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DOMINION ENERGY KEWAUNEE, INC.
KEWAUNEE POWER STATION
2009 ANNUAL ENVIRONMENTAL MONITORING REPORT

Enclosed is the 2009 Annual Environmental Monitoring Report for the Kewaunee Power Station (KPS). This report was prepared by Environmental Inc. and satisfies the requirements of KPS Technical Specification 6.9.b.1.

The results of the 2009 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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2009 Annual Environmental Monitoring Report

Kewaunee Power Station

Dominion Energy Kewaunee, Inc.

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2009 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, 2009

Prepared and submitted by:

ENVIRONMENTAL Inc.
Midwest Laboratory
Project No. 8002

Approved :

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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 2009.

Dominion Energy Kewaunee, 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 2009 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-7, K-8, K-31 and K-41), and dispatched by mail to Environmental, Inc. for radiometric analysis. The particulate filters are counted for gross beta activity, a minimum of three days after the date of collection, to allow for the decay of naturally-occurring short-lived radionuclides.

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

Airborne Iodine

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

Ambient Gamma Radiation - TLDs

Offsite ambient gamma radiation is monitored at the six air sampling locations (K-1f, K-2, K-7, K-8, K-31 and K-41), 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.

Eight dosimeters were added to the program in 2009. Background levels were monitored in preparation of 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 is collected semimonthly from May through October, and monthly during the rest of the year from four herds that graze within four miles of the reactor site (K-5, K-34, K-38 and K-39), from two herds grazing between four and ten miles from the reactor site (K-3, K-35), and from a dairy store in Green Bay (K-28). 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-20, K-27 and K-34. The flesh is separated from the bone and analyzed for gross alpha, gross beta and gamma emitting isotopes.

Eggs

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

Vegetables

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

Grass and Cattle Feed

Grass is collected during the second, third and fourth quarters from two on-site locations (K-1b and K-1f) and from the dairy farm locations (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 2009 as described in the preceding sections, with the following exceptions:

(1) No airborne particulate / airborne iodine was available from location K-7 for the week ending July 27, 2009. There was no power to the sampler, due to Wisconsin Public Service maintenance.

(2) No airborne particulate / airborne iodine was available from location K-7 for the week ending September 29, 2009. The circuit breaker was found tripped.

(3) No airborne particulate / airborne iodine was available from location K-7 for the week ending October 13, 2009. There was no power to the sampler, due to Wisconsin Public Service maintenance.

(8) Vegetable samples were not available at the indicator location K-17, Jansky's Farm. The garden has been discontinued. Additional vegetable samples were collected at locations K-24 and K-29.

(9) The surface water from location K-1k could not be sampled in January, February or March of 2009. The pond was frozen.

3.1.5 Program Modifications

Rev. 14, 03/11/2009, to the Radiological Environmental Monitoring Manual (REMM) included the following changes:

Added information relative to monitoring wells included in the Ground Water Protection Program.

Addressed various editorial issues, including lost sampling sites and maintenance of current sampling locations.

Updated distances from the plant for many sampling locations.

Eight additional dosimeters (TLDs) were included in the program for 2009, to monitor background levels in preparation of an Independent Spent Fuel Storage Installation (ISFSI). They are replaced and measured quarterly.

Rev. 15, 05/13/2009, of the Radiological Environmental Monitoring Manual (REMM) addresses the additions to the TLD monitoring program.

A copy of the REMM is included as Appendix D.

3.2 Results and Discussion

The results for the reporting period January to December 2009 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 2009 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 2009 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 2009. 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 both the indicator and control locations. These averages were similar to the means observed from 1998 (and prior to) through 2008. Results are tabulated below.

Year	Average of Indicators	Average of Controls
	Concentration (pCi/m^3)	
1998	0.019	0.019
1999	0.022	0.023
2000	0.022	0.021
2001	0.024	0.023
2002	0.023	0.023
2003	0.022	0.022
2004	0.019	0.020
2005	0.023	0.023
2006	0.021	0.021
2007	0.022	0.021
2008	0.022	0.022
2009	0.023	0.023

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 0.078 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 (13.9 mR/91 days). The readings are similar to the averages obtained from 1998 (and prior to) through 2008. The averages are tabulated below.

Eight dosimeters were added to the program in 2009 to monitor background levels in preparation for an Independent Spent Fuel Storage Installation (ISFSI). The eight TLDs averaged 12.8 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 17.6 mR/91 days, measured at indicator location K-7.

Year	Average (Indicators)	Average (Controls)
	Dose rate (mR/91 days)	
1998	16.1	15.5
1999	17.4	16.9
2000	18.7	18.2
2001	18.6	18.3
2002	16.1	15.1
2003	14.1	13.7
2004	14.8	14.0
2005	15.7	14.3
2006	16.4	15.0
2007	16.2	15.2
2008	15.6	14.2
2009	15.2	13.9

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. One positive measurement (263 pCi/L) was observed above the lower limit of detection of 177 pCi/L, in November, 2009. All other readings measured below detection limits.

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 seventy-seven of the seventy-nine samples tested. Mean values were almost identical for indicator and control locations (1.0 pCi/L and 1.1 pCi/L, respectively).and are similar to or less than averages seen from 1990 through 2008.

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 (1366 and 1382 pCi/L, respectively), and are comparable to levels observed from 1990 through 2008. There was no indication of any effect due to the operation of the Kewaunee Power Station.

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

Well Water

Of the eight samples tested for gross alpha analysis, from two on-site wells (K-1g and K-1h), none measured above an LLD value of 2.9 pCi/L. Gross beta activity, above an LLD of 1.0 pCi/L was detected in fifteen of the twenty indicator samples tested. Concentrations ranged from 1.4 to 5.8 pCi/L. and averaged 2.7 pCi/L. Beta activity was detected in one of four control samples tested, at a concentration of 1.4 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 170 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 0.052 pCi/g wet for all locations. Gross beta concentration averaged 3.11 pCi/g wet for indicator locations and 3.25 pCi/g wet for the control location. The differences are not significant. Gamma-spectroscopic analyses showed that almost all beta activity was due to naturally occurring potassium-40 (2.95 pCi/g wet and 2.10 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 1.98 pCi/g wet at the indicator location and 1.70 pCi/g wet for the control location, similar to observed concentrations of naturally-occurring potassium-40 (1.20 and 1.25 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 0.007 pCi/g wet.

Vegetables and Grain

In vegetables, gross beta concentrations averaged 3.58 pCi/g wet at two indicator locations and 2.33 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 0.015 pCi/g wet and strontium-90 measured below 0.008 pCi/g wet.

In two samples (clover and oats) from location K-23, gross beta concentrations averaged 5.06 pCi/g wet, due primarily to potassium-40 and beryllium-7 activity (4.62 and 0.54 pCi/g wet, respectively). Strontium-89 measured below the LLD level of 0.015 pCi/g wet, strontium-90 measured below the LLD of 0.010 pCi/g wet.

Grass and Cattle Feed

In grass, mean gross beta concentrations measured 7.33 and 8.79 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 0.021 pCi/g wet.

In cattlefeed, the gross beta concentrations were lower at the control locations (10.24 pCi/g wet) than at indicator locations (19.70 pCi/g wet), and reflected the potassium-40 / beryllium-7 levels observed in the samples (6.92 and 13.10 pCi/gwet, respectively.). The same pattern has been observed in previous years. Strontium-89 levels were below the LLD level of 0.052 pCi/g wet in all samples. Strontium-90 activity, above an LLD of 0.028 pCi/g wet, was detected in one of twelve samples collected at a concentration of 0.030 pCi/g wet, similar or lower than levels observed in 1996 through 2008. 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 5.73 pCi/g dry at the indicator locations and 6.73 pCi/g dry at the control locations. Mean gross beta levels measured at the indicator and control locations averaged 30.59 and 30.23 pCi/g dry, respectively, primarily due to the potassium-40 activity. Strontium-89 was below the LLD level of 0.038 pCi/g dry in all samples. Low levels of strontium-90 activity were detected in eight of the fourteen samples tested and averaged 0.036 pCi/g dry.

Trace levels of cesium-137 were detected in fourteen of fourteen soil samples, similar at both indicator and control locations (0.10 and 0.15 pCi/g dry, respectively). Potassium-40 was detected in all samples and averaged 19.70 and 18.70 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 2008. The data suggests no evidence of a plant effect on soil measurements.

3.2.4 The Aquatic Environment

Surface Water

In surface water, the gross beta activity measured higher at the indicator locations (4.7 pCi/L) as than control locations (1.5 pCi/L). The pattern is similar to activity distribution observed from 1978 through 2008.

Year	Average (Indicators)	Average (Controls)
	Gross Beta (pCi/L)	
1998	5.9	2.1
1999	5.6	2.2
2000	7.0	2.4
2001	5.9	2.2
2002	5.7	2.2
2003	7.3	2.4
2004	6.2	2.3
2005	5.2	1.7
2006	5.5	1.8
2007	5.7	1.8
2008	4.7	1.5
2009	4.7	1.5

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

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

In two of twenty-seven indicator samples tested, (quarterly composites of monthly samples), tritium activity was detected above an LLD level of 160 pCi/L, at an average concentration of 173 pCi/L. All other samples measured below LLD.

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

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

Fish

In fish, gross beta concentration averaged 2.95 pCi/g wet in muscle and 2.31 pCi/g wet in bone fractions. In muscle, the gross beta concentration was primarily due to potassium-40 activity.

Cesium-137 concentration in muscle was detected in one of three samples tested at a level of 0.040 pCi/g wet, lower than levels seen from 1993 through 2008, averaging 0.060 pCi/gwet.

The strontium-89 concentration in bones was below the LLD of 0.13 pCi/g wet in all samples. Strontium-90 was detected in all samples and averaged 0.12 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 (4.26 and 6.44 pCi/g wet, respectively), due primarily to combined potassium-40 and beryllium-7 activity (3.66 and 5.50 pCi/g wet, respectively).

Low levels of cesium-137 were observed in two of twelve indicator samples, at a level of 0.025 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 0.071 and 0.029 pCi/g wet, respectively, in all samples.

Bottom Sediments

In bottom sediment samples, the mean gross beta concentrations measured 9.29 pCi/g dry at the indicator locations and 19.75 pCi/g dry at the control location.

Cs-134 measured below the LLD level of 0.018 pCi/g dry in all samples. A low level of cesium-137 was observed in one indicator and the control samples and averaged 0.025 and 0.064 pCi/g dry, respectively. On average, cesium-137 measurements are lower than or similar to levels observed from 1979 through 2008. 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 0.14 and 0.056 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 2009 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, 2009. The census is conducted annually during the growing season per Health Physics Procedure HP 1.14.

Results of the 2009 census are summarized in Table 4.6. Changes from the 2008 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 2008 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, 2009). The QA Program includes participation in Interlaboratory Comparison (crosscheck) Programs. Results obtained are presented in Appendix A.

4.0 FIGURES AND TABLES

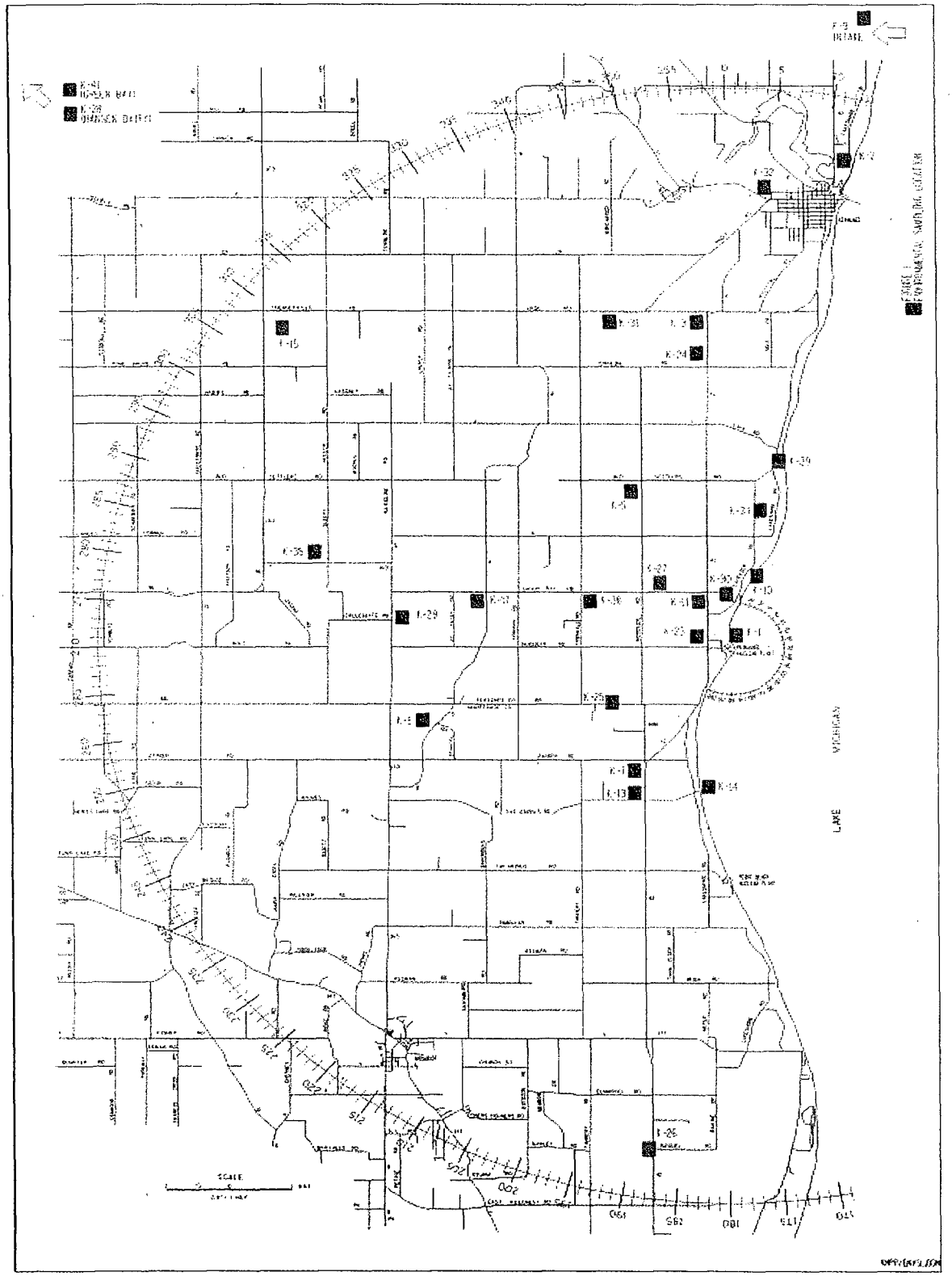

Figure 4-1. Sampling locations, Kewaunee Power Station.

