department trending & WO KW100633894.'
Last Modified Date Changed From 3/3/2010 6:10:05 To 3/4/2010 6:45:37
Last Modifier Changed From SMITH III, ROY E To ADAMS, RICHARD W

3/4/2010 6:46:04 by ADAMS, RICHARD W
Last Modified Date Changed From 3/4/2010 6:45:37 To 3/4/2010 6:46:04
Attachment Added: CA160667: KEWA - Ensure the Annual Environmental Monitoring Report notes are updated as necessary

3/4/2010 12:04:40 by ERICSON, JANICE L
CRT Report Section(s) Changed From 1 To 2
Last Modified Date Changed From 3/4/2010 6:46:04 To 3/4/2010 12:04:40
Last Modifier Changed From ADAMS, RICHARD W To ERICSON, JANICE L

3/4/2010 12:04:42 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, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, 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, GUINAN, PATRICIA B, HELING, DEBRA A., HENRY, WILLIAM GENE, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, 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, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, 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, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GUINAN, PATRICIA B, HALE, JAMES M., HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VISTE, GLEN R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 3/4/2010 12:04:40 To 3/4/2010 12:04:42
Last State Change Date Changed From 3/2/2010 20:37:11 To 3/4/2010 12:04:42
Last State Changer Changed From BROWN, DAN To ERICSON, JANICE L
State Changed From CRT Review To Trend Review Via Transition: Complete

3/16/2010 12:12:27 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 3/16/2010 13:12:27
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, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GUINAN, PATRICIA B, HALE, JAMES M., HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VISTE, GLEN R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, SMIDEL, SARAH A., Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 3/4/2010 12:04:42 To 3/16/2010 12:12:27
Last Modifier Changed From ERICSON, JANICE L To FICTUM, HOLLY C
Close Date Changed From Unassigned To 3/16/2010 12:12:27
Last State Change Date Changed From 3/4/2010 12:04:42 To 3/16/2010 12:12:27
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

3/18/2010 16:44:40 by RECORDS MGMT
Last Modified Date Changed From 3/16/2010 12:12:27 To 3/18/2010 16:44:40
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 3/16/2010 12:12:27 To 3/18/2010 16:44:40
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

3/22/2010 11:23:19 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 3/22/2010 11:23:19
Last Modified Date Changed From 3/18/2010 16:44:40 To 3/22/2010 11:23:19
Last State Change Date Changed From 3/18/2010 16:44:40 To 3/22/2010 11:23:19
State Changed From Transferred To Printed Via Transition: Print

3/22/2010 11:23:29 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 3/22/2010 11:23:29
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, SMIDEL, SARAH A., Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)
Last Modified Date Changed From 3/22/2010 11:23:19 To 3/22/2010 11:23:29
Last State Change Date Changed From 3/22/2010 11:23:19 To 3/22/2010 11:23:29
State Changed From Printed To Validated Via Transition: Validate

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State Change History

Submit by HICKMANN, MICHAEL A	**Draft** 3/30/2010 13:38:07 Owner : HICKMANN, MICHAEL A	**Submit** by HICKMANN, MICHAEL A	**Supervisor Review** 3/30/2010 13:38:26 Owner : THORPE, RANDAL	**Complete** by THORPE, RANDAL	**O/R Review** 3/30/2010 13:42:17 Owner : FICTUM, HOLLY C	**Complete** by DYKSTRA, DALE E	**CRT Review** 3/30/2010 16:35:07 Owner : FICTUM, HOLLY C
Complete by WALESH, DEBRA J	**Trend Review** 4/5/2010 11:43:48 Owner : FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 4/12/2010 9:47:59 Owner : (None)	**Transfer** by RECORDS MGMT	**Transferred** 4/12/2010 16:10:27 Owner : (None)	**Print** by RECORDS MGMT	**Printed** 4/13/2010 6:36:39 Owner : (None)
Validate by RECORDS MGMT	**Validated** 4/13/2010 6:36:52 Owner : (None)						

Section 1

Applicable to site:	KEWA
Record #:	CR374322
Revision Number:	0
Submitter:	HICKMANN, MICHAEL A
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	8214
Submitter Pager Number:	9
One-Line Description:	K-31 air sampler found off during filter changeout
Description:	K-31 air sampler at the East Krok substation was found off during the SP-63-164 weekly filter changeout. The air sampler stopped running approximately Wednesday March 24 about 0730. "The substation plug is inside the WPS fence, not accessable to check ground fault on outlet. Filter was changed.
Discovery Date:	3/30/2010
Discovery Time:	0:16:40
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:	inform supervision and write cr
Additional C/A processes req'd?:	WO - Work Order
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:	NA
Additional Contacts:	
Supervisor - CR Review:	THORPE, RANDAL
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:	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-31 Environmental Air Sampler is NON-FUNCTIONAL. The K-31 Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Manual. Per 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 end of the next sampling period. Per Table 2.2.1-B of the REMM, samples for Airborne Particulate are required weekly.
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.:	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:	Not Fully Qualified
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:**
Leak Classification:	(None)
Leakage Severity:	(None)
O/R Comments:	

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Significance:	3
Deficiency Type:	Non-Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	This is an additional instance of the Environmental Air Samplers being found without power. WPS contacted to reset the GFCI.
CR FLAGS:	zz - reviewed / none selected
CRT Report Section(s):	2
Screening Date:	
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	CA 160667 is the place holder for all items found in 2010 that need to be documented in the 2010 Annual Environmental Monitoring Report. This CR has been linked and a note added to that CA. Close this CR to that CA which will ensure the annual report is annotated with this missed sample [4/1/10 BRING BACK to address past CA159425 Contact WPS to gain access to/resolve issue with K-31. -SSTCjel-] Chemistry personnel contacted WPS to reset the outlet. As of 4/1/2010 CY personnel confirmed the air sampler was running. CA142447 reviewed past history of Air sampler and determined that change out of the air samplers, scheduled for this summer with instruments purchased in 2009, should help address issues associated with these old units. These units are being installed under WO 100633894. No additional actions needed.
Comments:	3/30/2010 13:42:17 - THORPE, RANDAL: CY supervision notified the WPS manager in charge of the East Krok substation. WPS will be sending an individual out to reset the GFCI breaker and inspect the area.- Entered by [THORPE, RANDAL] from [CR] [Supervisor Review]
Old Record #:	

Section 2

Trend Review Complete?:	No		
Process Code:	EVC (Environmental Controls)	**Activity Codes:**	SAA(Sampling)
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:**	EAL-Equipment
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:**	CRT Bring Back
O&P Hot Buttons:	(None)	**NSS Hot Buttons:**	(None)
Supply Chain Hot Buttons:	(None)	**Procedures Hot Buttons:**	(None)
Reactivity Mgmt 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:	4/12/2010 10:47:59	**CR Printed Date:**	4/13/2010 6:36:39
CR Validated Date:	4/13/2010 6:36:52	**CR Who Validated:**	RECORDS MGMT

RM Attachment Links:

Attachments

Linked to: CA160667: KEWA - Ensure the Annual Environmental Monitoring Report notes are updated as necessary by **ADAMS,**

Change History

3/30/2010 13:38:26 by HICKMANN, MICHAEL A
Owner Changed From HICKMANN, MICHAEL A To THORPE, RANDAL
Secondary Owner Changed From THORPE, RANDAL To AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CHRISTENSEN, ALAN R, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUINAN, PATRICIA B, GUM, CLARENCE L, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, 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, SCACE, STEPHEN E, SIERACKI, DIANE J, SIMMONS JR, ROY L, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 3/30/2010 13:38:07 To 3/30/2010 13:38:26
Last State Change Date Changed From 3/30/2010 13:38:07 To 3/30/2010 13:38:26
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR374322: KEWA - K-31 air sampler found off during filter changeout (Inactive)

3/30/2010 13:42:17 by THORPE, RANDAL
Comments Changed From " To '[Appended:] CY supervision notified the WPS manager in charge of the East Krok substation. WPS will be sending an individual out to reset the GFCI breaker and inspect the area.- Entered by [THORPE, RANDAL] from [CR] [Supervisor Review]'
Owner Changed From THORPE, RANDAL To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CHRISTENSEN, ALAN R, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUINAN, PATRICIA B, GUM, CLARENCE L, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, 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, SCACE, STEPHEN E, SIERACKI, DIANE J, SIMMONS JR, ROY L, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS To ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRINKMAN, CHARLES A, BROWN, DAN, CASTIGLIA, BRAD K, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, 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, GUINAN, PATRICIA B, HENRY, WILLIAM GENE, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, 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, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 3/30/2010 13:38:26 To 3/30/2010 13:42:17
Last Modifier Changed From HICKMANN, MICHAEL A To THORPE, RANDAL
Last State Change Date Changed From 3/30/2010 13:38:26 To 3/30/2010 13:42:17
Last State Changer Changed From HICKMANN, MICHAEL A To THORPE, RANDAL
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

3/30/2010 14:44:05 by PROKASH, ALVIN I
Tag Number Changed From " To 'NA'
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-31 Environmental Air Sampler is NON-FUNCTIONAL. The K-31 Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Manual. Per Table 2.2.1-A if specimens are unobtainable due to sampling[...]'
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 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
Text Answer 3 Changed From " To 'None'
Last Modified Date Changed From 3/30/2010 13:42:17 To 3/30/2010 14:44:05
Last Modifier Changed From THORPE, RANDAL To PROKASH, ALVIN I

3/30/2010 16:35:07 by DYKSTRA, DALE E
Last Modified Date Changed From 3/30/2010 14:44:05 To 3/30/2010 16:35:07
Last Modifier Changed From PROKASH, ALVIN I To DYKSTRA, DALE E
Last State Change Date Changed From 3/30/2010 13:42:17 To 3/30/2010 16:35:07
Last State Changer Changed From THORPE, RANDAL To DYKSTRA, DALE E
State Changed From O/R Review To CRT Review Via Transition: Complete

3/31/2010 4:09:28 by PRIBEK, BARBARA A
Significance Changed From (None) To 3
Last Modified Date Changed From 3/30/2010 16:35:07 To 3/31/2010 4:09:28
Last Modifier Changed From DYKSTRA, DALE E To PRIBEK, BARBARA A

3/31/2010 6:51:23 by ADAMS, RICHARD W
Last Modified Date Changed From 3/31/2010 4:09:28 To 3/31/2010 6:51:23
Last Modifier Changed From PRIBEK, BARBARA A To ADAMS, RICHARD W
Attachment Added: CA160667: KEWA - Ensure the Annual Environmental Monitoring Report notes are updated as necessary

3/31/2010 6:56:31 by ADAMS, RICHARD W
Deficiency Type Changed From (None) To Non-Equipment

Potential Repeat Changed From (None) To No
Previous Issues (PIs, CRs) Changed From " To 'This is an additional instance of the Environmental Air Samplers being found without power.'
CRT Comments Changed From " To '[Appended:]CA 160667 is the place holder for all items found in 2010 that need to be documented in the 2010 Annual Environmental Monitoring Report. This CR has been linked and a note added to that CA. Close this CR to that CA which will ensure the annual[...]'
Last Modified Date Changed From 3/31/2010 6:51:23 To 3/31/2010 6:56:31

3/31/2010 6:56:48 by ADAMS, RICHARD W
RP Hot Buttons Changed From (None) To Environmental Monitoring (REMP)
Last Modified Date Changed From 3/31/2010 6:56:31 To 3/31/2010 6:56:48

3/31/2010 7:01:17 by FITZWATER, DAVID I
Operations Hot Buttons Changed From (None) To EAL-Equipment
Last Modified Date Changed From 3/31/2010 6:56:48 To 3/31/2010 7:01:17
Last Modifier Changed From ADAMS, RICHARD W To FITZWATER, DAVID I

3/31/2010 10:03:55 by ADAMS, RICHARD W
CRT Report Section(s) Changed From (None) To 1
Last Modified Date Changed From 3/31/2010 7:01:17 To 3/31/2010 10:03:55
Last Modifier Changed From FITZWATER, DAVID I To ADAMS, RICHARD W

4/1/2010 11:01:09 by ADAMS, RICHARD W
Previous Issues (PIs, CRs) Changed From 'This is an additional instance of the Environmental Air Samplers being found without power.' To 'This is an additional instance of the Environmental Air Samplers being found without power. WPS contacted to reset the GFCI.'
Last Modified Date Changed From 3/31/2010 10:03:55 To 4/1/2010 11:01:09

4/1/2010 12:45:56 by LANGER JR, JAMES E - power
CRT Comments Changed From '[Original Text]' To '[Appended:] [4/1/10 BRING BACK to address past CA to resolve this issue w/K-31. -SSTCjel-]'
Last Modified Date Changed From 4/1/2010 11:01:09 To 4/1/2010 12:45:56
Last Modifier Changed From ADAMS, RICHARD W To LANGER JR, JAMES E - power

4/1/2010 12:48:02 by LANGER JR, JAMES E - power
CRT Comments Changed From '[...]ring Report. This CR has been linked and a note added to that CA. Close this CR to that CA which will ensure the annual report is annotated with this missed sample. [4/1/10 BRING BACK to address past CA to resolve this issue w/K-31. -SSTCjel-]' To '[...]linked and a note added to that CA. Close this CR to that CA which will ensure the annual report is annotated with this missed sample. [4/1/10 BRING BACK to address past CA15942 Contact WPS to gain access to/resolve issue with K-31. -SSTCjel-]'
Last Modified Date Changed From 4/1/2010 12:45:56 To 4/1/2010 12:48:02

4/1/2010 12:54:59 by ADAMS, RICHARD W
CRT Comments Changed From '[Original Text]' To '[Appended:] Chemistry personnel contacted WPS to reset the outlet. As of 4/1/2010 CY personnel confirm the air sampler was running. CA142447 reviewed past history of Air samplers and determined that change out of the air samplers, scheduled for this su[...]'
Last Modified Date Changed From 4/1/2010 12:48:02 To 4/1/2010 12:54:59
Last Modifier Changed From LANGER JR, JAMES E - power To ADAMS, RICHARD W

4/5/2010 5:16:21 by FICTUM, HOLLY C
Process Code Changed From (None) To EVC (Environmental Controls)
Activity Codes Changed From (None) To SAA(Sampling)
Last Modified Date Changed From 4/1/2010 12:54:59 To 4/5/2010 5:16:21
Last Modifier Changed From ADAMS, RICHARD W To FICTUM, HOLLY C

4/5/2010 9:33:35 by ADAMS, RICHARD W
CRT Comments Changed From '[...]A142447 reviewed past history of Air samplers and determined that change out of the air samplers, scheduled for this summer with instruments purchased in 2009, should help address issues associated with these old units. No additional actions needed.' To '[...]termined that change out of the air samplers, scheduled for this summer with instruments purchased in 2009, should help address issues associated with these old units. These units are being installed under WO 100633894. No additional actions needed.'
Last Modified Date Changed From 4/5/2010 5:16:21 To 4/5/2010 9:33:35
Last Modifier Changed From FICTUM, HOLLY C To ADAMS, RICHARD W

4/5/2010 11:41:03 by WALESH, DEBRA J
CRT Report Section(s) Changed From 1 To 2
Last Modified Date Changed From 4/5/2010 9:33:35 To 4/5/2010 11:41:03
Last Modifier Changed From ADAMS, RICHARD W To WALESH, DEBRA J

4/5/2010 11:43:48 by WALESH, DEBRA J
CR FLAGS Changed From (None) To zz - reviewed / none selected
Secondary Owner Changed From ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRINKMAN, CHARLES A, BROWN, DAN, CASTIGLIA BRAD K, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, 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, GUINAN, PATRICIA B, HENRY, WILLIAM GENE, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENN JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WHITE, DARYN A, WINKS III GEORGE F To AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GUINAN, PATRICIA B, HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VISTE, GLEN R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 4/5/2010 11:41:03 To 4/5/2010 11:43:48
Last State Change Date Changed From 3/30/2010 16:35:07 To 4/5/2010 11:43:48
Last State Changer Changed From DYKSTRA, DALE E To WALESH, DEBRA J
State Changed From CRT Review To Trend Review Via Transition: Complete

4/6/2010 12:05:26 by FICTUM, HOLLY C
OR Hot Buttons Changed From (None) To CRT Bring Back
Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GUINAN, PATRICIA B, HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS,

BRIAN M, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VISTE, GLEN R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GUINAN, PATRICIA B, HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VISTE, GLEN R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 4/5/2010 11:43:48 To 4/6/2010 12:05:26
Last Modifier Changed From WALESH, DEBRA J To FICTUM, HOLLY C

4/12/2010 9:47:59 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 4/12/2010 10:47:59
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, BOUCHE, DANNY L, BRADLEY, DEBRA A, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GUINAN, PATRICIA B, HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VISTE, GLEN R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, SMIDEL, SARAH A., Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 4/6/2010 12:05:26 To 4/12/2010 9:47:59
Close Date Changed From Unassigned To 4/12/2010 9:47:59
Last State Change Date Changed From 4/5/2010 11:43:48 To 4/12/2010 9:47:59
Last State Changer Changed From WALESH, DEBRA J 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

4/12/2010 16:10:27 by RECORDS MGMT
Last Modified Date Changed From 4/12/2010 9:47:59 To 4/12/2010 16:10:27
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 4/12/2010 9:47:59 To 4/12/2010 16:10:27
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

4/13/2010 6:36:39 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 4/13/2010 6:36:39
Last Modified Date Changed From 4/12/2010 16:10:27 To 4/13/2010 6:36:39
Last State Change Date Changed From 4/12/2010 16:10:27 To 4/13/2010 6:36:39
State Changed From Transferred To Printed Via Transition: Print

4/13/2010 6:36:52 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 4/13/2010 6:36:52
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, SMIDEL, SARAH A., Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)
Last Modified Date Changed From 4/13/2010 6:36:39 To 4/13/2010 6:36:52
Last State Change Date Changed From 4/13/2010 6:36:39 To 4/13/2010 6:36:52
State Changed From Printed To Validated Via Transition: Validate

State Change History

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Submit by WAAK, GREGORY D	**Draft** 9/22/2010 7:21:03 Owner : WAAK, GREGORY D	**Submit** by WAAK, GREGORY D	**Supervisor Review** 9/22/2010 7:22:08 Owner : BERNSDORF, MIKE A	**Complete** by BERNSDORF, MIKE A	**O/R Review** 9/22/2010 8:36:52 Owner : FICTUM, HOLLY C	**Complete** by IRLBECK, DAVID E	**CRT Review** 9/22/2010 15:34:45 Owner : FICTUM, HOLLY C
To Supervisor by CIESLEWICZ, SCOTT M	**Supervisor Review** 9/22/2010 15:42:05 Owner : BERNSDORF, MIKE A	**Complete** by TERRY, MICHAEL E	**O/R Review** 9/22/2010 15:43:41 Owner : FICTUM, HOLLY C	**Complete** by IRLBECK, DAVID E	**CRT Review** 9/22/2010 16:09:28 Owner : FICTUM, HOLLY C	**CA** by WALESH, DEBRA J	**CRT Assignment Creation** 9/24/2010 8:51:27 Owner : FICTUM, HOLLY C
Complete by WALESH, DEBRA J	**Assignments Pending** 9/24/2010 8:53:31 Owner : FICTUM, HOLLY C	**Assignments Complete** by ADAMS, RICHARD W	**Trend Review** 12/15/2010 6:50:12 Owner : FICTUM, HOLLY C				

Section 1

Applicable to site:	KEWA
Record #:	CR395885
Revision Number:	0
Submitter:	WAAK, GREGORY D
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	7630
Submitter Pager Number:	920-218-3368
One-Line Description:	Low air flow on K-2 air sampler.
Description:	When performing SP-63-164 Weekly Environmental Sample Collection it was noted that air flow o k-2 air sampler had dropped from 30L.P.M. on 9/14/10 to 14 L.P.M. on 9/21/10. Flow would not normally drop at all over the course of one week. When a clean filter was installed flow remained steady at the reduced rate. The pump check indicated that the pump is pulling as it should. H.P. was notified and will investigate.
Discovery Date:	9/21/2010
Discovery Time:	10:15:00
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--METEOROLOGICAL/ENV
Equipment Location Display:	**Equipment Location - Critical Component - PRA Flag - Quality Classification - Component Description**
Equipment Location Links:	
Initial Actions:	Reported to H.P. for resolution.
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:	BERNSDORF, MIKE 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:	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:	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:	FUNCTIONAL - Air Sampler K-2 is required to support the Radiological Environmental Monitoring Program (REMP). At the time of discovery air sampler, K-2, was functional. Per discussion with Chemistry, the sampler has no minimum air flow requirements and remains capable of drawing samples as designed.
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:**
Leak Classification:	(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):	This equipment is the recently installed environmental air samplers. This (and the situation noted in CR 395889) are the first issues noted with the installed instruments.
CR FLAGS:	Self-Revealing Event
CRT Report Section(s):	2
Screening Date:	
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	*HI LEVEL* This is similar to the situation noted in CR 395889, for K-41. In both cases, the actual flow was as needed, this is just an indication issue. CA to CY to inform the vendor of the actual volumes sampled for K-2 and for K-41 for their analysis of the samples. CA to RP to track replacement of the flow turbines. **Per CRT on 10-27-2010- CR400655- k-41 air sampler digital readout and calculated total reading zero and CR400661 - k-2 air sampler digital readout lower than calculated indicated total flow are being closed to CA 179723.
Comments:	
Old Record #:	

Section 2

Trend Review Complete?:	No		
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)	Procedures Hot Buttons:	(None)
Reactivity Mgmt 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

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Notes

RP Supervisor Comments by **ADAMS, RICHARD W** (9/22/2010 11:17:07)
9/21/2010 approximately 1300, sent RP Instruments techs to investigate low flow indication at K-2 (Kewaunee WPS office) and K-41, (Green Bay EOF). The flow rates were measured using an F&J air flow calibrator. The flow rate at K-2 indicated 28.4 LPM, flow rate at K-41 was 29.4 LPM. The required flow rate for the environmental air samplers is 30 LPM. The acceptance band for flow rate +/- 20%, 24 to 36 LPM, so the actual flow rates were in spec. The apparent problem is with the flow turbine which sends pump speed information to the flow totalizer. Contacted the vendor and they are sending two replacement flow turbines and requested that we send the other two suspect flow turbines back so that they can evaluate and determine the cause. These units have been in service at other nuclear power plants for over 5 years without issue.