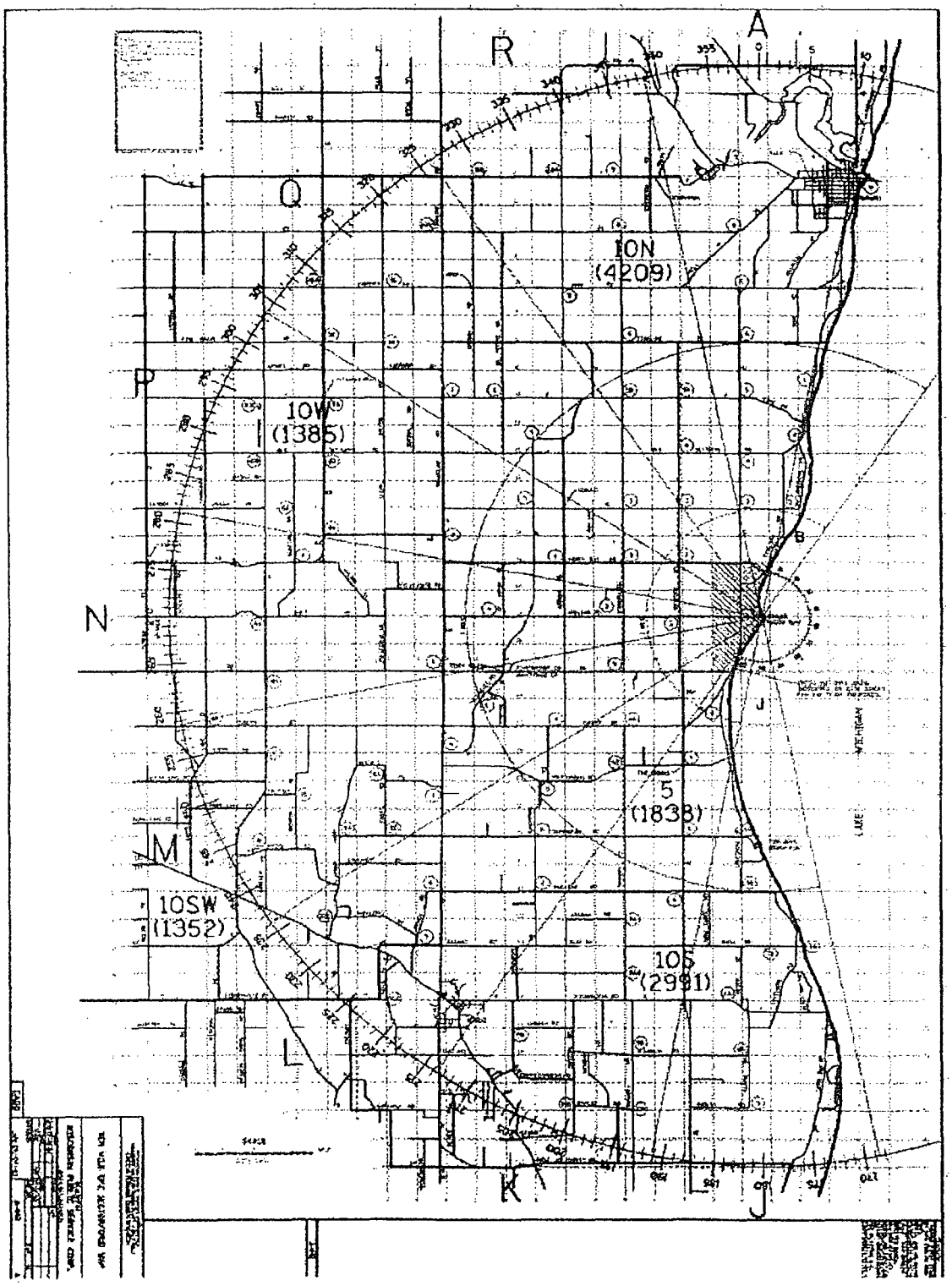

Figure 4-2. Emergency Plan Zone Map, Kewaunee Power Station.

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-20	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	0.6 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

[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
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 to K-1s				TLD	
K-2	AP	AI		TLD	
K-3, K-5			MI[c]	TLD GR[a]	SO
K-7, K-8	AP	AI		TLD	
K-9			SW		SL BS[b]
K-10				WW	
K-11			PR	WW	
K-13				WW	
K-14			SW		SL BS[b]
K-15, K-17				TLD	
K-23a, b					
K-24				EG	
K-25				TLD	
K-26					
K-27				TLD	
K-28			MI[c]		
K-29					
K-30				TLD	
K-31	AP	AI		TLD	
K-32				EG	
K-34, K-35			MI[c]	Gr[a]	SO
K-38			MI[c]	Gr[a] WW	SO
K-39			MI[c]	TLD GR[a]	SO
K-41	AP	AI		TLD	

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

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

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 2009.

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	309	3
Airborne Iodine	C/BW	6	156	0
TLD's	C/Q	22	80	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	6	0
Grain - oats	G/A	1	1	0
- clover	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	105	3
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, 2009

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) (10.6-19.0)	K-7, Zimmerman Farm 2.51 SSW	17.6 (4/4) (15.1-19.0)	13.9 (24/24) (11.1-17.1)	0
TLDs, Quarterly (Protected Area) (mR/91days)	Gamma 24	3.0	12.8 (24/24) (9.7-15.9)	K-1-M, ISFSI E 0.15 N	13.1 (3/3) (10.4-15.8)	none	0
Airborne Particulates (pCi/m3)	GB 309	0.002	0.023 (101/101) (0.006-0.050)	KPS-EOF 22 NW	0.024 (52/52) (0.010-0.051)	0.023 (208/208) (0.008-0.051)	0
	GS 24						
	Be-7	0.020	0.078 (8/8) (0.057-0.090)	K-41, KPS-EOF 22 NW	0.084 (4/4) (0.069-0.098)	0.078 (16/16) (0.051-0.098)	0
	Nb-95	0.0015	< LLD	-	-	< LLD	0
	Zr-Nb-95	0.0022	< LLD	-	-	< LLD	0
	Ru-103	0.0012	< LLD	-	-	< LLD	0
	Ru-106	0.0087	< LLD	-	-	< LLD	0
	Cs-134	0.0009	< LLD	-	-	< LLD	0
	Cs-137	0.0010	< LLD	-	-	< LLD	0
	Ce-141	0.0020	< LLD	-	-	< LLD	0
	Ce-144	0.0059	< LLD	-	-	< LLD	0
Airborne Iodine (pCi/m3)	I-131 156	0.03	< LLD	-	-	< LLD	0
Precipitation (pCi/L)	H-3 12	161	263 (1/12)	K-11, Ihlenfeldt Farm 1.0 mi. NW	263 (1/12)	None	0
Milk (pCi/L)	I-131 126	0.5	< LLD	-	-	< LLD	0
	Sr-89 84	1.3	< LLD	-	-	< LLD	0
	Sr-90 84	0.8	1.0 (25/48) (0.8-1.4)	K-3, Siegmund Farm 5.9 N	1.3 (12/12) (0.9-2.0)	1.1 (31/36) (0.8-2.0)	0
	GS 126						
	K-40	50	1366 (72/72) (1168-1535)	K-35, Ducat 6.71 mi. WNW	1427 (18/18) (1298-1624)	1382 (54/54) (1236-1624)	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) (1.38-1.81)	K-35, Ducat 6.71 mi. WNW	1.68 (12/12) (1.56-1.89)	1.60 (36/36) (1.50-1.89)	0
(g/L)	Ca 84	0.4	1.1 (48/48) (0.89-1.29)	K-3, Siegmund Farm 5.9 N	1.12 (12/12) (0.94-1.32)	1.09 (36/36) (0.90-1.32)	0

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Sample Type (Units)	Type and Number of Analyses[a]	LLD[b]	Indicator Locations Mean (F)[c] Range[c]	Location with Highest Annual Mean: Location[a]	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	2.9	< LLD	-	-	None	0
	GB 24	1.0	2.7 (15/20) (1.4-5.8)	K-1g, South Well 0.06 W	3.5 (4/4) (2.6-5.8)	1.4 (1/4)	0
	H-3 24	170	< LLD	-	-	None	0
	K-40(fp) 24	0.87	1.71 (20/20) (0.52-3.03)	K-1g, South Well 0.06 W	2.48 (4/4) (2.30-2.80)	0.94 (4/4) (0.77-1.21)	0
	Sr-89 4	0.8	< LLD	-	-	None	0
	Sr-90 4	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	GA 5	0.010	0.053 (2/2) (0.040-0.066)	K-24, Fictum Farm 5.45 mi. N	0.066 (1/1)	0.051 (1/1)	0
(pCi/gwet)	GB 5	0.10	3.11 (2/2) (2.57-3.65)	K-29, Kunesh Farm 5.75 mi. W	3.86 (1/1) -	3.25 (1/1) -	0
	GS 5						
	Be-7	0.14	< LLD	-	-	< LLD	0
	K-40	0.50	2.95 (2/2) (2.80-3.10)	K-29, Kunesh Farm 5.75 mi. W	3.20 (1/1)	2.10 (1/1) -	0
	Nb-95	0.022	< LLD	-	-	< LLD	0
	Zr-95	0.037	< LLD	-	-	< LLD	0
	Ru-103	0.019	< LLD	-	-	< LLD	0
	Ru-106	0.15	< LLD	-	-	< LLD	0
	Cs-134	0.019	< LLD	-	-	< LLD	0
	Cs-137	0.016	< LLD	-	-	< LLD	0
	Ce-141	0.026	< LLD	-	-	< LLD	0
	Ce-144	0.094	< LLD	-	-	< LLD	0
Eggs (pCi/gwet)	GB 8	0.010	1.98 (4/4) (1.80-2.30)	K-24, Fictum Farm 5.45 mi. N	1.98 (4/4) (1.80-2.30)	1.70 (4/4) (1.50-1.90)	0
	Sr-89 8	0.012	< LLD	-	-	< LLD	0
	Sr-90 8	0.007	< LLD	-	-	< LLD	0
	GS 8						
	Be-7	0.077	< LLD	-	-	< LLD	0
	K-40	0.50	1.20 (4/4) (1.10-1.30)	K-32, Grocery 11.5 mi. N	1.25 (4/4) (1.10-1.40)	1.25 (4/4) (1.10-1.40)	0
	Nb-95	0.012	< LLD	-	-	< LLD	0
	Zr-95	0.019	< LLD	-	-	< LLD	0
	Ru-103	0.011	< LLD	-	-	< LLD	0
	Ru-106	0.080	< LLD	-	-	< LLD	0
	Cs-134	0.009	< LLD	-	-	< LLD	0
	Cs-137	0.009	< LLD	-	-	< LLD	0
	Ce-141	0.028	< LLD	-	-	< LLD	0
	Ce-144	0.076	< LLD	-	-	< LLD	0

Table 4.5 Environmental Radiation Monitoring Program Summary.