Recommendations:
1. SP-63-164, Environmental Sample Collection should be revised to include the acceptable flow rate band for these samplers (30 LPM, +/- 20%, 24 to 36LPM) and that RP should be notified if the flow rates fall out of band.
2. Chemistry needs to provide updated total volumes for K-2 & K-41 to offsite vendor performing the sample analysis.

Additional Air Samplers Involved by **ADAMS, RICHARD W** (10/6/2010 7:27:05)
CR's 397945, 397949, 397953 and 397957 were written 10/5/10 identifying the same problems for K-1f, K-8 and K-41 and K-2 (redundant to this CR). The closure of this CA needs to include those samplers also.

Attachments

Principal to: CA179722: KEWA - Inform the vendor of the actual volumes sampled for K-2 and for K-41 for their a (Inactive) by **WALESH, DEBRA J** (9/24/2010 8:52:07)

Principal to: CA179723: KEWA - Track replacement of the flow turbines. (Inactive) by **WALESH, DEBRA J** (9/24/2010 8:53:08)

Change History

9/22/2010 7:22:08 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 BERNSDORF, MIKE A
Secondary Owner Changed From BERNSDORF, MIKE A To AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUINAN, PATRICIA B, GUM, CLARENCE L, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOLDSWORTH, EDNA K, HOUSE, ALEX J, KASTNER, ROBERT J, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, SCACE, STEPHEN E, SIERACKI, DIANE J, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J
Last Modified Date Changed From 9/22/2010 7:21:03 To 9/22/2010 7:22:08
Last State Change Date Changed From 9/22/2010 7:21:03 To 9/22/2010 7:22:08
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR395885: KEWA - Low air flow on K-2 air sampler.

9/22/2010 8:36:52 by BERNSDORF, MIKE A
Owner Changed From BERNSDORF, MIKE A To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUINAN, PATRICIA B, GUM, CLARENCE L, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOLDSWORTH, EDNA K, HOUSE, ALEX J, KASTNER, ROBERT J, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, SCACE, STEPHEN E, SIERACKI, DIANE J, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J To ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, 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, GUINAN, PATRICIA B, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 9/22/2010 7:22:08 To 9/22/2010 8:36:52
Last Modifier Changed From WAAK, GREGORY D To BERNSDORF, MIKE A
Last State Change Date Changed From 9/22/2010 7:22:08 To 9/22/2010 8:36:52
Last State Changer Changed From WAAK, GREGORY D To BERNSDORF, MIKE A
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

9/22/2010 10:11:33 by TERRY, MICHAEL E
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 'FUNCTIONAL - Air Sampler K-2 is required to support the Radiological Environmental Monitoring Program (REMP). At the time of discovery air sampler, K-8, was functional. The sampler remains capable of drawing samples as designed.'
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 9/22/2010 8:36:52 To 9/22/2010 10:11:33
Last Modifier Changed From BERNSDORF, MIKE A To TERRY, MICHAEL E

9/22/2010 10:12:38 by TERRY, MICHAEL E
Text Answer 2 Changed From 'FUNCTIONAL - Air Sampler K-2 is required to support the Radiological Environmental Monitoring Program (REMP). At the time discovery air sampler, K-8, was functional. The sampler remains capable of drawing samples as designed.' To 'FUNCTIONAL - Air Sampler K-2 is required to support the Radiological Environmental Monitoring Program (REMP). At the time of discovery air sampler, K-2, was functional. The sampler remains capable of drawing samples as designed.'
Last Modified Date Changed From 9/22/2010 10:11:33 To 9/22/2010 10:12:38

9/22/2010 11:17:07 by ADAMS, RICHARD W
Last Modified Date Changed From 9/22/2010 10:12:38 To 9/22/2010 11:17:07
Last Modifier Changed From TERRY, MICHAEL E To ADAMS, RICHARD W
Attachment Added: RP Supervisor Comments

9/22/2010 15:34:45 by IRLBECK, DAVID E
O/R Comments Changed From " To 'I agree with the above assessment'
Last Modified Date Changed From 9/22/2010 11:17:07 To 9/22/2010 15:34:45
Last Modifier Changed From ADAMS, RICHARD W To IRLBECK, DAVID E
Last State Change Date Changed From 9/22/2010 8:36:52 To 9/22/2010 15:34:45
Last State Changer Changed From BERNSDORF, MIKE A To IRLBECK, DAVID E
State Changed From O/R Review To CRT Review Via Transition: Complete

9/22/2010 15:42:05 by CIESLEWICZ, SCOTT M
CRT Comments Changed From " To 'Returned to add additional information'
Owner Changed From FICTUM, HOLLY C To BERNSDORF, MIKE A
Secondary Owner Changed From ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, 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, GUINAN, PATRICIA B, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, SHIELDS, DAVID F, SIMMONS JR, ROY L STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUINAN, PATRICIA B, GUM, CLARENCE L, GWYNN GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOLDSWORTH, EDNA K, HOUSE, ALEX J, KASTNER, ROBERT J, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, SCACE, STEPHEN E, SIERACKI, DIANE J, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J
Last Modified Date Changed From 9/22/2010 15:34:45 To 9/22/2010 15:42:05
Last Modifier Changed From IRLBECK, DAVID E To CIESLEWICZ, SCOTT M
Last State Change Date Changed From 9/22/2010 15:34:45 To 9/22/2010 15:42:05
Last State Changer Changed From IRLBECK, DAVID E To CIESLEWICZ, SCOTT M
State Changed From CRT Review To Supervisor Review Via Transition: To Supervisor

9/22/2010 15:43:41 by TERRY, MICHAEL E
Owner Changed From BERNSDORF, MIKE A To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUINAN, PATRICIA B, GUM, CLARENCE L, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOLDSWORTH, EDNA K, HOUSE, ALEX J, KASTNER, ROBERT J, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, SCACE, STEPHEN E, SIERACKI, DIANE J, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J To ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, 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, GUINAN, PATRICIA B, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, SHIELDS, DAVID F, SIMMONS JR, ROY L STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 9/22/2010 15:42:05 To 9/22/2010 15:43:41
Last Modifier Changed From CIESLEWICZ, SCOTT M To TERRY, MICHAEL E
Last State Change Date Changed From 9/22/2010 15:42:05 To 9/22/2010 15:43:41
Last State Changer Changed From CIESLEWICZ, SCOTT M To TERRY, MICHAEL E
State Changed From Supervisor Review To O/R Review Via Transition: Complete

9/22/2010 15:44:03 by TERRY, MICHAEL E

time of discovery air sampler, K-2, was functional. The sampler remains capable of drawing samples as designed.' To '[...]e Radiological Environmental Monitoring Program (REMP). At the time of discovery air sampler, K-2, was functional. Per discussion with Chemistry, the sampler has no minimum air flow requirements and remains capable of drawing samples as designed.'

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Last Modified Date Changed From 9/22/2010 15:43:41 To 9/22/2010 15:44:03

9/22/2010 16:09:28 by IRLBECK, DAVID E
Last Modified Date Changed From 9/22/2010 15:44:03 To 9/22/2010 16:09:28
Last Modifier Changed From TERRY, MICHAEL E To IRLBECK, DAVID E
Last State Change Date Changed From 9/22/2010 15:43:41 To 9/22/2010 16:09:28
Last State Changer Changed From TERRY, MICHAEL E To IRLBECK, DAVID E
State Changed From O/R Review To CRT Review Via Transition: Complete

9/23/2010 4:52:40 by LANGER JR, JAMES E
CRT Comments Changed From 'Returned to add additional information' To '*HI LEVEL* Returned to add additional information'
Last Modified Date Changed From 9/22/2010 16:09:28 To 9/23/2010 4:52:40
Last Modifier Changed From IRLBECK, DAVID E To LANGER JR, JAMES E

9/23/2010 7:19:01 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 'This equipment is the recently installed environmental air samplers. This (and the situation noted in CR 395889) are the first issues noted with the installed instruments.'
CR FLAGS Changed From (None) To Self-Revealing Event
CRT Comments Changed From '*HI LEVEL* Returned to add additional information' To '*HI LEVEL* This is similar to the situation noted in CR 395889, for K-41. CA to CY to inform the vendor of the actual volumes sampled for K-2 and for K-41 for their analysis of the samples.'
Last Modified Date Changed From 9/23/2010 4:52:40 To 9/23/2010 7:19:01
Last Modifier Changed From LANGER JR, JAMES E To ADAMS, RICHARD W

9/23/2010 9:14:18 by ADAMS, RICHARD W
CRT Report Section(s) Changed From (None) To 1
CRT Comments Changed From '*HI LEVEL* This is similar to the situation noted in CR 395889, for K-41. CA to CY to inform the vendor of the actual volumes sampled for K-2 and for K-41 for their analysis of the samples.' To '[...] In both cases, the actual flow was as needed, this is just an indication issue. CA to CY to inform the vendor of the actual volumes sampled for K-2 and for K-41 for their analysis of the samples. CA to RP to track replacement of the flow[more diffs...]'
Last Modified Date Changed From 9/23/2010 7:19:01 To 9/23/2010 9:14:18

9/23/2010 9:17:56 by ADAMS, RICHARD W
RP Hot Buttons Changed From (None) To Environmental Monitoring (REMP)
Last Modified Date Changed From 9/23/2010 9:14:18 To 9/23/2010 9:17:56

9/24/2010 8:51:27 by WALESH, DEBRA J
Last Modified Date Changed From 9/23/2010 9:17:56 To 9/24/2010 8:51:27
Last Modifier Changed From ADAMS, RICHARD W To WALESH, DEBRA J
Last State Change Date Changed From 9/22/2010 16:09:28 To 9/24/2010 8:51:27
Last State Changer Changed From IRLBECK, DAVID E To WALESH, DEBRA J
State Changed From CRT Review To CRT Assignment Creation Via Transition: CA

9/24/2010 8:52:07 by WALESH, DEBRA J
Last Modified Date Changed From 9/24/2010 8:51:27 To 9/24/2010 8:52:07
Attachment Added: CA179722: (None) - Inform the vendor of the actual volumes sampled for K-2 and for K-41 for their a

9/24/2010 8:52:23 by WALESH, DEBRA J
Last Modified Date Changed From 9/24/2010 8:52:07 To 9/24/2010 8:52:23

9/24/2010 8:53:09 by WALESH, DEBRA J
Last Modified Date Changed From 9/24/2010 8:52:23 To 9/24/2010 8:53:09
Attachment Added: CA179723: (None) - Track replacement of the flow turbines.

9/24/2010 8:53:31 by WALESH, DEBRA J
CRT Report Section(s) Changed From 1 To 2
Secondary Owner Changed From ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, 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, GUINAN, PATRICIA B, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To AHRENS, GARY M, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GUINAN, PATRICIA B, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MATHEWS, BRIAN M, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 9/24/2010 8:53:09 To 9/24/2010 8:53:31
Last State Change Date Changed From 9/24/2010 8:51:27 To 9/24/2010 8:53:31
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

9/30/2010 13:22:31 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 9/24/2010 8:53:31 To 9/30/2010 13:22:31
Last Modifier Changed From WALESH, DEBRA J To FICTUM, HOLLY C

10/6/2010 7:27:05 by ADAMS, RICHARD W
Last Modified Date Changed From 9/30/2010 13:22:31 To 10/6/2010 7:27:05
Last Modifier Changed From FICTUM, HOLLY C To ADAMS, RICHARD W
Attachment Added: Additional Air Samplers Involved

10/27/2010 8:52:23 by WALESH, DEBRA J - power

CRT Comments Changed From '[Original Text]' To '[Appended:] **Per CRT on 10-27-2010- CR400655- k-41 air sampler digital readout and calculated total reading zero and CR400661 - k-2 air sampler digital readout lower than calculated indicated total flow are being closed to CA 179723.'
Secondary Owner Changed From AHRENS, GARY M, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GUINAN, PATRICIA B, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MATHEWS, BRIAN M, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To AHRENS, GARY M, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FITZWATER, DAVID I, GUINAN, PATRICIA B, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 10/6/2010 7:27:05 To 10/27/2010 8:52:23
Last Modifier Changed From ADAMS, RICHARD W To WALESH, DEBRA J - power

12/15/2010 6:50:12 by ADAMS, RICHARD W
Secondary Owner Changed From AHRENS, GARY M, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FITZWATER, DAVID I, GUINAN, PATRICIA B, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F, YEARGIN, BARRY K To AHRENS, GARY M, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FITZWATER, DAVID I, GUINAN, PATRICIA B, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, DARRYL D, MILLER, JEANNINE R, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, YEARGIN, BARRY K
Last Modified Date Changed From 10/27/2010 8:52:23 To 12/15/2010 6:50:12
Last Modifier Changed From WALESH, DEBRA J - power To ADAMS, RICHARD W
Last State Change Date Changed From 9/24/2010 8:53:31 To 12/15/2010 6:50:12
Last State Changer Changed From WALESH, DEBRA J To ADAMS, RICHARD W
State Changed From Assignments Pending To Trend Review Via Transition: Assignments Complete

State Change History

Submit	Draft	Submit	Supervisor Review	Complete	O/R Review	Return	Supervisor Review
by SIMON, PAUL A	12/8/2010 9:16:46 Owner : SIMON, PAUL A	by SIMON, PAUL A	12/8/2010 9:17:11 Owner : THORPE, RANDAL	by THORPE, RANDAL	12/8/2010 10:06:52 Owner : FICTUM, HOLLY C	by TAYLOR, STEVEN C.	12/8/2010 14:33:51 Owner : THORPE, RANDAL

Complete	O/R Review	Complete	CRT Review	CA	CRT Assignment Creation	Complete	Assignments Pending
by THORPE, RANDAL	12/8/2010 15:48:23 Owner : FICTUM, HOLLY C	by BROWN, DAN	12/8/2010 17:02:33 Owner : FICTUM, HOLLY C	by FICTUM, HOLLY C	12/10/2010 10:08:34 Owner : FICTUM, HOLLY C	by FICTUM, HOLLY C	12/10/2010 10:11:12 Owner : FICTUM, HOLLY C

Section 1

Applicable to site:	KEWA
Record #:	CR406655
Revision Number:	0
Submitter:	SIMON, PAUL A
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	8214
Submitter Pager Number:	7666
One-Line Description:	Environmental Air Sampler indicated air flow outside the range of 27-33 LPM
Description:	Environmental Air Samplers K-1F and K-2 indicated air flow outside the range of 27-33 LPM on 12-7-2010. K-1F indicated high outside of the band. K-2 indicated low outside of the band. CR written per SP-63-164 step 6.1.2.11.2. RP instrumentation group was informed and made the necessary adjustments to the sampler flow meter.
Discovery Date:	12/8/2010
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:	RP instrumentation group informed and corrective actions are complete.
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:	THORPE, RANDAL
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:	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:	FUNCTIONAL: Environmental monitors K-1f and K-2 remain functional to support the Radiological Environmental Monitoring Program (REMM). Environmental monitors are configured with two independent flow indications - a flow turbine (with totalizer) and a rotometer. SP-63-164 compares the totalizer indication to the rotometer. Based on rotometer indication, adequate sample flow was maintained. Additionally, SP-63-164 contains no acceptance criteria for sample flow. I agree Mr. Taylor's assessment
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:	Fully Qualified
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:**
Leak Classification:	(None)
Leakage Severity:	(None)
O/R Comments:	Correct procedure ref (SP-63-164) and monitor desigantion (K-1f)
Significance:	3
Deficiency Type:	Non-Equipment

Potential Repeat: No

Previous Issues (PIs, CRs): No hisotry found of SP's without acceptance criteria.

CR FLAGS: Administrative Procedure Issues

CRT Report Section(s): 2

Screening Date:

License Renewal Flags: (None)

Affected Department: (None)

CRT Comments: *HI LEVEL*

Relative to the sample flow rates and the various devices, the rotometer was indicating as expected and does provide for accurate volume determination for input to the air concentration values. RP is tracking the issues with the new flow turbines and working with the vendor to resolve. No actions are needed for this aspect of this CR.

CA to RP (REMP program owner) to review need for specific acceptance criteria in the SP. If needed, then specify to CY the value (ranges) and initiate CA to implement change to procedure. Any follow-on actions to resolve an identified CAQ must be completed IAW PI-AA-200 priority model from date of identification.

Comments: 12/8/2010 10:05:58 - THORPE, RANDAL:
Please close this condition report to the actions taken and tracking and trending.- Entered by [THORPE, RANDAL] from [CR] [Supervisor Review]

Old Record #:

Section 2

Trend Review Complete?: No

Process Code:	UNK (Unknown)	**Activity Codes:**	ESS(Establish Specifications)
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)	**Procedures Hot Buttons:**	(None)
Reactivity Mgmt 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: CA187177: KEWA - Review need for specific acceptance criteria in the SP by **FICTUM, HOLLY C** (12/10/2010 10:09:47)

Change History

12/8/2010 9:17:11 by SIMON, PAUL A
Additional C/A processes req'd? Changed From (None) To N/A
Owner Changed From SIMON, PAUL A To THORPE, RANDAL
Secondary Owner Changed From THORPE, RANDAL To AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BLAKE JR, HARRY H, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CORBIN, WILLIAM D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOLDSWORTH, EDNA K, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 12/8/2010 9:16:46 To 12/8/2010 9:17:11
Last State Change Date Changed From 12/8/2010 9:16:46 To 12/8/2010 9:17:11
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR406655: KEWA - Environmental Air Sampler indicated air flow outside the range of 27-33 LPM

12/8/2010 10:05:58 by THORPE, RANDAL
Description Changed From '[...]ironmental Air Samplers K-f1 and K-2 indicated air flow outside the range of 27-33 LPM on 12- -7 -2010 . CR written per SP-63-163 step 6.1.2.11.2 RP instrumentation group informed .adjustments made to sampler flow meter by RP instrumentation group .' To '[...]f 27-33 LPM on 12-7-2010. K-F1 indicated high outside of the band. K-2 indicated low outside of the band. CR written per SP-63-163 step 6.1.2.11.2. RP instrumentation group was informed and made the necessary adjustments to the sampler flow meter.'
Initial Actions Changed From 'RP instrumentation group informed.' To 'RP instrumentation group informed and corrective actions are complete.'
Comments Changed From " To '[Appended:] Please close this condition report to the actions taken and tracking and trending.- Entered by [THORPE, RANDAL] from [CR] [Supervisor Review]'
Last Modified Date Changed From 12/8/2010 9:17:11 To 12/8/2010 10:05:58
Last Modifier Changed From SIMON, PAUL A To THORPE, RANDAL

12/8/2010 10:06:52 by THORPE, RANDAL
Owner Changed From THORPE, RANDAL To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BLAKE JR, HARRY H, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CORBIN, WILLIAM D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOLDSWORTH, EDNA K, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZEPNICK, BRIAN THOMAS To ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GUINAN, PATRICIA B, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WHITE, DARYN A, YEARGIN, BARRY K
Last Modified Date Changed From 12/8/2010 10:05:58 To 12/8/2010 10:06:52
Last State Change Date Changed From 12/8/2010 9:17:11 To 12/8/2010 10:06:52
Last State Changer Changed From SIMON, PAUL A To THORPE, RANDAL
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

12/8/2010 14:32:16 by TAYLOR, STEVEN C.
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 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:]FUNCTIONAL: Environmental monitors K-1f and K-2 remain functional to support the Radiological Environmental Monitoring Program (REMM). Environmental monitors are configured with two independent flow indications - a flow turbine (with totalize[...]'
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 Fully Qualified
Reportable condition? Changed From (None) To No
Last Modified Date Changed From 12/8/2010 10:06:52 To 12/8/2010 14:32:16
Last Modifier Changed From THORPE, RANDAL To TAYLOR, STEVEN C.