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Sample Type (Units)	Type and Number of Analyses[a]	LLD[b]	Indicator Locations Mean (F)[c] Range[c]	Location with Highest Annual Mean: Location[d]	Location with Highest Annual Mean: Mean (F)[c] Range[c]	Control Locations Mean (F)[c] Range[c]	Number Non-Routine Results[e]
Vegetables (pCi/gwet)	GB 10	0.010	3.58 (2/2) (2.19-4.96)	K-24, Fictum Farm 5.45 mi. N	4.96 (1/1)	2.33 (8/8) (0.99-4.07)	0
	Sr-89 10	0.015	< LLD	-	-	< LLD	0
	Sr-90 10	0.008	0.015 (1/2)	K-24, Fictum Farm 5.45 mi. N	0.015 (1/1)	<LLD	0
	GS 10						0
	Be-7	0.094	< LLD	-	-	< LLD	0
	K-40	0.50	3.89 (2/2) (1.53-6.25)	K-24, Fictum Farm 5.45 mi. N	6.25 (1/1)	1.97 (8/8) (1.43-2.62)	0
	Nb-95	0.010	< LLD	-	-	< LLD	0
	Zr-95	0.018	< LLD	-	-	< LLD	0
	Ru-103	0.011	< LLD	-	-	< LLD	0
	Ru-106	0.081	< LLD	-	-	< LLD	0
	Cs-134	0.011	< LLD	-	-	< LLD	0
	Cs-137	0.012	< LLD	-	-	< LLD	0
	Ce-141	0.021	< LLD	-	-	< LLD	0
	Ce-144	0.074	< LLD	-	-	< LLD	0
Grain - Oats & Clover (pCi/gwet)	GB 2	0.010	5.06 (2/2) (4.96-5.15)	K-23, Kewaunee Site, 0.5 mi. W	5.06 (2/2) (4.96-5.15)	None	0
	Sr-89 2	0.015	< LLD	-	-	None	0
	Sr-90 2	0.010	< LLD	-	-	None	0
	GS 2						
	Be-7	0.50	0.54 (2/2) (0.49-0.58)	K-23, Kewaunee Site, 0.5 mi. W	0.54 (2/2) (0.49-0.58)	None	0
	K-40	0.50	4.62 (2/2) (4.07-5.17)	K-23, Kewaunee Site, 0.5 mi. W	4.62 (2/2) (4.07-5.17)	None	0
	Nb-95	0.018	< LLD	-	-	None	0
	Zr-95	0.025	< LLD	-	-	None	0
	Ru-103	0.012	< LLD	-	-	None	0
	Ru-106	0.13	< LLD	-	-	None	0
	Cs-134	0.015	< LLD	-	-	None	0
	Cs-137	0.022	< LLD	-	-	None	0
	Ce-141	0.031	< LLD	-	-	None	0
	Ce-144	0.090	< LLD	-	-	None	0
Cattlefeed (pCi/gwet)	GB 12	0.10	19.70 (8/8) (5.86-34.86)	K-5, Paplham Farm 3.2 NNW	22.20 (2/2) (9.53-34.86)	10.24 (4/4) (3.55-19.60)	0
	Sr-89 12	0.052	< LLD	-	-	< LLD	0
	Sr-90 12	0.028	0.030 (1/8)	K-5, Paplham Farm 3.2 NNW	0.030 (1/2)	<LLD	0
	GS 12						
	Be-7	0.27	0.36 (2/8) (0.34-0.38)	K-35, Ducat 6.71 mi. WNW	0.41 (1/2)	0.38 (3/4) (0.34-0.41)	0
	K-40	0.10	12.74 (8/8) (4.24-24.30)	K-5, Paplham Farm 3.2 NNW	16.03 (2/2) (7.75-24.30)	6.54 (4/4) (2.35-12.12)	0

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Cattlefeed (continued)	Nb-95	0.032	< LLD	-	-	< LLD	0
	Zr-95	0.052	< LLD	-	-	< LLD	0
	Ru-103	0.026	< LLD	-	-	< LLD	0
	Ru-106	0.20	< LLD	-	-	< LLD	0
	Cs-134	0.024	< LLD	-	-	< LLD	0
	Cs-137	0.027	< LLD	-	-	< LLD	0
	Ce-141	0.059	< LLD	-	-	< LLD	0
	Ce-144	0.15	< LLD	-	-	< LLD	0
Grass (pCi/gwet)	GB 24	0.10	7.33 (18/18) (3.90-9.74)	K-3, Siegmund Farm 5.9 N	11.94 (3/3) (7.99-19.81)	8.79 (6/6) (4.25-19.81)	0
	Sr-89 24	0.034	< LLD	-	-	< LLD	0
	Sr-90 24	0.021	< LLD	-	-	< LLD	0
	GS 24						
	Be-7	0.10	1.68 (18/18) (0.34-4.53)	K-39, Wojta Farm 3.46 mi. N	2.26 (3/3) (0.48-4.53)	1.40 (6/6) (0.49-3.31)	0
	K-40	0.50	5.52 (18/18) (4.37-7.43)	K-3, Siegmund Farm 5.9 N	9.96 (3/3) (5.77-16.47)	7.36 (6/6) (4.75-5.77)	0
	Nb-95	0.020	< LLD	-	-	< LLD	0
	Zr-95	0.039	< LLD	-	-	< LLD	0
	Ru-103	0.022	< LLD		-	< LLD	0
	Ru-106	0.20	< LLD	-	-	< LLD	0
	Cs-134	0.017	< LLD	-	-	< LLD	0
	Cs-137	0.020	< LLD	-	-	< LLD	0
	Ce-141	0.040	< LLD	-	-	< LLD	0
	Ce-144	0.15	< LLD	-	-	< LLD	0
Soil (pCi/gdry)	GA 14	1.0	5.73 (10/10) (3.80-8.45)	K-35, Ducat 6.71 mi. WNW	7.37 (2/2) (5.99-8.74)	6.73 (4/4) (5.30-8.74)	0
	GB 14	2.0	30.59 (10/10) (25.30-37.53)	K-5, Paplham Farm 3.2 NNW	33.95 (2/2) (30.36-37.53)	30.23 (4/4) (27.01-34.42)	0
	Sr-89 14	0.038	< LLD	-	-	< LLD	0
	Sr-90 14	0.024	0.034 (5/10) (0.029-0.042)	K-35, Ducat 6.71 mi. WNW	0.045 (2/2) (0.040-0.049)	0.035 (3/4) (0.027-0.049)	0
	GS 14						
	Be-7	0.26	< LLD	-	-	< LLD	0
	K-40	1.4	19.70 (10/10) (16.1-22.20)	K-38, Sinkula Farm 2.45 mi. WNW	22.09 (2/2) (22.02-22.16)	18.70 (4/4) (16.30-20.30)	0
	Nb-95	0.033	< LLD	-	-	< LLD	0
	Zr-95	0.049	< LLD	-	-	< LLD	0
	Ru-103	0.028	< LLD		-	< LLD	0
	Ru-106	0.21	< LLD	-	-	< LLD	0
	Cs-134	0.019	< LLD	-	-	< LLD	0
	Cs-137	0.025	0.10 (10/10) (0.050-0.16)	K-3, Siegmund Farm 5.9 N	0.17 (2/2) (0.15-0.19)	0.15 (4/4) (0.11-0.19)	0
	Ce-141	0.054	< LLD	-	-	< LLD	0
	Ce-144	0.14	< LLD	-	-	< LLD	0

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Surface Water	GB (TR) 105	1.2	4.7 (81/81) (0.9-32.0)	K-1k, Drainage Pond 0.60 SW	12.3 (9/9) (2.8-32.0)	1.5 (20/24) (0.9-2.3)	0
(pCi/L)	GS 105						
	Mn-54	15	< LLD	-	-	< LLD	0
	Fe-59	30	< LLD	-	-	< LLD	0
	Co-58	15	< LLD	-	-	< LLD	0
	Co-60	15	< LLD	-	-	< LLD	0
	Zn-65	30	< LLD	-	-	< LLD	0
	Zr-Nb-95	15	< LLD	-	-	< LLD	0
	Cs-134	10	< LLD	-	-	< LLD	0
	Cs-137	10	< LLD	-	-	< LLD	0
	Ba-La-140	15	< LLD	-	-	< LLD	0
	H-3 35	160	173 (2/27) (172-174)	K-1k, Drainage Pond 0.60 mi. SW	174 (1/4)	< LLD	0
	Sr-89 35	2.0	< LLD	-	-	< LLD	0
	Sr-90 35	0.8	< LLD	-	-	< LLD	0
	K-40 105	0.87	3.9 (81/81) (1.0-17.2)	K-1k, Drainage Pond 0.60 SW	8.9 (9/9) (2.0-17.2)	1.1 (24/24) (1.0-1.2)	0
Fish (Muscle) (pCi/gwet)	GB 3	0.5	2.95 (3/3) (2.28-3.83)	K-1d, Cond. Discharge 0.10 mi. E	2.95 (3/3) (2.28-3.83)	None	0
	GS 3						
	K-40	0.5	2.84 (3/3) (2.28-3.36)	K-1d, Cond. Discharge 0.10 mi. E	2.84 (3/3) (2.28-3.36)	None	0
	Mn-54	0.022	< LLD	-	-	None	0
	Fe-59	0.077	< LLD	-	-	None	0
	Co-58	0.026	< LLD	-	-	None	0
	Co-60	0.023	< LLD	-	-	None	0
	Cs-134	0.027	< LLD	-	-	None	0
	Cs-137	0.030	0.040 (1/3)	K-1d, Cond. Discharge 0.10 mi. E	0.040 (1/3)	None	0
Fish (Bones) (pCi/gwet)	GB 3	1.99	2.31 (3/3) (1.95-2.72)	K-1d, Cond. Discharge 0.10 mi. E	2.31 (3/3) (1.95-2.72)	None	0
	Sr-89 3	0.13	< LLD	-	-	None	0
	Sr-90 3	0.05	0.12 (3/3) (0.093-0.14)	K-1d, Cond. Discharge 0.10 mi. E	0.12 (3/3) (0.093-0.14)	None	0
							0

Environmental Radiation Monitoring Program Summary.

Name of Facility: Kewaunee Nuclear Power Plant — Docket No. 50-305
Location of Facility: Kewaunee County, Wisconsin (County, State) — Reporting Period: January-December, 2009

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	4.26 (12/12) (2.14-5.69)	K-9, Rostok Intake 11.5 NNE	6.44 (2/2) (6.42-6.45)	6.44 (2/2) (6.42-6.45)	0
(pCi/gwet)	Sr-89	14	0.071	< LLD	-	-	< LLD	0
	Sr-90	14	0.029	< LLD	-	-	< LLD	0
	GS	14						
	Be-7		0.19	1.00 (8/12) (0.57-1.28)	K-1b, Middle Creek 0.12 N	1.25 (1/2)	1.03 (1/2)	0
	K-40		0.5	2.66 (12/12) (0.78-4.72)	K-1k, Drainage Pond 0.60 SW	4.67 (2/2) (4.61-4.72)	4.47 (2/2) (3.72-5.21)	0
	Mn-54		0.014	< LLD	-	-	< LLD	0
	Co-58		0.013	< LLD	-	-	< LLD	0
	Co-60		0.013	< LLD	-	-	< LLD	0
	Nb-95		0.020	< LLD	-	-	< LLD	0
	Zr-95		0.021	< LLD	-	-	< LLD	0
	Ru-103		0.018	< LLD	-	-	< LLD	0
	Ru-106		0.16	< LLD	-	-	< LLD	0
	Cs-134		0.014	< LLD	-	-	< LLD	0
	Cs-137		0.017	0.025 (2/12) (0.024-0.026)	K-1e, South Creek 0.12 mi. S	0.026 (1/2)	< LLD	0
	Ce-141		0.043	< LLD	-	-	< LLD	0
	Ce-144		0.14	< LLD	-	-	< LLD	0
Bottom Sediments	GB	10	1.0	9.29 (8/8) (8.14-13.42)	K-9, Rostok Intake 11.5 NNE	19.75 (2/2) (14.53-24.97)	19.75 (2/2) (14.53-24.97)	0
(pCi/gdry)	Sr-89	10	0.140	< LLD	-	-	< LLD	0
	Sr-90	10	0.056	< LLD	-	-	< LLD	0
	GS	10						
	K-40		0.5	6.05 (8/8) (5.00-8.67)	K-9, Rostok Intake 11.5 NNE	9.74 (2/2) (9.16-10.32)	9.74 (2/2) (009-10.32)	0
	Co-58		0.022	< LLD	-	-	< LLD	0
	Co-60		0.023	< LLD	-	-	< LLD	0
	Cs-134		0.018	< LLD	-	-	< LLD	0
	Cs-137		0.025	0.027 (2/8) (0.025-0.029)	K-9, Rostok Intake 11.5 NNE	0.064 (1/2)	0.064 (1/2)	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 2008 and 2009 census.

Sector A	Township 6.	S. Ihlenfeldt moved, residence empty.
Sector B	No changes	
Sector R	Township 24	New owner, J. Walecka.
Sector Q	No changes.	
Sector P	Township 17.	Former R. Plansky residence is now empty.
Sector N	Township 34.	Observed beef cattle.
Sector M	No changes	
Sector K	No changes.	
Sector J	No changes.	

5.0 REFERENCES

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

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

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

Environmental, Inc., Midwest Laboratory.

_____ 2001 to 2010. Annual Report. Radiological Monitoring Program for the Kewaunee Power Station, Kewaunee, Wisconsin, Final Report, Part II, Data Tabulations and Analysis, January - December 2000 – 2009.

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

_____ 1979 to 1983. (formerly Hazleton Environmental Sciences Corporation) Annual Reports. Radiological Monitoring for the Kewaunee Power Station, Kewaunee, Wisconsin, Final Report - Part II, Data Tabulations and Analysis, January - December, 1978 through 1982.