12/8/2010 14:33:51 by TAYLOR, STEVEN C.
O/R Comments Changed From " To 'Correct procedure ref (SP-63-164) and monitor desigantion (K-1f)'
Owner Changed From FICTUM, HOLLY C To THORPE, RANDAL

Secondary Owner Changed From ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GUINAN, PATRICIA B, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS

E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WHITE, DARYN A, YEARGIN, BARRY K To AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BLAKE JR, HARRY H, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CORBIN, WILLIAM D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOLDSWORTH, EDNA K, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 12/8/2010 14:32:16 To 12/8/2010 14:33:51
Last State Change Date Changed From 12/8/2010 10:06:52 To 12/8/2010 14:33:51
Last State Changer Changed From THORPE, RANDAL To TAYLOR, STEVEN C.
State Changed From O/R Review To Supervisor Review Via Transition: Return

12/8/2010 15:48:02 by THORPE, RANDAL
Description Changed From 'Environmental Air Samplers K-f1 and K-2 indicated air flow outside the range of 27-33 LPM on 12-7-2010. K-F1 indicated high outside of the band. K-2 indicated low outside of the band. CR written per SP-63-163 step 6.1.2.11.2. RP instrumentation gr[...]' To 'Environmental Air Samplers K-1F and K-2 indicated air flow outside the range of 27-33 LPM on 12-7-2010. K-1F indicated high outside of the band. K-2 indicated low outside of the band. CR written per SP-63-164 step 6.1.2.11.2. RP instrumentation gr[...]'
Last Modified Date Changed From 12/8/2010 14:33:51 To 12/8/2010 15:48:02
Last Modifier Changed From TAYLOR, STEVEN C. To THORPE, RANDAL

12/8/2010 15:48:23 by THORPE, RANDAL
Owner Changed From THORPE, RANDAL To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BLAKE JR, HARRY H, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CORBIN, WILLIAM D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOLDSWORTH, EDNA K, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZEPNICK, BRIAN THOMAS To ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GUINAN, PATRICIA B, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WHITE, DARYN A, YEARGIN, BARRY K
Last Modified Date Changed From 12/8/2010 15:48:02 To 12/8/2010 15:48:23
Last State Change Date Changed From 12/8/2010 14:33:51 To 12/8/2010 15:48:24
Last State Changer Changed From TAYLOR, STEVEN C. To THORPE, RANDAL
State Changed From Supervisor Review To O/R Review Via Transition: Complete

12/8/2010 17:02:33 by BROWN, DAN
Text Answer 2 Changed From '[Original Text]' To '[Appended:] I agree Mr. Taylor's assessment'
Last Modified Date Changed From 12/8/2010 15:48:23 To 12/8/2010 17:02:33
Last Modifier Changed From THORPE, RANDAL To BROWN, DAN
Last State Change Date Changed From 12/8/2010 15:48:24 To 12/8/2010 17:02:33
Last State Changer Changed From THORPE, RANDAL To BROWN, DAN
State Changed From O/R Review To CRT Review Via Transition: Complete

12/9/2010 5:53:02 by IRION, ROBERT W
Operations Hot Buttons Changed From (None) To EAL-Equipment
Last Modified Date Changed From 12/8/2010 17:02:33 To 12/9/2010 5:53:02
Last Modifier Changed From BROWN, DAN To IRION, ROBERT W

12/9/2010 5:59:59 by LANGER JR, JAMES E
CRT Comments Changed From " To '*HI LEVEL* -Ref Supervisor comments; "Please close this condition report to the actions taken and tracking and trending."'
Last Modified Date Changed From 12/9/2010 5:53:02 To 12/9/2010 5:59:59
Last Modifier Changed From IRION, ROBERT W To LANGER JR, JAMES E

12/9/2010 9:33:33 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 hisotry found of SP's without acceptance criteria.'
CR FLAGS Changed From (None) To Administrative Procedure Issues
CRT Report Section(s) Changed From (None) To 1
CRT Comments Changed From '*HI LEVEL* -Ref Supervisor comments; "Please close this condition report to the actions taken and tracking and trending."' To '[...]Relative to the sample flow rates and the various devices, the rotometer was indicating as expected and does provide for accurate volume determination for input to the air concentration values. RP is tracking the issues with the new flow turbin[more diffs...]'
Last Modified Date Changed From 12/9/2010 5:59:59 To 12/9/2010 9:33:33
Last Modifier Changed From LANGER JR, JAMES E To ADAMS, RICHARD W

12/9/2010 9:44:46 by ADAMS, RICHARD W
RP Hot Buttons Changed From (None) To Environmental Monitoring (REMP)
Last Modified Date Changed From 12/9/2010 9:33:33 To 12/9/2010 9:44:46

12/9/2010 12:43:08 by FICTUM, HOLLY C
Process Code Changed From (None) To UNK (Unknown)
Activity Codes Changed From (None) To ESS(Establish Specifications)
Last Modified Date Changed From 12/9/2010 9:44:46 To 12/9/2010 12:43:08
Last Modifier Changed From ADAMS, RICHARD W To FICTUM, HOLLY C

12/10/2010 10:08:34 by FICTUM, HOLLY C

Last State Change Date Changed From 12/8/2010 17:02:33 To 12/10/2010 10:08:34
Last State Changer Changed From BROWN, DAN To FICTUM, HOLLY C
State Changed From CRT Review To CRT Assignment Creation Via Transition: CA

12/10/2010 10:09:47 by FICTUM, HOLLY C
Last Modified Date Changed From 12/10/2010 10:08:34 To 12/10/2010 10:09:47
Attachment Added: CA187177: (None) - Review need for specific acceptance criteria in the SP

12/10/2010 10:10:20 by FICTUM, HOLLY C
CRT Comments Changed From '[Original Text]' To '[Appended:] Any follow-on actions to resolve an identified CAQ must be completed IAW PI-AA-200 priority model from date of identification.'
Last Modified Date Changed From 12/10/2010 10:09:47 To 12/10/2010 10:10:20

12/10/2010 10:11:12 by FICTUM, HOLLY C
CRT Report Section(s) Changed From 1 To 2
Secondary Owner Changed From ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GUINAN, PATRICIA B, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WHITE, DARYN A, YEARGIN, BARRY K To AHRENS, GARY M, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FITZWATER, DAVID I, GUINAN, PATRICIA B, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, DARRYL D, MILLER, JEANNINE R, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, YEARGIN, BARRY K
Last Modified Date Changed From 12/10/2010 10:10:20 To 12/10/2010 10:11:12
Last State Change Date Changed From 12/10/2010 10:08:34 To 12/10/2010 10:11:12
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

2/10/2011 8:11:03 by BRADLEY, DEBRA A
Operations Hot Buttons Changed From EAL-Equipment To (None)
Secondary Owner Changed From AHRENS, GARY M, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FITZWATER, DAVID I, GUINAN, PATRICIA B, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, DARRYL D, MILLER, JEANNINE R, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, YEARGIN, BARRY K To AHRENS, GARY M, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FICTUM, HOLLY C, FITZWATER, DAVID I, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, DARRYL D, MILLER, JEANNINE R, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, YEARGIN, BARRY K
Last Modified Date Changed From 12/10/2010 10:11:12 To 2/10/2011 8:11:03
Last Modifier Changed From FICTUM, HOLLY C To BRADLEY, DEBRA A

State Change History

Submit	Draft	Submit	Supervisor Review	Complete	O/R Review	Complete	CRT Review
by HENDRICKSON, CHAD M	12/28/2010 13:05:32 Owner : HENDRICKSON, CHAD M	by HENDRICKSON, CHAD M	12/28/2010 14:40:36 Owner : BERNSDORF, MIKE A	by BERNSDORF, MIKE A	12/28/2010 15:05:49 Owner : FICTUM, HOLLY C	by BROWN, DAN	12/28/2010 16:10:14 Owner : FICTUM, HOLLY C

Complete	Trend Review	Trend Review Complete	All Assignments Complete
by WALESH, DEBRA J - power	1/3/2011 9:38:56 Owner : FICTUM, HOLLY C	by FICTUM, HOLLY C	1/5/2011 5:33:16 Owner : (None)

Section 1

Applicable to site:	KEWA
Record #:	CR408777
Revision Number:	0
Submitter:	HENDRICKSON, CHAD M
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	7353
Submitter Pager Number:	704-0500
One-Line Description:	Environmental air sampler indicated flow does not match Rotometer Flow Rate
Description:	During the 12/28/10 performance of SP-63-164, Environmental Sample Collection, one of the samplers was not indicating proper flow rate (per step 6.1.2.11). The indicated air flow on air sampler at K-41 (Emergency Offsite Facility in Green Bay) does not match within 10% of the Rotometer Flow Rate (step 6.1.2.11.1) and the indicated flow rate was outside of 27 - 33 liters per minute (step 6.1.2.11.2). The digital reading was 22 liters per minute and the rotometer was indicating 30 liters per minute.
Discovery Date:	12/28/2010
Discovery Time:	10:00:00
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?:	Yes
System(s):	63-MET--METEOROLOGICAL/ENV
Equipment Location Display:	**Equipment Location - Critical Component - PRA Flag - Quality Classification - Component Description**
Equipment Location Links:	
Initial Actions:	Notified supervisor. Calculated total air flow using rotometer flow rate and hours in service per step 6.1.2.11.1. Notified instrumentation group and wrote CR per step 6.1.2.11.2
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:	BERNSDORF, MIKE A
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:	Yes
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:	FUNCTIONAL: Environmental monitor K-41 remains functional to support the Radiological Environmental Monitoring Program (REMM). Environmental monitors are configured with two independent flow indications - a flow turbine (with totalizer) and a rotometer. SP-63-164 compares the totalizer indication to the rotometer. Based on rotometer indication, adequate sample flow was maintained. Therefore, K-41 remains FUNCTIONAL. I agree with Mr. Neuser's assessment.
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:	N/A
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:	Fully Qualified
Reportable condition?:	No
Text Question 3:	**Reportability Comments:**
Text Answer 3:	N/A
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leak Classification:	(None)
Leakage Severity:	(None)

O/R Comments:

Significance: 4

Deficiency Type: Equipment

Potential Repeat: No

Previous Issues (PIs, CRs): sig 4

CR FLAGS: Self-Identified

CRT Report Section(s): 2

Screening Date:

License Renewal Flags: (None)

Affected Department: (None)

CRT Comments:

HI LEVEL
Environmental monitors are configured with two independent flow indications - a flow turbine (with totalizer) and a rotometer. SP-63-164 compares the totalizer indication to the rotometer. Based on rotometer indication, adequate sample flow was maintained. Therefore, K-41 remains FUNCTIONAL.
Close to Department track and trend. RP has been working with the vendor to determine any issues with the flow turbines, which are new in the recently installed air samplers. Until they are proven reliable, rotometers will be used as a secondary device. If it is not possible to get these reliable, we will return to relying solely on the rotometers.

BRING BACK to CRT on Monday, Jan3, 2011 - RP to address how are we trending this equipment. Should this be Sig Level 3?

Per CRT on 01/03/2011 - RP added verbiage as requested. Approved Sig 4.
As screened

Comments:

Old Record #:

Section 2

Trend Review Complete?:	No		
Process Code:	(None)	**Activity Codes:**	(None)
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:**	CRT Bring Back
O&P Hot Buttons:	(None)	**NSS Hot Buttons:**	(None)
Supply Chain Hot Buttons:	(None)	**Procedures Hot Buttons:**	(None)
Reactivity Mgmt 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: 1/5/2011 6:33:16 **CR Printed Date:**

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

RM Attachment Links:

Change History

12/28/2010 14:40:36 by HENDRICKSON, CHAD M
Owner Changed From HENDRICKSON, CHAD M To BERNSDORF, MIKE A
Secondary Owner Changed From BERNSDORF, MIKE A To AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BLAKE JR, HARRY H, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CORBIN, WILLIAM D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOLDSWORTH, EDNA K, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 12/28/2010 13:05:32 To 12/28/2010 14:40:36
Last State Change Date Changed From 12/28/2010 13:05:32 To 12/28/2010 14:40:36
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR408777: KEWA - Environmental air sampler indicated flow does not match Rotometer Flow Rate (Inactive)

12/28/2010 15:05:49 by BERNSDORF, MIKE A
Yes/No G Changed From Yes To No
Yes/No H Changed From Yes To No
Yes/No I Changed From Yes To No
Owner Changed From BERNSDORF, MIKE A To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BLAKE JR, HARRY H, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CORBIN, WILLIAM D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOLDSWORTH, EDNA K, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZEPNICK, BRIAN THOMAS To ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GUINAN, PATRICIA B, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WHITE, DARYN A, YEARGIN, BARRY K
Last Modified Date Changed From 12/28/2010 14:40:36 To 12/28/2010 15:05:49
Last Modifier Changed From HENDRICKSON, CHAD M To BERNSDORF, MIKE A
Last State Change Date Changed From 12/28/2010 14:40:36 To 12/28/2010 15:05:49
Last State Changer Changed From HENDRICKSON, CHAD M To BERNSDORF, MIKE A
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

12/28/2010 15:26:56 by NEUSER, CRAIG J
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:]FUNCTIONAL: Environmental monitor K-41 remains functional to support the Radiological Environmental Monitoring Program (REMM). Environmental monitors are configured with two independent flow indications - a flow turbine (with totalizer) and 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
Applicable LCO Changed From " To 'N/A'
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 Fully Qualified
Reportable condition? Changed From (None) To No
Text Answer 3 Changed From " To 'N/A'
Last Modified Date Changed From 12/28/2010 15:05:49 To 12/28/2010 15:26:56
Last Modifier Changed From BERNSDORF, MIKE A To NEUSER, CRAIG J

12/28/2010 16:10:14 by BROWN, DAN
Text Answer 2 Changed From '[Original Text]' To '[Appended:] I agree with Mr. Neuser's assessment.'
Last Modified Date Changed From 12/28/2010 15:26:56 To 12/28/2010 16:10:14
Last Modifier Changed From NEUSER, CRAIG J To BROWN, DAN
Last State Change Date Changed From 12/28/2010 15:05:49 To 12/28/2010 16:10:14
Last State Changer Changed From BERNSDORF, MIKE A To BROWN, DAN
State Changed From O/R Review To CRT Review Via Transition: Complete

12/29/2010 6:04:46 by LANGER JR, JAMES E
CRT Comments Changed From " To '*HI LEVEL*'
Last Modified Date Changed From 12/28/2010 16:10:14 To 12/29/2010 6:04:46
Last Modifier Changed From BROWN, DAN To LANGER JR, JAMES E

12/29/2010 12:14:09 by WALESH, DEBRA J
Significance Changed From (None) To 4
Deficiency Type Changed From (None) To Equipment
Potential Repeat Changed From (None) To No
Previous Issues (PIs, CRs) Changed From " To 'sig 4'
CR FLAGS Changed From (None) To Self-Identified
CRT Report Section(s) Changed From (None) To 1

CRT Comments Changed From '[Original Text]' To '[Appended:] Environmental monitors are configured with two independent flow indications - a flow turbine

(with totalizer) and a rotometer. SP-63-164 compares the totalizer indication to the rotometer. Based on rotometer indication, adequate sample flow wa[...]'
Last Modified Date Changed From 12/29/2010 6:04:46 To 12/29/2010 12:14:09
Last Modifier Changed From LANGER JR, JAMES E To WALESH, DEBRA J

12/30/2010 9:39:00 by WALESH, DEBRA J
CRT Comments Changed From '[Original Text]' To '[Appended:] **BRING BACK to CRT on Monday, Jan3, 2011 - RP to address how are we trending this equipment. Should this be Sig Level 3?**'
Last Modified Date Changed From 12/29/2010 12:14:09 To 12/30/2010 9:39:00

12/30/2010 9:39:19 by WALESH, DEBRA J
OR Hot Buttons Changed From (None) To CRT Bring Back
Last Modified Date Changed From 12/30/2010 9:39:00 To 12/30/2010 9:39:19

1/3/2011 9:11:15 by ADAMS, RICHARD W
CRT Comments Changed From '[...] **BRING BACK to CRT on Monday, Jan3, 2011 - RP to address how are we trending this equipment. Should this be Sig Level 3?**' To '[...] RP has been working with the vendor to determine any issues with the flow turbines, which are new in the recently installed air samplers. Until they are proven reliable, rotometers will be used as a secondary device. If it is not possible to[more diffs...]'
Last Modified Date Changed From 12/30/2010 9:39:19 To 1/3/2011 9:11:15
Last Modifier Changed From WALESH, DEBRA J To ADAMS, RICHARD W

1/3/2011 9:13:00 by ADAMS, RICHARD W
RP Hot Buttons Changed From (None) To Environmental Monitoring (REMP)
Last Modified Date Changed From 1/3/2011 9:11:15 To 1/3/2011 9:13:00

1/3/2011 9:38:49 by WALESH, DEBRA J - power
CRT Report Section(s) Changed From 1 To 2
CRT Comments Changed From '[Original Text]' To '[Appended:] Per CRT on 01/03/2011 - RP added verbiage as requested. Approved Sig 4. As screened'
Last Modified Date Changed From 1/3/2011 9:13:00 To 1/3/2011 9:38:49
Last Modifier Changed From ADAMS, RICHARD W To WALESH, DEBRA J - power

1/3/2011 9:38:56 by WALESH, DEBRA J - power
Secondary Owner Changed From ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GUINAN, PATRICIA B, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WHITE, DARYN A, YEARGIN, BARRY K To AHRENS, GARY M, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FITZWATER, DAVID I, GUINAN, PATRICIA B, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, DARRYL D, MILLER, JEANNINE R, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, YEARGIN, BARRY K
Last Modified Date Changed From 1/3/2011 9:38:49 To 1/3/2011 9:38:56
Last State Change Date Changed From 12/28/2010 16:10:14 To 1/3/2011 9:38:56
Last State Changer Changed From BROWN, DAN To WALESH, DEBRA J - power
State Changed From CRT Review To Trend Review Via Transition: Complete

1/5/2011 5:33:16 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 1/5/2011 6:33:16
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, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FITZWATER, DAVID I, GUINAN, PATRICIA B, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, DARRYL D, MILLER, JEANNINE R, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, YEARGIN, BARRY K To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, SMIDEL, SARAH A., Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 1/3/2011 9:38:56 To 1/5/2011 5:33:16
Last Modifier Changed From WALESH, DEBRA J - power To FICTUM, HOLLY C
Close Date Changed From Unassigned To 1/5/2011 5:33:16
Last State Change Date Changed From 1/3/2011 9:38:56 To 1/5/2011 5:33:16
Last State Changer Changed From WALESH, DEBRA J - power 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

26

Submit by WAAK, GREGORY D	**Draft** 9/22/2010 7:34:09 Owner : WAAK, GREGORY D	**Submit** by WAAK, GREGORY D	**Supervisor Review** 9/22/2010 7:35:00 Owner : BERNSDORF, MIKE A	**Complete** by BERNSDORF, MIKE A	**O/R Review** 9/22/2010 8:38:02 Owner : FICTUM, HOLLY C	**Complete** by IRLBECK, DAVID E	**CRT Review** 9/22/2010 16:10:04 Owner : FICTUM, HOLLY C
Complete by WALESH, DEBRA J - power	**Trend Review** 9/24/2010 8:51:12 Owner : FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 10/5/2010 9:23:13 Owner : (None)	**Transfer** by RECORDS MGMT	**Transferred** 10/5/2010 16:15:28 Owner : (None)	**Print** by RECORDS MGMT	**Printed** 10/6/2010 13:04:10 Owner : (None)
Validate by RECORDS MGMT	**Validated** 10/6/2010 13:04:19 Owner : (None)						

Section 1

Applicable to site:	KEWA
Record #:	CR395889
Revision Number:	0
Submitter:	WAAK, GREGORY D
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	7630
Submitter Pager Number:	920-218-3368
One-Line Description:	Low air flow on K-41 air sampler.
Description:	When performing SP-63-164 it was noted that air flow on K-41 air sampler had dropped from 11 L.P.M. on 9/14/2010 to 4.0 L.P.M. on 9/21/2010. Flow would not normally drop at all over the course of one week. When a clean filter was installed flow remained steady at 4.0 L.P.M. The pump check indicated that the pump was pulling as it should. R.P. was notified and will investigate
Discovery Date:	9/21/2010
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:	None
Associated w/ Equipment Location?:	No
System(s):	63-MET--METEOROLOGICAL/ENV
Equipment Location Display:	**Equipment Location - Critical Component - PRA Flag - Quality Classification - Component Description**
Equipment Location Links:	
Initial Actions:	Reported to R.P. for resolution.
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:	BERNSDORF, MIKE 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:	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:	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:	FUNCTIONAL - Air Sampler K-41 is required to support the Radiological Environmental Monitoring Program (REMP). At the time of discovery air sampler, K-41, was functional. Per discussion with Chemistry, the sampler has no minimum air flow requirements and remains capable of drawing samples as designed.
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?:	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:	
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leak Classification:	(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): This is similar to the issue noted in CR 395885. These two CRs document the same issue with two of the newly installed environmental air samplers. These are the first time this issue has been noted.

CR FLAGS: Self-Identified

CRT Report Section(s): 2

Screening Date:

License Renewal Flags: (None)

Affected Department: (None)

CRT Comments: *HI LEVEL*

CR 395885 has actions for RP anc CY that will address the issues for both K-2 and K-41. Close t actions being taken under CR 395885.