_____ 1977 to 1978. (formerly NALCO Environmental Sciences Corporation) Annual Reports. Radiological Monitoring for the Kewaunee Power Station, Kewaunee, Wisconsin, Final Report - Part II, Data Tabulations and Analysis, January - December, 1976 to 1977.

_____ 2009. Quality Assurance Program Manual, Rev. 2, 10 November 2009.

_____ 2009. Quality Control Procedures Manual, Rev. 2. 08 July 2009.

_____ 2009. Quality Control Program, Rev. 2, 12 November 2009.

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

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

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

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

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

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

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

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APPENDIX A

INTERLABORATORY COMPARISON PROGRAM RESULTS

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

January, 2009 through December, 2009

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 is intentionally left blank.

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

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

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

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

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

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

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

Attachment A

ACCEPTANCE CRITERIA FOR "SPIKED" SAMPLES

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

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

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

[b] Laboratory limit.

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

Lab Code	Date	Analysis	Concentration (pCi/L) Laboratory Result[b]	ERA Result[c]	Control Limits	Acceptance
STW-1181	04/06/09	Sr-89	41.0 ± 5.8	48.3	37.8 - 55.7	Pass
STW-1181	04/06/09	Sr-90	32.4 ± 2.4	31.4	22.9 - 36.4	Pass
STW-1182	04/06/09	Ba-133	44.6 ± 3.1	52.7	43.4 - 58.3	Pass
STW-1182	04/06/09	Co-60	81.0 ± 3.1	88.9	80.0 - 100.0	Pass
STW-1182	04/06/09	Cs-134	65.6 ± 5.2	72.9	59.5 - 80.2	Pass
STW-1182 [d]	04/06/09	Cs-137	147.7 ± 5.3	168.0	151.0 - 187.0	Fail
STW-1182	04/06/09	Zn-65	79.8 ± 7.5	84.4	76.0 - 101.0	Pass
STW-1183	04/06/09	Gr. Alpha	47.6 ± 2.1	54.2	28.3 - 67.7	Pass
STW-1183	04/06/09	Gr. Beta	38.5 ± 1.3	43.5	29.1 - 50.8	Pass
STW-1184	04/06/09	I-131	24.4 ± 2.5	26.1	21.7 - 30.8	Pass
STW-1185	04/06/09	Ra-226	14.0 ± 0.7	15.1	11.2 - 17.3	Pass
STW-1185	04/06/09	Ra-228	14.3 ± 2.1	13.6	9.0 - 16.6	Pass
STW-1185	04/06/09	Uranium	25.0 ± 0.2	25.7	20.6 - 28.8	Pass
STW-1186 [e]	04/06/09	H-3	22819.0 ± 453.0	20300.0	17800.0 - 22300.0	Fail
STW-1193	10/05/09	Sr-89	53.0 ± 6.0	62.2	50.2 - 70.1	Pass
STW-1193	10/05/09	Sr-90	31.1 ± 2.2	30.7	22.4 - 35.6	Pass
STW-1194	10/05/09	Ba-133	82.5 ± 3.5	92.9	78.3 - 102.0	Pass
STW-1194	10/05/09	Co-60	116.8 ± 3.3	117.0	105.0 - 131.0	Pass
STW-1194	10/05/09	Cs-134	78.8 ± 5.7	78.8	65.0 - 87.3	Pass
STW-1194	10/05/09	Cs-137	54.2 ± 3.7	54.6	49.1 - 62.9	Pass
STW-1194	10/05/09	Zn-65	102.5 ± 6.2	99.5	89.6 - 119.0	Pass
STW-1195	10/05/09	Gr. Alpha	20.3 ± 2.0	23.2	11.6 - 31.1	Pass
STW-1195	10/05/09	Gr. Beta	23.7 ± 1.4	26.0	16.2 - 33.9	Pass
STW-1196	10/05/09	I-131	22.4 ± 1.4	22.2	18.4 - 26.5	Pass
STW-1197	10/05/09	Ra-226	15.0 ± 0.7	13.9	10.4 - 16.0	Pass
STW-1197	10/05/09	Ra-228	17.4 ± 2.0	14.9	10.0 - 18.0	Pass
STW-1197	10/05/09	Uranium	32.5 ± 0.4	33.8	27.3 - 37.8	Pass
STW-1198	10/05/09	H-3	17228.0 ± 694.0	16400.0	14300.0 - 18000.0	Pass

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

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

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

[d] All gamma -emitters showed a low bias. A large plastic burr found on the base of the Marinelli kept the beaker from sitting directly on the detector. Result of recount in a different beaker, Cs-137, 155.33 ± 14.55 pCi/L.

[e] Samples were recounted and also reanalyzed. A recount of the original vials averaged 23,009 pCi/L. Reanalysis results were acceptable, 19,170 pCi/L.

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	Control Limits	Acceptance
Environmental, Inc.						
2009-1	7/6/2009	40 cm.	41.82	45.43 ± 3.66	29.27 - 54.37	Pass
2009-1	7/6/2009	50 cm.	26.76	32.17 ± 1.52	18.73 - 34.79	Pass
2009-1	7/6/2009	60 cm.	18.58	20.23 ± 1.60	13.01 - 24.15	Pass
2009-1	7/6/2009	70 cm.	13.65	15.28 ± 0.79	9.56 - 17.75	Pass
2009-1	7/6/2009	90 cm.	8.26	7.97 ± 0.40	5.78 - 10.74	Pass
2009-1	7/6/2009	90 cm.	8.26	7.37 ± 0.49	5.78 - 10.74	Pass
2009-1	7/6/2009	100 cm.	6.69	6.16 ± 0.64	4.68 - 8.70	Pass
2009-1	7/6/2009	110 cm.	5.53	4.38 ± 0.24	3.87 - 7.19	Pass
2009-1	7/6/2009	120 cm.	4.65	4.34 ± 0.23	3.26 - 6.05	Pass
2009-1	7/6/2009	150 cm.	2.97	2.92 ± 0.25	2.08 - 3.86	Pass
Environmental, Inc.						
2009-2	12/27/2009	40 cm.	44.83	51.38 ± 2.69	31.38 - 58.28	Pass
2009-2	12/27/2009	50 cm.	28.69	31.65 ± 2.81	20.08 - 37.30	Pass
2009-2	12/27/2009	60 cm.	19.92	21.38 ± 1.19	13.94 - 25.90	Pass
2009-2	12/27/2009	60 cm.	19.92	22.30 ± 0.50	13.94 - 25.90	Pass
2009-2	12/27/2009	75 cm.	12.75	13.48 ± 1.02	8.93 - 16.58	Pass
2009-2	12/27/2009	90 cm.	8.85	9.62 ± 0.74	6.20 - 11.51	Pass
2009-2	12/27/2009	90 cm.	8.85	8.39 ± 0.86	6.20 - 11.51	Pass
2009-2	12/27/2009	100 cm.	7.17	6.65 ± 0.96	5.02 - 9.32	Pass
2009-2	12/27/2009	120 cm.	4.98	4.89 ± 0.53	3.49 - 6.47	Pass
2009-2	12/27/2009	120 cm.	4.98	4.92 ± 0.58	3.49 - 6.47	Pass
2009-2	12/27/2009	150 cm.	3.19	2.74 ± 0.39	2.23 - 4.15	Pass
2009-2	12/27/2009	180 cm.	2.21	1.65 ± 0.33	1.55 - 2.87	Pass
2009-2	12/27/2009	180 cm.	2.21	2.12 ± 0.69	1.55 - 2.87	Pass

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

Lab Code [b]	Date	Concentration (pCi/L)[a] Analysis	Laboratory results 2s, n=1 [c]	Known Activity	Control Limits [d]	Acceptance
W-12009	1/20/2009	Ra-226	12.88 ± 0.41	12.69	8.88 - 16.50	Pass
W-12009	1/27/2009	Gr. Alpha	20.20 ± 0.40	20.08	10.04 - 30.12	Pass
W-12709	1/27/2009	Gr. Beta	46.26 ± 0.42	45.60	35.60 - 55.60	Pass
SPW-5553	1/27/2009	Ra-228	29.11 ± 2.53	28.66	20.06 - 37.26	Pass
SPW-217	1/29/2009	U-238	44.98 ± 2.30	41.70	29.19 - 54.21	Pass
SPW-539	2/24/2009	Ni-63	167.93 ± 3.79	211.00	147.70 - 274.30	Pass
SPW-718	3/6/2009	C-14	4893.50 ± 21.69	4740.20	2844.12 - 6636.28	Pass
SPMI-814	3/16/2009	Cs-134	34.91 ± 3.85	35.70	25.70 - 45.70	Pass
SPMI-814	3/16/2009	Cs-137	59.17 ± 6.70	55.60	45.60 - 65.60	Pass
SPMI-814	3/16/2009	Sr-90	40.82 ± 1.59	44.07	35.26 - 52.88	Pass
SPMI-815	3/16/2009	I-131	70.99 ± 0.62	69.60	55.68 - 83.52	Pass
SPMI-815	3/16/2009	I-131(G)	63.08 ± 7.12	69.60	59.60 - 79.60	Pass
SPW-817	3/16/2009	I-131	62.11 ± 0.59	69.60	55.68 - 83.52	Pass
SPW-817	3/16/2009	I-131(G)	64.55 ± 8.32	69.60	59.60 - 79.60	Pass
SPW-818	3/16/2009	Co-60	50.84 ± 4.70	51.99	41.99 - 61.99	Pass
SPW-818	3/16/2009	Cs-134	33.78 ± 3.42	35.70	25.70 - 45.70	Pass
SPW-818	3/16/2009	Cs-137	61.27 ± 7.18	55.64	45.64 - 65.64	Pass
SPW-818	3/16/2009	Sr-90	47.26 ± 1.89	44.07	35.26 - 52.88	Pass
SPAP-903	3/23/2009	Cs-134	13.29 ± 2.89	14.19	4.19 - 24.19	Pass
SPAP-903	3/23/2009	Cs-137	103.24 ± 7.54	111.23	100.11 - 122.35	Pass
SPCH-916	3/24/2009	I-131(G)	0.22 ± 0.02	0.22	0.13 - 0.31	Pass
SPVE-888	4/1/2009	I-131(G)	0.40 ± 0.08	0.35	0.21 - 0.49	Pass
SPF-820	4/7/2009	Cs-134	0.58 ± 0.02	0.56	0.34 - 0.78	Pass
W-40909	4/9/2009	Gr. Alpha	19.26 ± 0.40	20.08	10.04 - 30.12	Pass
W-40909	4/9/2009	Gr. Beta	48.04 ± 0.42	45.60	35.60 - 55.60	Pass
SPW-12641	4/10/2009	Ra-228	40.06 ± 2.79	40.54	28.38 - 52.70	Pass
SPW-1267	4/10/2009	U-238	41.71 ± 2.25	41.70	29.19 - 54.21	Pass
TWW-2124	4/21/2009	H-3	7932.00 ± 279.00	7063.00	5650.40 - 8475.60	Pass
W-42809	4/28/2009	Ra-226	14.49 ± 0.53	16.78	11.75 - 21.81	Pass
SPMI-2186	5/12/2009	Cs-134	32.55 ± 1.26	33.89	23.89 - 43.89	Pass
SPMI-2186	5/12/2009	Cs-137	54.27 ± 2.60	55.60	45.60 - 65.60	Pass
SPMI-2186	5/12/2009	I-131	60.81 ± 0.63	52.40	40.40 - 64.40	Pass
SPMI-2186	5/12/2009	I-131(G)	56.89 ± 2.56	52.40	42.40 - 62.40	Pass
SPMI-2186	5/12/2009	Sr-90	43.88 ± 1.68	52.40	41.92 - 62.88	Pass
SPW-2497	5/27/2009	Fe-55	2472.37 ± 10.76	2106.35	1685.08 - 2527.62	Pass
SPW-3448	7/14/2009	Cs-137	171.06 ± 9.21	166.10	149.49 - 182.71	Pass
SPW-3497	7/15/2009	Ni-63	179.99 ± 3.06	210.40	147.28 - 273.52	Pass
SPW-3499	7/15/2009	Tc-99	29.61 ± 0.81	32.34	20.34 - 44.34	Pass
SPMI-3582	7/17/2009	Cs-134	32.86 ± 3.72	31.89	21.89 - 41.89	Pass
SPMI-3582	7/17/2009	Cs-137	182.49 ± 10.54	166.10	149.49 - 182.71	Pass
SPAP-3595	7/17/2009	Cs-134	13.01 ± 3.00	12.75	2.75 - 22.75	Pass
SPAP-3595	7/17/2009	Cs-137	110.63 ± 6.58	110.73	99.66 - 121.80	Pass

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

Lab Code [b]	Date	Concentration (pCi/L)[a] Analysis	Laboratory results 2s, n=1	Known Activity	Control Limits[c]	Acceptance
SPF-3597	7/17/2009	Cs-134	0.53 ± 0.03	0.51	0.31 - 0.71	Pass
SPF-3597	7/17/2009	Cs-137	2.43 ± 0.05	2.22	1.33 - 3.10	Pass
SPW-3599	7/17/2009	H-3	63246.00 ± 725.00	62495.00	49996.00 - 74994.00	Pass
SPW-12643	8/3/2009	Ra-228	38.18 ± 2.72	40.54	28.38 - 52.70	Pass
W-80709	8/7/2009	Ra-226	16.28 ± 0.41	16.77	11.74 - 21.80	Pass
W-81009	8/10/2009	Gr. Alpha	20.58 ± 0.44	20.08	10.04 - 30.12	Pass
W-81009	8/10/2009	Gr. Beta	44.44 ± 0.40	45.60	35.60 - 55.60	Pass
W-100109	10/1/2009	Ra-226	15.68 ± 0.41	16.77	11.74 - 21.80	Pass
W-102709	10/27/2009	Gr. Alpha	21.50 ± 0.43	20.08	10.04 - 30.12	Pass
W-102709	10/27/2009	Gr. Beta	44.83 ± 0.40	45.60	35.60 - 55.60	Pass
SPW-5964	10/28/2009	U-238	40.20 ± 1.87	41.70	29.19 - 54.21	Pass
SPW-12647	11/6/2009	Ra-228	44.49 ± 3.33	40.54	28.38 - 52.70	Pass
SPAP-6769	12/14/2009	Gr. Beta	45.43 ± 0.11	49.48	29.69 - 69.27	Pass
SPAP-6774	12/14/2009	Cs-134	10.32 ± 0.83	11.11	1.11 - 21.11	Pass
SPAP-6774	12/14/2009	Cs-137	106.58 ± 2.51	109.70	98.73 - 120.67	Pass
SPF-6776	12/14/2009	Cs-134	0.43 ± 0.02	0.44	0.26 - 0.62	Pass
SPF-6776	12/14/2009	Cs-137	2.33 ± 0.05	2.19	1.31 - 3.07	Pass
SPW-6780	12/14/2009	Tc-99	30.71 ± 1.09	32.34	20.34 - 44.34	Pass
SPMI-6782	12/14/2009	Co-60	74.30 ± 5.41	72.81	62.81 - 82.81	Pass
SPMI-6782	12/14/2009	Cs-134	58.82 ± 3.75	55.54	45.54 - 65.54	Pass
SPMI-6782	12/14/2009	Cs-137	178.18 ± 9.68	164.55	148.10 - 181.01	Pass
SPW-6784	12/14/2009	Co-60	74.03 ± 4.64	72.81	62.81 - 82.81	Pass
SPW-6784	12/14/2009	Cs-134	54.84 ± 3.83	55.54	45.54 - 65.54	Pass
SPW-6784	12/14/2009	Cs-137	180.06 ± 8.81	164.55	148.10 - 181.01	Pass

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

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

[c] Results are based on single determinations.

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

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

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

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

Lab Code	Sample Type	Date	Analysis[b]	Concentration (pCi/L)[a]		
				Laboratory results (4.66σ)		Acceptance
				LLD	Activity[c]	Criteria (4.66 σ)
W-12009	Water	1/20/2009	Ra-226	0.05	0.06 ± 0.04	1
SPW-5554	Water	1/27/2009	Ra-228	0.08	0.17 ± 0.40	2
W-12709	Water	1/27/2009	Gr. Alpha	0.35	0.22 ± 0.27	1
W-12709	Water	1/27/2009	Gr. Beta	0.74	-0.08 ± 0.51	3.2
SPW-218	Water	1/29/2009	U-238	0.19	-0.06 ± 0.09	1
SPW-538	Water	2/24/2009	Ni-63	7.91	4.96 ± 4.93	20
SPW-717	Water	3/6/2009	C-14	7.66	3.03 ± 4.71	200
SPMI-816	Milk	3/16/2009	Cs-134	3.24	-	10
SPMI-816	Milk	3/16/2009	Cs-137	3.38	-	10
SPMI-816	Milk	3/16/2009	I-131	0.31	0.04 ± 0.17	0.5
SPMI-816	Milk	3/16/2009	I-131(G)	3.65	-	20
SPMI-816	Milk	3/16/2009	Sr-90	0.48	0.41 ± 0.27	1
SPW-819	Water	3/16/2009	Co-60	3.02	-	10
SPW-819	Water	3/16/2009	Cs-134	2.25	-	10
SPW-819	Water	3/16/2009	Cs-137	2.03	-	10
SPW-819	Water	3/16/2009	I-131	0.42	-0.06 ± 0.19	0.5
SPW-819	Water	3/16/2009	I-131(G)	3.02	-	20
SPW-819	Water	3/16/2009	Sr-90	1.10	-0.63 ± 0.44	1
SPAP-902	Air Filter	3/23/2009	Gr. Beta	0.003	0.006 ± 0.002	3.2
SPAP-904	Air Filter	3/23/2009	Cs-134	1.68	-	100
SPAP-904	Air Filter	3/23/2009	Cs-137	2.62	-	100
SPW-32709	Water	3/23/2009	Ni-63	2.84	1.37 ± 1.75	20
SPF-821	Fish	4/7/2009	Cs-134	3.12	-	100
SPF-821	Fish	4/7/2009	Cs-137	3.93	-	100
W-40909	Water	4/9/2009	Gr. Alpha	0.40	-0.25 ± 0.26	1
W-40909	Water	4/9/2009	Gr. Beta	0.77	-0.30 ± 0.53	3.2
SPW-12651	Water	4/10/2009	Ra-228	0.77	0.77 ± 0.45	2
SPW-1268	Water	4/10/2009	U-238	0.11	0.24 ± 0.17	1
W-42809	Water	4/28/2009	Ra-226	0.04	0.09 ± 0.04	1
SPMI-2186	Milk	5/12/2009	Sr-90	0.43	0.52 ± 0.26	1
SPMI-2187	Milk	5/12/2009	Cs-134	3.61	-	10
SPMI-2187	Milk	5/12/2009	Cs-137	3.13	-	10
SPMI-2187	Milk	5/12/2009	I-131	0.15	-0.02 ± 0.10	0.5
SPMI-2187	Milk	5/12/2009	I-131(G)	3.77	-	20
SPW-2498	Water	5/27/2009	Ni-63	1.60	0.00 ± 0.97	20

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

Lab Code	Sample Type	Date	Analysis[b]	Concentration (pCi/L)[a]		
				Laboratory results (4.66σ)		Acceptance
				LLD	Activity[c]	Criteria (4.66 σ)
SPW-3497	Water	7/15/2009	Ni-63	1.55	-0.24 ± 0.94	20
SPW-3500	Water	7/15/2009	Tc-99	0.90	-1.71 ± 0.53	10
SPMI-3589	Milk	7/17/2009	I-131(G)	5.75	-	20
SPAP-3594	Air Filter	7/17/2009	Cs-134	1.14	-	100
SPAP-3594	Air Filter	7/17/2009	Cs-137	2.47	-	100
SPF-3596	Fish	7/17/2009	Co-60	5.00	-	100
SPF-3596	Fish	7/17/2009	Cs-134	8.00	-	100
SPF-3596	Fish	7/17/2009	Cs-137	11.50	-	100
SPW-3598	Water	7/17/2009	H-3	148.40	0.69 ± 73.60	200
SPW-12653	Water	8/3/2009	Ra-228	0.76	1.46 ± 0.51	2
W-80709	Water	8/7/2009	Ra-226	0.04	0.08 ± 0.03	1
W-81009	Water	8/10/2009	Gr. Alpha	0.44	0.08 ± 0.31	1
W-81009	Water	8/10/2009	Gr. Beta	0.75	-0.31 ± 0.52	3.2
W-100109	Water	10/1/2009	Ra-226	0.04	0.09 ± 0.03	1
W-102709	Water	10/27/2009	Gr. Alpha	0.38	0.33 ± 0.30	1
W-102709	Water	10/27/2009	Gr. Beta	0.81	-0.59 ± 0.55	3.2
SPW-5965	Water	10/28/2009	U-238	0.15	0.09 ± 0.13	1
SPW-12657	Water	11/6/2009	Ra-228	0.86	0.80 ± 0.50	2
SPAP-6769	Air Filter	12/14/2009	Gr. Beta	0.003	0.010 ± 0.002	3.2
SPAP-6773	Air Filter	12/14/2009	Cs-137	1.31	-	100
SPF-6775	Fish	12/14/2009	Cs-134	5.70	-	100
SPF-6775	Fish	12/14/2009	Cs-137	4.18	-	100
SPW-6777	Water	12/14/2009	Ni-63	2.29	0.25 ± 1.38	20
SPW-6779	Water	12/14/2009	Tc-99	1.16	-0.98 ± 0.69	10
SPMI-6781	Milk	12/14/2009	Cs-134	2.62	-	10
SPMI-6781	Milk	12/14/2009	Cs-137	3.29	-	10
SPMI-6781	Milk	12/14/2009	I-131(G)	2.65	-	20
SPW-6783	Water	12/14/2009	Cs-134	2.18	-	10
SPW-6783	Water	12/14/2009	Cs-137	2.90	-	10
SPW-6783	Water	12/14/2009	I-131(G)	2.30	-	20