Comments:

Old Record #:

Section 2

Trend Review Complete?:	No		
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)	**Procedures Hot Buttons:**	(None)
Reactivity Mgmt 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: 10/5/2010 10:23:13 **CR Printed Date:** 10/6/2010 13:04:10

CR Validated Date: 10/6/2010 13:04:19 **CR Who Validated:** RECORDS MGMT

RM Attachment Links:

Notes

RP FLS Comments by **ADAMS, RICHARD W** (9/22/2010 11:36:58)
9/21/2010 approximately 1300, sent RP Instruments techs to investigate low flow indication at K-2 (Kewaunee WPS office) and K-41, (Green Bay EOF). The flow rates were measured using an F&J air flow calibrator. The flow rate at K-2 indicated 28.4 LPM, flow rate at K-41 was 29.4 LPM. The required flow rate for the environmental air samplers is 30 LPM. The acceptance band for flow rate +/- 20%, 24 to 36 LPM, so the actual flow rates were in spec. The apparent problem is with the flow turbine which sends pump speed information to the flow totalizer. Contacted the vendor and they are sending two replacement flow turbines and requested that we send the other two suspect flow turbines bac so that they can evaluate and determine the cause. These units have been in service at other nuclear power plants for over 5 years without issue.

Recommendations:

1. SP-63-164, Environmental Sample Collection should be revised to include the acceptable flow rate band for these samplers (30 LPM, +/- 20%, 24 to 36LPM) and that RP should be notified if the flow rates fall out of band.
2. Chemistry needs to provide updated total volumes for K-2 & K-41 to offsite vendor performing the sample analysis.

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Change History

9/22/2010 7:35:00 by WAAK, GREGORY D
Initial Actions Changed From " To 'Reported to H.P. for resolution.'
Owner Changed From WAAK, GREGORY D To BERNSDORF, MIKE A
Secondary Owner Changed From BERNSDORF, MIKE A To AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUINAN, PATRICIA B, GUM, CLARENCE L, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOLDSWORTH, EDNA K, HOUSE, ALEX J, KASTNER, ROBERT J, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, SCACE, STEPHEN E, SIERACKI, DIANE J, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J
Last Modified Date Changed From 9/22/2010 7:34:09 To 9/22/2010 7:35:00
Last State Change Date Changed From 9/22/2010 7:34:09 To 9/22/2010 7:35:00
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR395889: KEWA - Low air flow on K-41 air sampler. (Inactive)

9/22/2010 8:38:02 by BERNSDORF, MIKE A
Description Changed From '[...] 9/21/2010. Flow would not normally drop at all over the course of one week. When a clean filter was installed flow remained steady at 4.0 L.P.M. The pump check indicated that the pump was pulling as it should. H.P. was notified and will investigate.' To '[...] 9/21/2010. Flow would not normally drop at all over the course of one week. When a clean filter was installed flow remained steady at 4.0 L.P.M. The pump check indicated that the pump was pulling as it should. R.P. was notified and will investigate.'
Initial Actions Changed From 'Reported to H.P. for resolution.' To 'Reported to R.P. for resolution.'
Owner Changed From BERNSDORF, MIKE A To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUINAN, PATRICIA B, GUM, CLARENCE L, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOLDSWORTH, EDNA K, HOUSE, ALEX J, KASTNER, ROBERT J, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, SCACE, STEPHEN E, SIERACKI, DIANE J, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J To ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, 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, GUINAN, PATRICIA B, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 9/22/2010 7:35:00 To 9/22/2010 8:38:02
Last Modifier Changed From WAAK, GREGORY D To BERNSDORF, MIKE A
Last State Change Date Changed From 9/22/2010 7:35:00 To 9/22/2010 8:38:02
Last State Changer Changed From WAAK, GREGORY D To BERNSDORF, MIKE A
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

9/22/2010 10:12:16 by TERRY, MICHAEL E
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 'FUNCTIONAL - Air Sampler K-41 is required to support the Radiological Environmental Monitoring Program (REMP). At the time of discovery air sampler, K-41, was functional. The sampler remains capable of drawing samples as designed.'
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 No
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 9/22/2010 8:38:02 To 9/22/2010 10:12:16
Last Modifier Changed From BERNSDORF, MIKE A To TERRY, MICHAEL E

9/22/2010 11:36:58 by ADAMS, RICHARD W
Last Modified Date Changed From 9/22/2010 10:12:16 To 9/22/2010 11:36:58
Last Modifier Changed From TERRY, MICHAEL E To ADAMS, RICHARD W
Attachment Added: RP FLS Comments

9/22/2010 15:38:45 by TERRY, MICHAEL E
Text Answer 2 Changed From '[...]FUNCTIONAL - Air Sampler K-41 is required to support the Radiological Environmental Monitoring Program (REMP). At the time of discovery air sampler, K-41, was functional. The sampler remains capable of drawing samples as designed.' To '[...] Radiological Environmental Monitoring Program (REMP). At the time of discovery air sampler, K-41, was functional. Per discussion with Chemistry, the sampler has no minimum air flow requirements and remains capable of drawing samples as designed.'
Last Modified Date Changed From 9/22/2010 11:36:58 To 9/22/2010 15:38:45
Last Modifier Changed From ADAMS, RICHARD W To TERRY, MICHAEL E

9/22/2010 16:10:04 by IRLBECK, DAVID E
O/R Comments Changed From " To 'I agree with the above assessment'
Last Modified Date Changed From 9/22/2010 15:38:45 To 9/22/2010 16:10:04
Last Modifier Changed From TERRY, MICHAEL E To IRLBECK, DAVID E
Last State Change Date Changed From 9/22/2010 8:38:02 To 9/22/2010 16:10:04
Last State Changer Changed From BERNSDORF, MIKE A To IRLBECK, DAVID E
State Changed From O/R Review To CRT Review Via Transition: Complete

9/23/2010 4:53:20 by LANGER JR, JAMES E
CRT Comments Changed From " To '*HI LEVEL*'
Last Modified Date Changed From 9/22/2010 16:10:04 To 9/23/2010 4:53:20
Last Modifier Changed From IRLBECK, DAVID E To LANGER JR, JAMES E

9/23/2010 9:17:04 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 'This is similar to the issue noted in CR 395885. These two CRs document the same issue with two of the newly installed environmental air samplers. These are the first time this issue has been noted.'
CR FLAGS Changed From (None) To Self-Identified
CRT Report Section(s) Changed From (None) To 1
CRT Comments Changed From '*HI LEVEL*' To '*HI LEVEL* CR 395885 has actions for RP and CY that will address the issues for both K-2 and K-41. Close to actions being taken under CR 395885.'
Last Modified Date Changed From 9/23/2010 4:53:20 To 9/23/2010 9:17:04
Last Modifier Changed From LANGER JR, JAMES E To ADAMS, RICHARD W

9/23/2010 9:17:30 by ADAMS, RICHARD W
RP Hot Buttons Changed From (None) To Environmental Monitoring (REMP)
Last Modified Date Changed From 9/23/2010 9:17:04 To 9/23/2010 9:17:30

9/24/2010 8:51:09 by WALESH, DEBRA J - power
CRT Report Section(s) Changed From 1 To 2
Last Modified Date Changed From 9/23/2010 9:17:30 To 9/24/2010 8:51:09
Last Modifier Changed From ADAMS, RICHARD W To WALESH, DEBRA J - power

9/24/2010 8:51:12 by WALESH, DEBRA J - power
Secondary Owner Changed From ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, 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, GUINAN, PATRICIA B, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To AHRENS, GARY M, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GUINAN, PATRICIA B, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MATHEWS, BRIAN M, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 9/24/2010 8:51:09 To 9/24/2010 8:51:12
Last State Change Date Changed From 9/22/2010 16:10:04 To 9/24/2010 8:51:12
Last State Changer Changed From IRLBECK, DAVID E To WALESH, DEBRA J - power
State Changed From CRT Review To Trend Review Via Transition: Complete

9/30/2010 13:23:14 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 9/24/2010 8:51:12 To 9/30/2010 13:23:14
Last Modifier Changed From WALESH, DEBRA J - power To FICTUM, HOLLY C

10/5/2010 9:22:49 by FICTUM, HOLLY C - power
Deficiency Type Changed From Non-Equipment To Equipment
Last Modified Date Changed From 9/30/2010 13:23:14 To 10/5/2010 9:22:49
Last Modifier Changed From FICTUM, HOLLY C To FICTUM, HOLLY C - power

10/5/2010 9:23:13 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 10/5/2010 10:23:13
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, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GUINAN, PATRICIA B, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MATHEWS, BRIAN M, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, SMIDEL, SARAH A., Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 10/5/2010 9:22:49 To 10/5/2010 9:23:13
Last Modifier Changed From FICTUM, HOLLY C - power To FICTUM, HOLLY C
Close Date Changed From Unassigned To 10/5/2010 9:23:13
Last State Change Date Changed From 9/24/2010 8:51:12 To 10/5/2010 9:23:13
Last State Changer Changed From WALESH, DEBRA J - power 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

Last Modified Date Changed From 10/5/2010 9:23:13 To 10/5/2010 16:15:28
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 10/5/2010 9:23:13 To 10/5/2010 16:15:28
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

10/6/2010 13:04:10 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 10/6/2010 13:04:10
Last Modified Date Changed From 10/5/2010 16:15:28 To 10/6/2010 13:04:10
Last State Change Date Changed From 10/5/2010 16:15:28 To 10/6/2010 13:04:10
State Changed From Transferred To Printed Via Transition: Print

10/6/2010 13:04:19 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 10/6/2010 13:04:19
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, SMIDEL, SARAH A., Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)
Last Modified Date Changed From 10/6/2010 13:04:10 To 10/6/2010 13:04:19
Last State Change Date Changed From 10/6/2010 13:04:10 To 10/6/2010 13:04:19
State Changed From Printed To Validated Via Transition: Validate

State Change History

Submit by MALY, AZIZ A	**Draft** 10/21/2010 16:46:29 Owner : MALY, AZIZ A	**Submit** by MALY, AZIZ A	**Supervisor Review** 10/21/2010 16:56:46 Owner : OLSON, CHERYL L	**Complete** by OLSON, CHERYL L	**O/R Review** 10/21/2010 17:05:26 Owner : FICTUM, HOLLY C	**Complete** by MCMAHON, BRADLY J	**CRT Review** 10/21/2010 17:36:01 Owner : FICTUM, HOLLY C
CA by WALESH, DEBRA J	**CRT Assignment Creation** 10/25/2010 10:31:41 Owner : FICTUM, HOLLY C	**Complete** by WALESH, DEBRA J	**Assignments Pending** 10/25/2010 10:33:22 Owner : FICTUM, HOLLY C	**Assignments Complete** by ADAMS, RICHARD W	**Trend Review** 2/14/2011 13:36:25 Owner : FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 2/26/2011 21:12:04 Owner : (None)
Transfer by RECORDS MGMT	**Transferred** 2/27/2011 18:01:31 Owner : (None)	**Print** by RECORDS MGMT	**Printed** 2/28/2011 10:01:59 Owner : (None)	**Validate** by RECORDS MGMT	**Validated** 2/28/2011 10:02:08 Owner : (None)		