[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
AP-7464, 7465	1/1/2009	Be-7	0.063 ± 0.012	0.065 ± 0.010	0.064 ± 0.008	Pass
E-20, 21	1/5/2009	K-40	1.34 ± 0.21	1.13 ± 0.13	1.24 ± 0.12	Pass
CF-67, 68	1/5/2009	Be-7	0.34 ± 0.12	0.39 ± 0.08	0.37 ± 0.07	Pass
CF-67, 68	1/5/2009	Gr. Beta	4.34 ± 0.11	4.38 ± 0.12	4.36 ± 0.08	Pass
CF-67, 68	1/5/2009	K-40	3.16 ± 0.26	3.00 ± 0.16	3.08 ± 0.15	Pass
DW-90010, 90011	1/9/2009	Ra-226	2.97 ± 0.22	2.76 ± 0.21	2.87 ± 0.15	Pass
DW-90010, 90011	1/9/2009	Ra-228	3.13 ± 0.71	3.55 ± 0.81	3.34 ± 0.54	Pass
SG-198, 199	1/23/2009	Gr. Alpha	101.90 ± 6.50	101.70 ± 6.10	101.80 ± 4.46	Pass
SG-198, 199	1/23/2009	Gr. Beta	97.80 ± 3.50	94.00 ± 3.20	95.90 ± 2.37	Pass
SW-308, 309	1/27/2009	Gr. Beta	1.43 ± 0.58	1.41 ± 0.54	1.42 ± 0.40	Pass
LW-330, 331	1/27/2009	Gr. Beta	2.09 ± 0.58	2.33 ± 0.63	2.21 ± 0.43	Pass
SW-308, 309	1/29/2009	Gr. Beta	1.51 ± 0.56	1.61 ± 0.57	1.56 ± 0.40	Pass
DW-375, 376	2/4/2009	Gr. Beta	2.72 ± 0.65	3.06 ± 0.69	2.89 ± 0.47	Pass
SWU-606, 607	2/24/2009	Gr. Beta	2.66 ± 0.68	2.16 ± 0.67	2.41 ± 0.48	Pass
U-651, 652	2/27/2009	Beta-K40	3.90 ± 2.30	1.70 ± 2.50	2.80 ± 1.70	Pass
U-651, 652	2/27/2009	H-3	597.00 ± 292.00	507.00 ± 288.00	552.00 ± 205.07	Pass
SG-739, 740	3/2/2009	Ra-226	8.20 ± 0.20	8.30 ± 0.20	8.25 ± 0.14	Pass
MI-875, 876	3/17/2009	K-40	1286.50 ± 111.60	1471.70 ± 111.50	1379.10 ± 78.88	Pass
MI-875, 876	3/17/2009	Sr-90	0.67 ± 0.31	0.36 ± 0.36	0.52 ± 0.24	Pass
WW-970, 971	3/24/2009	Gr. Beta	13.59 ± 2.32	17.33 ± 2.69	15.46 ± 1.78	Pass
XWW-980, 981	3/24/2009	H-3	7143.00 ± 262.00	7262.00 ± 264.00	7202.50 ± 185.97	Pass
AP-1441, 1442	3/30/2009	Be-7	0.076 ± 0.012	0.075 ± 0.014	0.076 ± 0.009	Pass
SWT-1123, 1124	3/31/2009	Gr. Beta	1.40 ± 0.55	1.86 ± 0.62	1.63 ± 0.41	Pass
WW-1102, 1103	4/1/2009	Gr. Beta	2.13 ± 1.34	2.30 ± 1.32	2.22 ± 0.94	Pass
XWW-1174, 1175	4/1/2009	H-3	2814 ± 176	2787 ± 176	2801 ± 124	Pass
AP-1462, 1463	4/2/2009	Be-7	0.085 ± 0.014	0.10 ± 0.016	0.091 ± 0.011	Pass
SL-2024, 2025	5/4/2009	Be-7	0.80 ± 0.18	0.82 ± 0.13	0.81 ± 0.11	Pass
SL-2024, 2025	5/4/2009	Gr. Beta	2.41 ± 0.19	2.68 ± 0.21	2.55 ± 0.14	Pass
SL-2024, 2025	5/4/2009	K-40	1.20 ± 0.21	1.30 ± 0.15	1.25 ± 0.13	Pass
SO-2045, 2046	5/4/2009	Gr. Alpha	6.22 ± 2.87	6.50 ± 3.26	6.36 ± 2.17	Pass
SO-2045, 2046	5/4/2009	Gr. Beta	28.85 ± 3.15	30.39 ± 3.34	29.62 ± 2.30	Pass
SO-2045, 2046	5/4/2009	Sr-90	0.036 ± 0.010	0.024 ± 0.010	0.030 ± 0.007	Pass
mi-2251, 2252	5/14/2009	K-40	1220.60 ± 155.10	1455.50 ± 118.20	1338.05 ± 97.50	Pass
mi-2381, 2382	5/19/2009	K-40	1472.50 ± 122.90	1412.80 ± 117.40	1442.65 ± 84.98	Pass
SWT-2534, 2535	5/26/2009	Gr. Beta	1.12 ± 0.57	1.66 ± 0.58	1.39 ± 0.41	Pass
G-2626, 2627	5/28/2009	Gr. Beta	6.32 ± 0.19	6.18 ± 0.19	6.25 ± 0.13	Pass
G-2626, 2627	5/28/2009	K-40	4.13 ± 0.35	4.05 ± 0.34	4.09 ± 0.24	Pass
WW-2732, 2733	6/1/2009	H-3	240.73 ± 93.21	190.39 ± 90.81	215.56 ± 65.07	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
SO-3141, 3142	6/22/2009	Ac-228	1.07 ± 0.06	1.06 ± 0.05	1.07 ± 0.04	Pass
SO-3141, 3142	6/22/2009	Be-7	0.55 ± 0.14	0.62 ± 0.08	0.59 ± 0.08	Pass
SO-3141, 3142	6/22/2009	Bi-212	1.16 ± 0.17	1.14 ± 0.16	1.15 ± 0.12	Pass
SO-3141, 3142	6/22/2009	Bi-214	0.96 ± 0.03	1.01 ± 0.03	0.99 ± 0.02	Pass
SO-3141, 3142	6/22/2009	Cs-137	0.72 ± 0.07	0.76 ± 0.08	0.74 ± 0.05	Pass
SO-3141, 3142	6/22/2009	Pb-212	1.00 ± 0.02	1.03 ± 0.02	1.02 ± 0.01	Pass
SO-3141, 3142	6/22/2009	Pb-214	1.01 ± 0.03	1.04 ± 0.03	1.03 ± 0.02	Pass
SO-3141, 3142	6/22/2009	Pu-239/40	0.022 ± 0.008	0.030 ± 0.009	0.026 ± 0.006	Pass
SO-3141, 3142	6/22/2009	Th-232	0.51 ± 0.04	0.48 ± 0.05	0.50 ± 0.03	Pass
SO-3141, 3142	6/22/2009	Tl-208	0.35 ± 0.02	0.36 ± 0.02	0.36 ± 0.01	Pass
SO-3141, 3142	6/22/2009	U-233/4	0.16 ± 0.02	0.18 ± 0.02	0.17 ± 0.01	Pass
SO-3141, 3142	6/22/2009	U-238	0.14 ± 0.02	0.18 ± 0.03	0.16 ± 0.02	Pass
SG-3187, 3188	6/25/2009	Ac-228	11.07 ± 0.33	10.88 ± 0.33	10.97 ± 0.24	Pass
SG-3187, 3188	6/25/2009	Pb-214	26.54 ± 0.23	26.17 ± 0.25	26.36 ± 0.17	Pass
SL-3297, 3298	7/1/2009	Be-7	1.15 ± 0.13	1.15 ± 0.12	1.15 ± 0.09	Pass
SL-3297, 3298	7/1/2009	Gr. Beta	3.38 ± 0.23	3.37 ± 0.12	3.38 ± 0.13	Pass
SL-3297, 3298	7/1/2009	K-40	1.43 ± 0.18	1.50 ± 0.19	1.47 ± 0.13	Pass
AP-3944, 3945	7/1/2009	Be-7	0.064 ± 0.009	0.068 ± 0.010	0.066 ± 0.007	Pass
DW-90222, 90223	7/15/2009	Ra-226	5.36 ± 0.60	4.62 ± 0.51	4.99 ± 0.39	Pass
DW-90222, 90223	7/15/2009	Ra-228	2.91 ± 0.73	2.80 ± 0.70	2.86 ± 0.51	Pass
DW-90237, 90238	7/17/2009	Gr. Alpha	3.54 ± 0.99	4.22 ± 1.09	3.88 ± 0.74	Pass
F-3790, 3791	7/21/2009	K-40	1.10 ± 0.35	1.41 ± 0.44	1.26 ± 0.28	Pass
DW-90250, 90251	7/22/2009	Ra-226	14.58 ± 0.39	15.13 ± 0.40	14.86 ± 0.28	Pass
DW-90250, 90251	7/22/2009	Ra-228	6.71 ± 1.05	6.10 ± 1.01	6.41 ± 0.73	Pass
VE-3965, 3966	7/28/2009	K-40	1.48 ± 0.16	1.56 ± 0.19	1.52 ± 0.13	Pass
VE-4098, 4099	8/3/2009	Be-7	0.54 ± 0.16	0.58 ± 0.16	0.56 ± 0.11	Pass
VE-4098, 4099	8/3/2009	Gr. Beta	5.15 ± 0.17	5.07 ± 0.18	5.11 ± 0.12	Pass
VE-4098, 4099	8/3/2009	K-40	4.91 ± 0.49	5.17 ± 0.15	5.04 ± 0.26	Pass
SO-4325, 4326	8/14/2009	Be-7	0.59 ± 0.21	0.68 ± 0.28	0.64 ± 0.18	Pass
SO-4325, 4326	8/14/2009	Cs-137	0.29 ± 0.05	0.28 ± 0.05	0.28 ± 0.03	Pass
SO-4325, 4326	8/14/2009	K-40	13.41 ± 0.77	13.46 ± 0.80	13.43 ± 0.56	Pass
SG-4283, 4284	8/17/2009	Ac-228	7.16 ± 0.28	7.10 ± 0.26	7.13 ± 0.19	Pass
SG-4283, 4284	8/17/2009	Pb-214	6.27 ± 0.13	6.21 ± 0.13	6.24 ± 0.09	Pass
VE-4436, 4437	8/25/2009	K-40	2.28 ± 0.28	2.67 ± 0.26	2.48 ± 0.19	Pass
SL-4589, 4590	9/1/2009	Be-7	1.25 ± 0.22	1.25 ± 0.16	1.25 ± 0.14	Pass
SL-4589, 4590	9/1/2009	K-40	2.96 ± 0.30	2.70 ± 0.27	2.83 ± 0.20	Pass
AV-4882, 4883	9/8/2009	Be-7	0.93 ± 0.18	0.95 ± 0.17	0.94 ± 0.12	Pass
AV-4882, 4883	9/8/2009	K-40	2.50 ± 0.26	2.47 ± 0.29	2.49 ± 0.20	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
WW-4721, 4722	9/9/2009	H-3	19191.00 ± 404.00	18677.00 ± 399.00	18934.00 ± 283.91	Pass
WW-4903, 4904	9/11/2009	H-3	1075.00 ± 130.00	1281.00 ± 136.00	1178.00 ± 94.07	Pass
BS-5119, 5120	9/16/2009	Be-7	2067.50 ± 327.90	2225.40 ± 371.10	2146.45 ± 247.61	Pass
BS-5119, 5120	9/16/2009	Cs-137	86.24 ± 35.40	145.10 ± 31.54	115.67 ± 23.71	Pass
BS-5119, 5120	9/16/2009	K-40	16.85 ± 0.90	17.27 ± 0.79	17.06 ± 0.60	Pass
SS-5188, 5189	9/23/2009	Be-7	1.02 ± 0.31	1.04 ± 0.43	1.03 ± 0.26	Pass
SS-5188, 5189	9/23/2009	K-40	10.21 ± 0.65	9.94 ± 0.93	10.07 ± 0.57	Pass
AP-3944, 3945	9/29/2009	Be-7	0.09 ± 0.02	0.09 ± 0.02	0.09 ± 0.01	Pass
E-5251, 5252	10/1/2009	Gr. Beta	2.30 ± 0.10	2.10 ± 0.10	2.20 ± 0.07	Pass
E-5251, 5252	10/1/2009	K-40	1.18 ± 0.24	1.15 ± 0.18	1.17 ± 0.15	Pass
G-5272, 5273	10/1/2009	Be-7	3.31 ± 0.29	3.60 ± 0.26	3.46 ± 0.19	Pass
G-5272, 5273	10/1/2009	Gr. Alpha	19.81 ± 0.80	21.10 ± 0.74	20.46 ± 0.54	Pass
G-5272, 5273	10/1/2009	K-40	16.47 ± 0.75	17.00 ± 0.74	16.74 ± 0.53	Pass
F-5690, 5691	10/15/2009	H-3	8895.00 ± 250.00	9051.00 ± 252.00	8973.00 ± 177.49	Pass
F-5690, 5691	10/15/2009	K-40	3.62 ± 0.40	3.09 ± 0.48	3.36 ± 0.31	Pass
DW-90396, 90397	10/16/2009	Ra-226	0.54 ± 0.09	0.42 ± 0.08	0.48 ± 0.06	Pass
DW-90396, 90397	10/16/2009	Ra-228	1.44 ± 0.56	0.94 ± 0.51	1.19 ± 0.38	Pass
DW-90408, 90409	10/19/2009	Ra-226	0.99 ± 0.12	1.10 ± 0.14	1.05 ± 0.09	Pass
DW-90408, 90409	10/19/2009	Ra-228	2.76 ± 0.66	1.38 ± 0.92	2.07 ± 0.57	Pass
DW-90420, 90421	10/21/2009	Ra-226	1.95 ± 0.17	1.77 ± 0.15	1.86 ± 0.11	Pass
DW-90420, 90421	10/21/2009	Ra-228	3.10 ± 0.73	3.32 ± 0.80	3.21 ± 0.54	Pass
SG-5962, 5963	10/22/2009	Ac-228	16.39 ± 0.79	16.51 ± 0.63	16.45 ± 0.51	Pass
SG-5962, 5963	10/22/2009	Pb-214	18.03 ± 0.41	17.74 ± 0.42	17.89 ± 0.29	Pass
DW-90423, 90424	10/27/2009	Gr. Alpha	12.04 ± 1.68	15.28 ± 1.97	13.66 ± 1.29	Pass
ME-6116, 6117	11/3/2009	Gr. Beta	0.86 ± 0.03	0.83 ± 0.03	0.85 ± 0.02	Pass
ME-6116, 6117	11/3/2009	K-40	2.57 ± 0.08	2.65 ± 0.08	2.61 ± 0.06	Pass
F-6567, 6568	11/6/2009	Gr. Beta	2.72 ± 1.05	3.04 ± 0.92	2.88 ± 0.70	Pass
F-6567, 6568	11/6/2009	Sr-90	0.09 ± 0.03	0.12 ± 0.04	0.11 ± 0.02	Pass
W-6495, 6496	11/8/2009	H-3	2638.00 ± 173.00	2451.00 ± 168.00	2544.50 ± 120.57	Pass
WW-6313, 6314	11/9/2009	H-3	1514.00 ± 137.00	1483.00 ± 136.00	1498.50 ± 96.52	Pass
SWU-6611, 6612	11/24/2009	Gr. Beta	1.88 ± 0.60	1.67 ± 0.59	1.78 ± 0.42	Pass
DW-90446, 90447	12/30/2009	Ra-226	0.30 ± 0.10	0.54 ± 0.14	0.42 ± 0.09	Pass
DW-90446, 90447	12/30/2009	Ra-228	2.60 ± 0.64	2.65 ± 0.65	2.63 ± 0.46	Pass