Section 1

Applicable to site:	KEWA
Record #:	CR400075
Revision Number:	0
Submitter:	MALY, AZIZ A
Submitter Dept.:	KEWA - Rad Protection
Submitter Phone Number:	8731
Submitter Pager Number:	7741
One-Line Description:	Environmental Air sample location is different from Current REMM
Description:	Environmental Air sample K-7 located at Ron Zimmerman Farm, 17620 Nero Rd, Two Rivers. has been moved and relocated as K-43 at location Gary Maigatter Property, 17333 Highway 42, Two Rivers. the relocation was captured in the ITS REMM which will be effective DEC,4th. this CR is to determine how physical location was changed prior to REMM Revision showing location
Discovery Date:	10/21/2010
Discovery Time:	0:00:16
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:	none
Additional C/A processes req'd?:	Other
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 - as noted this is a paperwork issue only all evaluations have been complete.
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:
Leak Classification:	(None)
Leakage Severity:	(None)
O/R Comments:	
Significance:	3
Deficiency Type:	Non-Equipment

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Potential Repeat:	No
Previous Issues (PIs, CRs):	No history of the REMM not being updated when sample locations change.
CR FLAGS:	Administrative Procedure Issues Prompted - External (NRC,INPO,Etc)
CRT Report Section(s):	2
Screening Date:	
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	CA to RP to determine, document and resolve issue of the REMM having a newly replaced sample location not listed in the current revision.
Comments:	10/21/2010 17:05:26 - OLSON, CHERYL L: The sampler was moved across the road. It does not effect the ability monitor any airborne releases from the plant. This is not a regulatory issue as the justification for moving the sampler location was done prior to the move.- Entered by [OLSON, CHERYL L] from [CR] [Supervisor Review]
Old Record #:	

Section 2

Trend Review Complete?:	No		
Process Code:	EVC (Environmental Controls)	**Activity Codes:**	COA(Coordination of Activities)
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)	**Procedures Hot Buttons:**	(None)
Reactivity Mgmt 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:	2/26/2011 22:12:04	**CR Printed Date:**	2/28/2011 10:01:59
CR Validated Date:	2/28/2011 10:02:08	**CR Who Validated:**	RECORDS MGMT

RM Attachment Links:

Subtasks

Show Subtasks

Expand All

Attachments

Principal to: CA182606: KEWA - Determine, document and resolve issue of the REMM having a newly replaced sample (Inactive) by **WALESH, DEBRA J** (10/25/2010 10:32:43)

Change History

10/21/2010 16:51:37 by MALY, AZIZ A

Description Changed From '[...]n Farm, 17620 Nero Rd, Two Rivers. has been moved and relocated as K-43 at location Gary Maigatter Property, 17333 Highwa 42, Two Rivers. the relocation was captured in the ITS REMM which will be effective Dec,4th. this CR is to document the change' To '[...]as K-43 at location Ga

Maigatter Property, 17333 Highway 42, Two Rivers. the relocation was captured in the ITS REMM which will be effective DEC,4th. this CR is to determine how physical location was changed prior to REMM Revision showing location'
Last Modified Date Changed From 10/21/2010 16:46:29 To 10/21/2010 16:51:37

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10/21/2010 16:56:46 by MALY, AZIZ A
Method of Discovery Changed From (None) To SEFI (Self Identified)
Associated w/ Equipment Location? Changed From (None) To Yes
System(s) Changed From (None) To 63-MET--METEOROLOGICAL/ENV
Initial Actions Changed From " To 'none'
Additional C/A processes req'd? Changed From (None) To N/A
Owner Changed From MALY, AZIZ A To OLSON, CHERYL L
Secondary Owner Changed From OLSON, CHERYL L To AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GUINAN, PATRICIA B, GUM, CLARENCE L, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOLDSWORTH, EDNA K, HOUSE, ALEX J, KASTNER, ROBERT J, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIERACKI, DIANE J, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K
Last Modified Date Changed From 10/21/2010 16:51:37 To 10/21/2010 16:56:46
Last State Change Date Changed From 10/21/2010 16:46:29 To 10/21/2010 16:56:46
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR400075: KEWA - Environmental Air sample location is different from Current REMM (Inactive)

10/21/2010 17:05:26 by OLSON, CHERYL L
Associated w/ Equipment Location? Changed From Yes To No
System(s) Changed From 63-MET--METEOROLOGICAL/ENV To N/A
Additional C/A processes req'd? Changed From N/A To Other
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
Comments Changed From " To '[Appended:] The sampler was moved across the road. It does not effect the ability monitor any airborne releases from the plant. This is not a regulatory issue as the justification for moving the sampler location was done prior to the move.- Entered by [O[...]'
Owner Changed From OLSON, CHERYL L To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GUINAN, PATRICIA B, GUM, CLARENCE L, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOLDSWORTH, EDNA K, HOUSE, ALEX J, KASTNER, ROBERT J, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIERACKI, DIANE J, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K To ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GUINAN, PATRICIA B, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 10/21/2010 16:56:46 To 10/21/2010 17:05:26
Last Modifier Changed From MALY, AZIZ A To OLSON, CHERYL L
Last State Change Date Changed From 10/21/2010 16:56:46 To 10/21/2010 17:05:26
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

10/21/2010 17:36:01 by MCMAHON, BRADLY J
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 - as noted this is a paperwork issue only all evaluations have been complete.'
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 10/21/2010 17:05:26 To 10/21/2010 17:36:01
Last Modifier Changed From OLSON, CHERYL L To MCMAHON, BRADLY J
Last State Change Date Changed From 10/21/2010 17:05:26 To 10/21/2010 17:36:01
Last State Changer Changed From OLSON, CHERYL L To MCMAHON, BRADLY J
State Changed From O/R Review To CRT Review Via Transition: Complete

10/22/2010 9:10:58 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 the REMM not being updated when sample locations change.'

CRT Report Section(s) Changed From (None) To 1
CRT Comments Changed From " To 'CA to RP to determine, document and resolve issue of the REMM having a newly replaced sample location not listed in the current revision.'
Last Modified Date Changed From 10/21/2010 17:36:01 To 10/22/2010 9:10:58
Last Modifier Changed From MCMAHON, BRADLY J To ADAMS, RICHARD W

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10/25/2010 7:02:19 by FICTUM, HOLLY C
Process Code Changed From (None) To EVC (Environmental Controls)
Activity Codes Changed From (None) To COA(Coordination of Activities)
Last Modified Date Changed From 10/22/2010 9:10:58 To 10/25/2010 7:02:19
Last Modifier Changed From ADAMS, RICHARD W To FICTUM, HOLLY C

10/25/2010 10:31:41 by WALESH, DEBRA J
Last Modified Date Changed From 10/25/2010 7:02:19 To 10/25/2010 10:31:41
Last Modifier Changed From FICTUM, HOLLY C To WALESH, DEBRA J
Last State Change Date Changed From 10/21/2010 17:36:01 To 10/25/2010 10:31:41
Last State Changer Changed From MCMAHON, BRADLY J To WALESH, DEBRA J
State Changed From CRT Review To CRT Assignment Creation Via Transition: CA

10/25/2010 10:32:44 by WALESH, DEBRA J
Last Modified Date Changed From 10/25/2010 10:31:41 To 10/25/2010 10:32:44
Attachment Added: CA182606: (None) - Determine, document and resolve issue of the REMM having a newly replaced sample

10/25/2010 10:33:22 by WALESH, DEBRA J
CRT Report Section(s) Changed From 1 To 2
Secondary Owner Changed From ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GUINAN, PATRICIA B, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F, YEARGIN, BARRY K To AHRENS, GARY M, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FITZWATER, DAVID I, GUINAN, PATRICIA B, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, DARRYL D, MILLER, JEANNINE R, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 10/25/2010 10:32:44 To 10/25/2010 10:33:22
Last State Change Date Changed From 10/25/2010 10:31:41 To 10/25/2010 10:33:22
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

2/14/2011 13:36:25 by ADAMS, RICHARD W
Secondary Owner Changed From AHRENS, GARY M, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FITZWATER, DAVID I, GUINAN, PATRICIA B, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, DARRYL D, MILLER, JEANNINE R, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F, YEARGIN, BARRY K To AHRENS, GARY M, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FICTUM, HOLLY C, FITZWATER, DAVID I, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, DARRYL D, MILLER, JEANNINE R, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, YEARGIN, BARRY K
Last Modified Date Changed From 10/25/2010 10:33:22 To 2/14/2011 13:36:25
Last Modifier Changed From WALESH, DEBRA J To ADAMS, RICHARD W
Last State Change Date Changed From 10/25/2010 10:33:22 To 2/14/2011 13:36:25
Last State Changer Changed From WALESH, DEBRA J To ADAMS, RICHARD W
State Changed From Assignments Pending To Trend Review Via Transition: Assignments Complete

2/26/2011 21:12:04 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 2/26/2011 22:12:04
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, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FICTUM, HOLLY C, FITZWATER, DAVID I, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, DARRYL D, MILLER, JEANNINE R, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, YEARGIN, BARRY K To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, SMIDEL, SARAH A., Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 2/14/2011 13:36:25 To 2/26/2011 21:12:04
Last Modifier Changed From ADAMS, RICHARD W To FICTUM, HOLLY C
Close Date Changed From Unassigned To 2/26/2011 21:12:04
Last State Change Date Changed From 2/14/2011 13:36:25 To 2/26/2011 21:12:04

Active/Inactive Changed From Active To Inactive
State Changed From Trend Review To All Assignments Complete Via Transition: Trend Review Complete

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2/27/2011 18:01:31 by RECORDS MGMT
Last Modified Date Changed From 2/26/2011 21:12:04 To 2/27/2011 18:01:31
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 2/26/2011 21:12:04 To 2/27/2011 18:01:31
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

2/28/2011 10:01:59 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 2/28/2011 10:01:59
Last Modified Date Changed From 2/27/2011 18:01:31 To 2/28/2011 10:01:59
Last State Change Date Changed From 2/27/2011 18:01:31 To 2/28/2011 10:01:59
State Changed From Transferred To Printed Via Transition: Print

2/28/2011 10:02:08 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 2/28/2011 10:02:08
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, SMIDEL, SARAH A., Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)
Last Modified Date Changed From 2/28/2011 10:01:59 To 2/28/2011 10:02:08
Last State Change Date Changed From 2/28/2011 10:01:59 To 2/28/2011 10:02:08
State Changed From Printed To Validated Via Transition: Validate