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

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

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

			Concentration [b]			
Lab Code [c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STW-1170 [f]	01/01/09	Am-241	1.15 ± 0.06	0.64	0.45 - 0.83	Fail
STW-1170	01/01/09	Co-57	19.60 ± 0.40	18.90	13.20 - 24.60	Pass
STW-1170	01/01/09	Co-60	16.60 ± 0.30	17.21	12.05 - 22.37	Pass
STW-1170	01/01/09	Cs-134	20.40 ± 0.50	22.50	15.80 - 29.30	Pass
STW-1170 [e]	01/01/09	Cs-137	0.10 ± 0.20	0.00	0.00 - 1.00	Pass
STW-1170	01/01/09	Fe-55	51.60 ± 20.60	48.20	33.70 - 62.70	Pass
STW-1170	01/01/09	H-3	359.90 ± 33.90	330.90	231.60 - 430.20	Pass
STW-1170	01/01/09	Mn-54	15.00 ± 0.40	14.66	10.26 - 19.06	Pass
STW-1170	01/01/09	Ni-63	50.50 ± 3.25	53.50	37.45 - 69.55	Pass
STW-1170	01/01/09	Pu-238	1.17 ± 0.04	1.18	0.83 - 1.53	Pass
STW-1170	01/01/09	Pu-239/40	0.74 ± 0.03	0.85	0.60 - 1.11	Pass
STW-1170	01/01/09	Sr-90	7.87 ± 1.39	7.21	5.05 - 9.37	Pass
STW-1170	01/01/09	Tc-99	12.70 ± 0.80	14.46	10.12 - 18.80	Pass
STW-1170	01/01/09	U-233/4	2.78 ± 0.07	2.77	1.94 - 3.60	Pass
STW-1170	01/01/09	U-238	2.87 ± 0.07	2.88	2.02 - 3.74	Pass
STW-1170	01/01/09	Zn-65	14.00 ± 0.70	13.60	9.50 - 17.70	Pass
STW-1171	01/01/09	Gr. Alpha	0.56 ± 0.06	0.64	0.00 - 1.27	Pass
STW-1171	01/01/09	Gr. Beta	1.29 ± 0.05	1.27	0.64 - 1.91	Pass
STSO-1172 [e]	01/01/09	Co-57	0.00 ± 0.00	0.00	0.00 - 1.00	Pass
STSO-1172	01/01/09	Cs-134	458.60 ± 7.40	467.00	327.00 - 607.00	Pass
STSO-1172	01/01/09	Cs-137	652.30 ± 3.50	605.00	424.00 - 787.00	Pass
STSO-1172	01/01/09	K-40	636.40 ± 9.50	570.00	360.40 - 669.40	Pass
STSO-1172	01/01/09	Mn-54	346.40 ± 3.10	307.00	215.00 - 399.00	Pass
STSO-1172	01/01/09	Pu-238	28.60 ± 2.20	25.30	17.70 - 32.90	Pass
STSO-1172 [e]	01/01/09	Pu-239/40	0.50 ± 0.40	0.00	0.00 - 1.00	Pass
STSO-1172	01/01/09	Sr-90	180.60 ± 12.10	257.00	180.00 - 334.00	Pass
STSO-1172	01/01/09	U-233/4	152.20 ± 4.30	149.00	104.00 - 194.00	Pass
STSO-1172	01/01/09	U-238	154.90 ± 4.40	155.00	109.00 - 202.00	Pass
STSO-1172	01/01/09	Zn-65	268.30 ± 4.00	242.00	169.00 - 315.00	Pass
STVE-1173	01/01/09	Co-57	2.75 ± 0.11	2.36	1.65 - 3.07	Pass
STVE-1173 [e]	01/01/09	Co-60	0.06 ± 0.09	0.00	0.00 - 1.00	Pass
STVE-1173	01/01/09	Cs-134	3.49 ± 0.22	3.40	2.38 - 4.42	Pass
STVE-1173	01/01/09	Cs-137	1.01 ± 0.11	0.93	0.65 - 1.21	Pass
STVE-1173	01/01/09	Mn-54	2.52 ± 0.14	2.30	1.61 - 2.99	Pass
STVE-1173	01/01/09	Zn-65	1.52 ± 0.18	1.35	0.95 - 1.76	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-1174 [g]	01/01/09	Am-241	0.29 ± 0.03	0.21	0.14 - 0.27	Fail
STAP-1174	01/01/09	Co-57	1.25 ± 0.05	1.30	0.91 - 1.69	Pass
STAP-1174	01/01/09	Co-60	1.17 ± 0.06	1.22	0.85 - 1.59	Pass
STAP-1174	01/01/09	Cs-134	2.67 ± 0.14	2.93	2.05 - 3.81	Pass
STAP-1174	01/01/09	Cs-137	1.53 ± 0.08	1.52	1.06 - 1.98	Pass
STAP-1174	01/01/09	Mn-54	2.34 ± 0.09	2.27	1.59 - 2.95	Pass
STAP-1174 [h]	01/01/09	Sr-90	0.93 ± 0.14	0.64	0.45 - 0.83	Fail
STAP-1174	01/01/09	Zn-65	1.44 ± 0.14	1.36	0.95 - 1.77	Pass
STAP-1175	01/01/09	Gr. Alpha	0.22 ± 0.03	0.35	0.00 - 0.70	Pass
STAP-1175	01/01/09	Gr. Beta	0.36 ± 0.04	0.28	0.14 - 0.42	Pass
STSO-1188	07/01/09	Co-57	674.60 ± 9.00	586.00	410.00 - 762.00	Pass
STSO-1188	07/01/09	Co-60	356.40 ± 6.30	327.00	229.00 - 425.00	Pass
STSO-1188	07/01/09	Cs-134	0.20 ± 1.90	0.00	0.00 - 1.00	Pass
STSO-1188	07/01/09	Cs-137	767.50 ± 12.00	669.00	468.00 - 870.00	Pass
STSO-1188	07/01/09	K-40	433.00 ± 37.20	375.00	263.00 - 488.00	Pass
STSO-1188	07/01/09	Mn-54	931.60 ± 14.10	796.00	557.00 - 1035.00	Pass
STSO-1188	07/01/09	Pu-238	53.10 ± 9.00	63.20	44.20 - 82.20	Pass
STSO-1188	07/01/09	Pu-239/40	107.10 ± 12.60	116.30	81.40 - 151.20	Pass
STSO-1188 [i]	07/01/09	Sr-90	310.50 ± 12.20	455.00	319.00 - 592.00	Fail
STSO-1188	07/01/09	U-233/4	188.20 ± 11.90	209.00	146.00 - 272.00	Pass
STSO-1188	07/01/09	U-238	197.40 ± 12.20	217.00	152.00 - 282.00	Pass
STSO-1188	07/01/09	Zn-65	1433.90 ± 25.20	1178.00	825.00 - 1531.00	Pass
STAP-1189	07/01/09	Gr. Alpha	0.33 ± 0.04	0.66	0.00 - 1.32	Pass
STAP-1189	07/01/09	Gr. Beta	1.57 ± 0.07	1.32	0.66 - 1.98	Pass
STAP-1190	07/01/09	Am-241	0.01 ± 0.02	0.00	0.01 - 0.05	Pass
STAP-1190	07/01/09	Co-57	6.78 ± 0.27	6.48	4.54 - 8.42	Pass
STAP-1190	07/01/09	Co-60	1.06 ± 0.18	1.03	0.72 - 1.34	Pass
STAP-1190	07/01/09	Cs-134	0.01 ± 0.06	0.00	0.01 - 0.05	Pass
STAP-1190	07/01/09	Cs-137	1.49 ± 0.27	1.40	0.98 - 1.82	Pass
STAP-1190	07/01/09	Mn-54	6.00 ± 0.45	5.49	3.84 - 7.14	Pass
STAP-1190	07/01/09	Sr-90	0.79 ± 0.13	0.84	0.59 - 1.09	Pass
STAP-1190	07/01/09	Zn-65	4.55 ± 0.66	3.93	2.75 - 5.11	Pass
STVE-1190	07/01/09	Co-57	8.90 ± 0.60	8.00	5.60 - 10.40	Pass
STVE-1190	07/01/09	Co-60	2.50 ± 0.36	2.57	1.80 - 3.34	Pass
STVE-1190	07/01/09	Cs-134	0.01 ± 0.11	0.00	0.00 - 0.10	Pass
STVE-1190	07/01/09	Cs-137	2.42 ± 0.16	2.43	1.70 - 3.16	Pass
STVE-1190	07/01/09	Mn-54	8.35 ± 0.70	7.90	5.50 - 10.30	Pass
STVE-1190	07/01/09	Zn-65	0.01 ± 0.26	0.00	0.00 - 0.10	Pass

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

			Concentration[b]			
Lab Code[c]	Date	Analysis	Laboratory result	Known Activity	Control Limits[d]	Acceptance
STW-1191	07/01/09	Gr. Alpha	0.88 ± 0.07	1.05	0.00 - 2.09	Pass
STW-1191	07/01/09	Gr. Beta	7.29 ± 0.10	7.53	3.77 - 11.30	Pass
STW-1192	07/01/09	Am-241	0.88 ± 0.08	1.04	0.73 - 1.35	Pass
STW-1192	07/01/09	Co-57	37.20 ± 1.50	36.60	25.60 - 47.60	Pass
STW-1192	07/01/09	Co-60	15.10 ± 0.90	15.40	10.80 - 20.00	Pass
STW-1192	07/01/09	Cs-134	30.30 ± 2.10	32.20	22.50 - 41.90	Pass
STW-1192	07/01/09	Cs-137	41.90 ± 1.80	41.20	28.80 - 53.60	Pass
STW-1192	07/01/09	Fe-55	54.50 ± 15.50	60.80	42.60 - 79.00	Pass
STW-1192	07/01/09	H-3	680.30 ± 33.60	634.10	443.90 - 824.30	Pass
STW-1192[e]	07/01/09	Mn-54	0.01 ± 0.26	0.00	0.00 - 1.00	Pass
STW-1192	07/01/09	Ni-63	38.70 ± 2.60	44.20	30.90 - 57.50	Pass
STW-1192	07/01/09	Pu-238	0.02 ± 0.01	0.02	0.00 - 0.05	Pass
STW-1192	07/01/09	Pu-239/40	1.70 ± 0.10	1.64	1.15 - 2.13	Pass
STW-1192	07/01/09	Sr-90	12.90 ± 1.70	12.99	9.09 - 16.89	Pass
STW-1192	07/01/09	Tc-99	7.60 ± 0.40	10.00	7.00 - 13.00	Pass
STW-1192	07/01/09	Tc-99	7.60 ± 0.40	10.00	7.00 - 13.00	Pass
STW-1192	07/01/09	U-233/4	2.90 ± 0.10	2.96	2.07 - 3.85	Pass
STW-1192	07/01/09	U-238	3.00 ± 0.10	3.03	2.12 - 3.94	Pass
STW-1192	07/01/09	Zn-65	28.50 ± 2.40	26.90	18.80 - 35.00	Pass

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

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

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

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

[e] Included in the testing series as a "false positive".

[f] No errors were found in procedure or calculation. There was not enough sample for a reanalysis. Americium-241 in water was included in the ERA studies (Tbl. A-7) and also in the second round of MAPEP testing. Both analysis results were acceptable.

[g] One determination was eliminated from the average, due to poor recovery. Average of three determinations, 0.25 ± 0.03 pCi/filter.

[h] No reason was determined for the initial high results. The analysis was repeated; result of reanalysis; 0.54 ± 0.12 Bq/filter.

[i] Incomplete separation of strontium from calcium could result in a higher recovery percentage and consequently lower reported activity. The analysis was repeated; result of reanalysis 363.3 ± 28.6 Bq/kg.

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-1176	03/23/09	Am-241	47.20 ± 3.10	55.4	32.4 - 76.0	Pass
STAP-1176	03/23/09	Co-60	543.60 ± 8.90	490.0	379.0 - 612.0	Pass
STAP-1176	03/23/09	Cs-134	941.30 ± 30.70	865.0	563.0 - 1070.0	Pass
STAP-1176	03/23/09	Cs-137	850.60 ± 19.40	724.0	544.0 - 951.0	Pass
STAP-1176 [e]	03/23/09	Mn-54	0.00 ± 0.00	0.0	0.0 - 0.0	Pass
STAP-1176	03/23/09	Pu-238	64.50 ± 3.60	57.4	39.4 - 75.5	Pass
STAP-1176	03/23/09	Pu-239/40	88.50 ± 4.20	78.2	56.7 - 101.0	Pass
STAP-1176	03/23/09	Sr-90	93.90 ± 10.00	95.3	41.9 - 148.0	Pass
STAP-1176	03/23/09	U-233/4	50.00 ± 2.47	53.5	33.7 - 79.3	Pass
STAP-1176	03/23/09	U-238	50.40 ± 2.48	53.1	34.0 - 75.4	Pass
STAP-1176	03/23/09	Uranium	101.60 ± 5.30	109.0	55.7 - 173.0	Pass
STAP-1176	03/23/09	Zn-65	237.30 ± 23.70	185.0	128.0 - 256.0	Pass
STAP-1177	03/23/09	Gr. Alpha	76.30 ± 3.47	63.8	33.1 - 96.0	Pass
STAP-1177	03/23/09	Gr. Beta	98.50 ± 3.04	80.7	49.7 - 118.0	Pass
STSO-1178	03/23/09	Ac-228	1370.00 ± 121.00	1330.0	860.0 - 1880.0	Pass
STSO-1178	03/23/09	Am-241	1853.00 ± 185.50	1660.0	992.0 - 2130.0	Pass
STSO-1178	03/23/09	Bi-212	1449.00 ± 308.80	1550.0	406.0 - 2310.0	Pass
STSO-1178	03/23/09	Bi-214	1355.00 ± 66.20	1420.0	872.0 - 2050.0	Pass
STSO-1178	03/23/09	Co-60	7475.00 ± 46.40	7520.0	5470.0 - 10100.0	Pass
STSO-1178	03/23/09	Cs-134	5073.00 ± 74.70	5170.0	3330.0 - 6220.0	Pass
STSO-1178	03/23/09	Cs-137	5040.00 ± 49.70	4970.0	3800.0 - 6460.0	Pass
STSO-1178	03/23/09	K-40	10884.00 ± 292.70	11200.0	8060.0 - 15100.0	Pass
STSO-1178	03/23/09	Mn-54	0.00 ± 0.00	0.0	0.0 - 20.0	Pass
STSO-1178	03/23/09	Pb-212	1259.00 ± 28.40	1260.0	820.0 - 1780.0	Pass
STSO-1178	03/23/09	Pb-214	1464.00 ± 56.80	1510.0	902.0 - 2260.0	Pass
STSO-1178	03/23/09	Pu-238	1853.00 ± 185.50	1590.0	910.0 - 2240.0	Pass
STSO-1178	03/23/09	Pu-239/40	1516.50 ± 168.30	1360.0	928.0 - 1800.0	Pass
STSO-1178	03/23/09	Sr-90	5270.90 ± 290.20	5750.0	2080.0 - 9380.0	Pass
STSO-1178	03/23/09	U-233/4	1452.30 ± 114.40	1600.0	1010.0 - 1990.0	Pass
STSO-1178	03/23/09	Uranium	3013.70 ± 131.10	3270.0	1860.0 - 4410.0	Pass
STSO-1178	03/23/09	Zn-65	2083.00 ± 59.00	1940.0	1540.0 - 2600.0	Pass

APPENDIX B

DATA REPORTING CONVENTIONS

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-1179	03/23/09	Am-241	2849.70 ± 237.60	3660.0	2090.0 - 5030.0	Pass
STVE-1179	03/23/09	Cm-244	808.00 ± 85.70	954.0	470.0 - 1480.0	Pass
STVE-1179	03/23/09	Co-60	1546.80 ± 31.60	1710.0	1160.0 - 2460.0	Pass
STVE-1179	03/23/09	Cs-134	1706.00 ± 59.20	1880.0	1080.0 - 2600.0	Pass
STVE-1179	03/23/09	Cs-137	1940.50 ± 44.80	1800.0	1320.0 - 2500.0	Pass
STVE-1179	03/23/09	K-40	30107.30 ± 598.00	30800.0	22300.0 - 43700.0	Pass
STVE-1179	03/23/09	Mn-54	0.00 ± 0.00	0.0	0.0 - 0.0	Pass
STVE-1179	03/23/09	Sr-90	6604.80 ± 440.10	8860.0	4950.0 - 11800.0	Pass
STVE-1179	03/23/09	U-233/4	1718.00 ± 128.90	2040.0	1400.0 - 2710.0	Pass
STVE-1179	03/23/09	U-238	1718.30 ± 128.80	2020.0	1420.0 - 2550.0	Pass
STVE-1179	03/23/09	Uranium	3499.40 ± 371.00	4150.0	2850.0 - 5360.0	Pass
STVE-1179	03/23/09	Zn-65	869.40 ± 63.60	878.0	634.0 - 1200.0	Pass
STW-1180	03/23/09	Am-241	127.50 ± 5.10	132.0	90.4 - 178.0	Pass
STW-1180	03/23/09	Co-60	1174.10 ± 11.70	1230.0	1070.0 - 1450.0	Pass
STW-1180	03/23/09	Cs-134	742.20 ± 18.30	790.0	584.0 - 907.0	Pass
STW-1180	03/23/09	Cs-137	887.50 ± 14.00	913.0	776.0 - 1090.0	Pass
STW-1180	03/23/09	Fe-55	323.00 ± 362.00	492.0	286.0 - 657.0	Pass
STW-1180	03/23/09	Mn-54	0.00 ± 0.00	0.0	0.0 - 0.0	Pass
STW-1180	03/23/09	Pu-238	96.60 ± 2.20	108.0	81.7 - 134.0	Pass
STW-1180	03/23/09	Pu-239/40	89.50 ± 2.10	86.3	66.8 - 107.0	Pass
STW-1180	03/23/09	Sr-90	763.20 ± 12.90	834.0	530.0 - 1120.0	Pass
STW-1180	03/23/09	U-233/4	95.00 ± 1.80	96.6	72.8 - 124.0	Pass
STW-1180	03/23/09	U-238	97.40 ± 1.80	95.8	73.2 - 119.0	Pass
STW-1180	03/23/09	Uranium	195.50 ± 3.70	197.0	142.0 - 262.0	Pass
STW-1180	03/23/09	Zn-65	653.10 ± 24.10	631.0	535.0 - 786.0	Pass

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

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

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

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

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

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

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.

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APPENDIX D

RADIOLOGICAL ENVIRONMENTAL MONITORING MANUAL (REMM)

KEWAUNEE

POWER STATION

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Kewaunee Power Station

Radiological Environmental Monitoring Manual (REMM)

Revision 15
05/13/2009

Reviewed by:	Michael J. Wilson Facility Safety Review Committee	Date:	05/13/2009
Approved by:	James M. Hale Manager, Radiological Protection and Chemistry	Date:	04/20/2009
Approved by:	Thomas L. Breene Manager, Regulatory Affairs	Date:	04/23/2009

Table of Contents

Tables & Figures

1.0 Introduction

1.1 Purpose

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

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

1.2 Scope

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

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

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

1.3 Implementation

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

The REMP is setup to be implemented by a vendor and controlled by KPS in accordance with Nuclear Administrative Directive NAD-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.

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

3.1 Sampling Requirements

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

3.2 Analysis Methodology

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

Updated copies will be maintained in KPS's vault.

3.3 Detection Capability (LLD) Requirements

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

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

3.4 Contracted Vendor Reporting Requirements

Monthly Progress Reports

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

Annual Reports

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

Non-Routine Reports

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

Action Limits

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

3.5 Quality Control Program

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

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

3.6 Sample Descriptions

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

Airborne Particulates

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

Airborne Iodine

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

Periphyton (Slime) or Aquatic Vegetation

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

Fish

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

Domestic Meat

Domestic meat (chickens) may be collected once a year during the 3rd quarter, from 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-1l 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-28), 26 miles from the reactor site.

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

If milk samples are not available, green leafy vegetables will be collected on a monthly basis (when available) from Locations K-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-28**	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-28			MI[c]				
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			

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-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	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

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

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

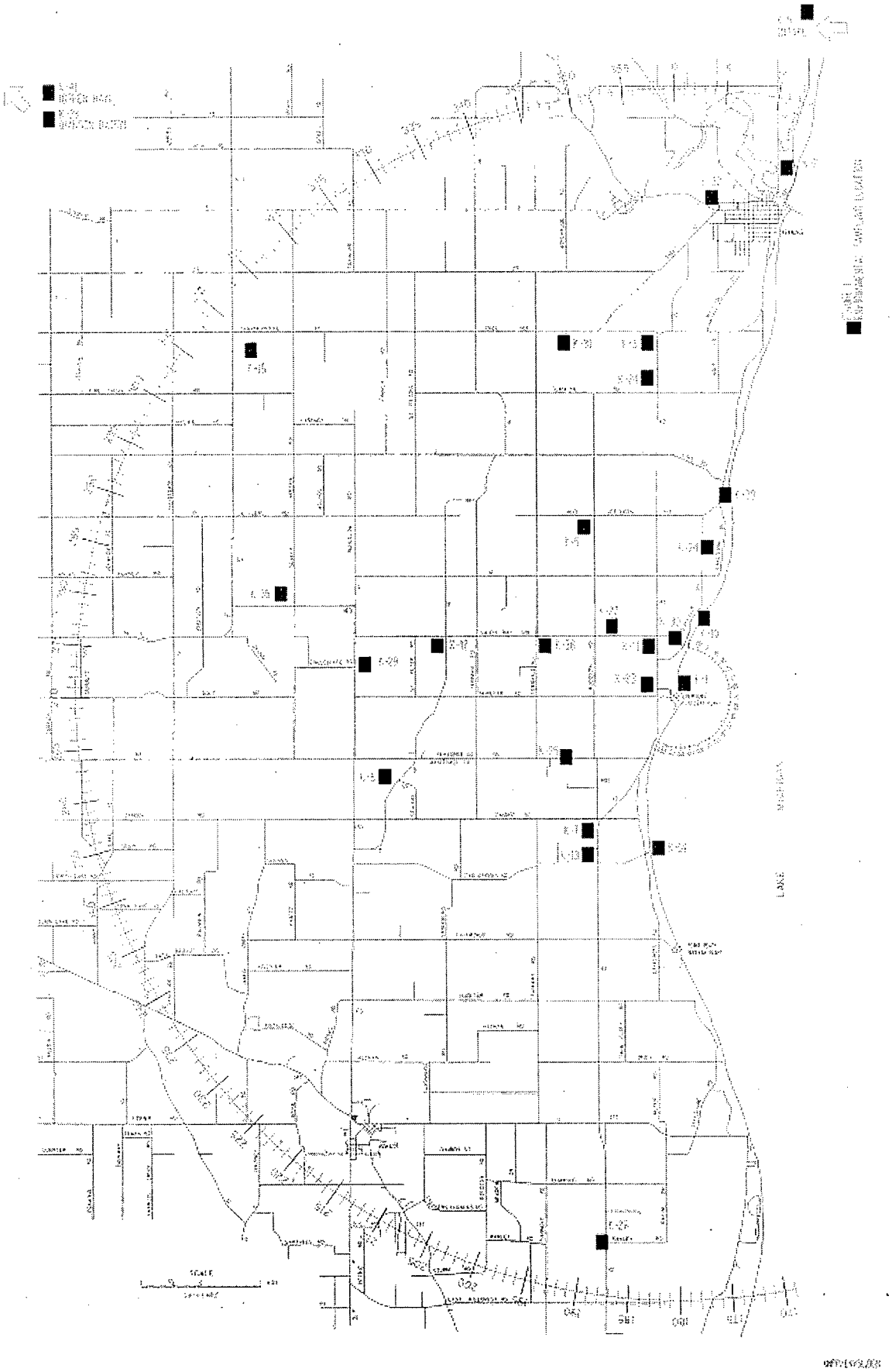

FIGURE 2

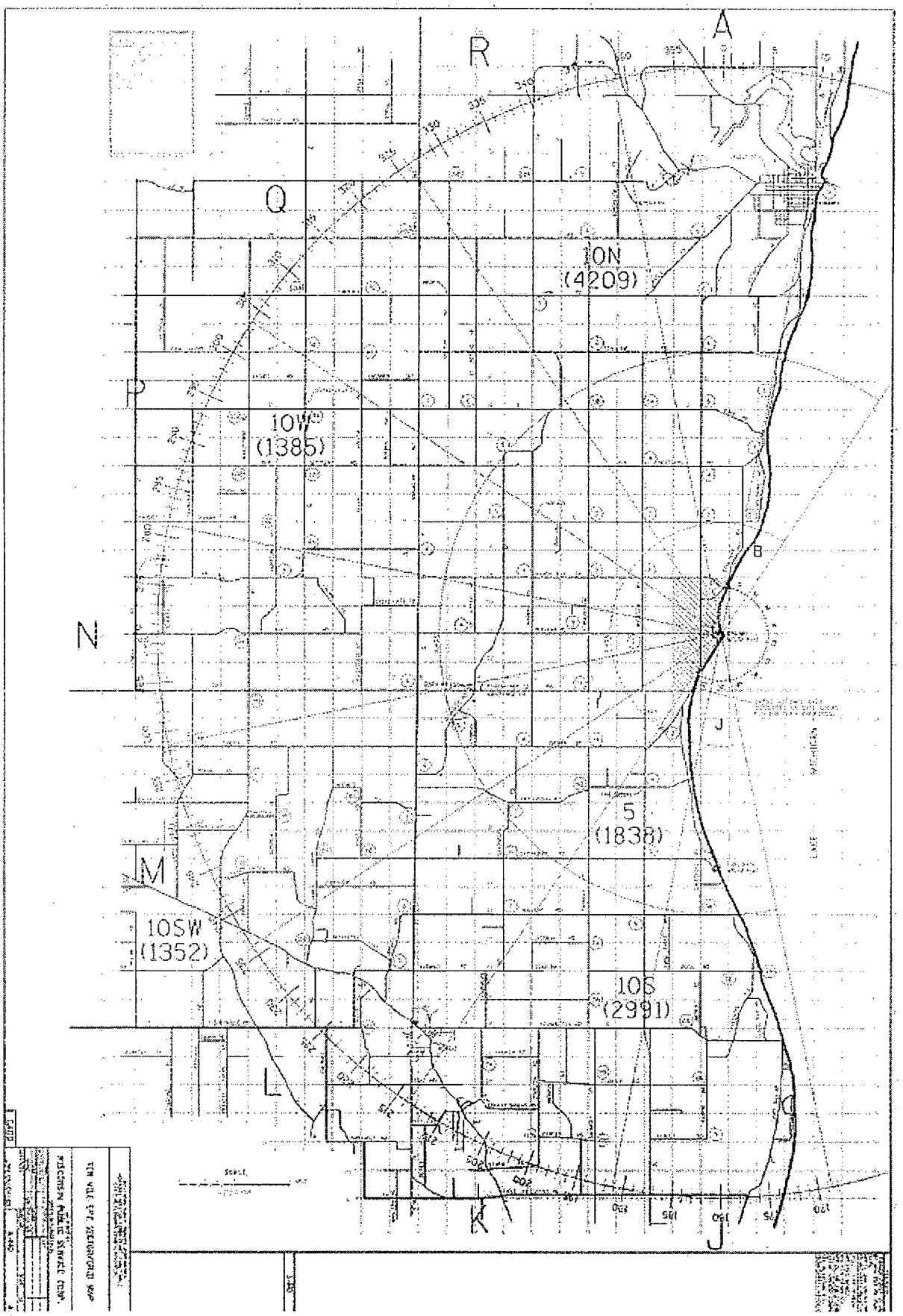

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FIGURE 3

NOTES:

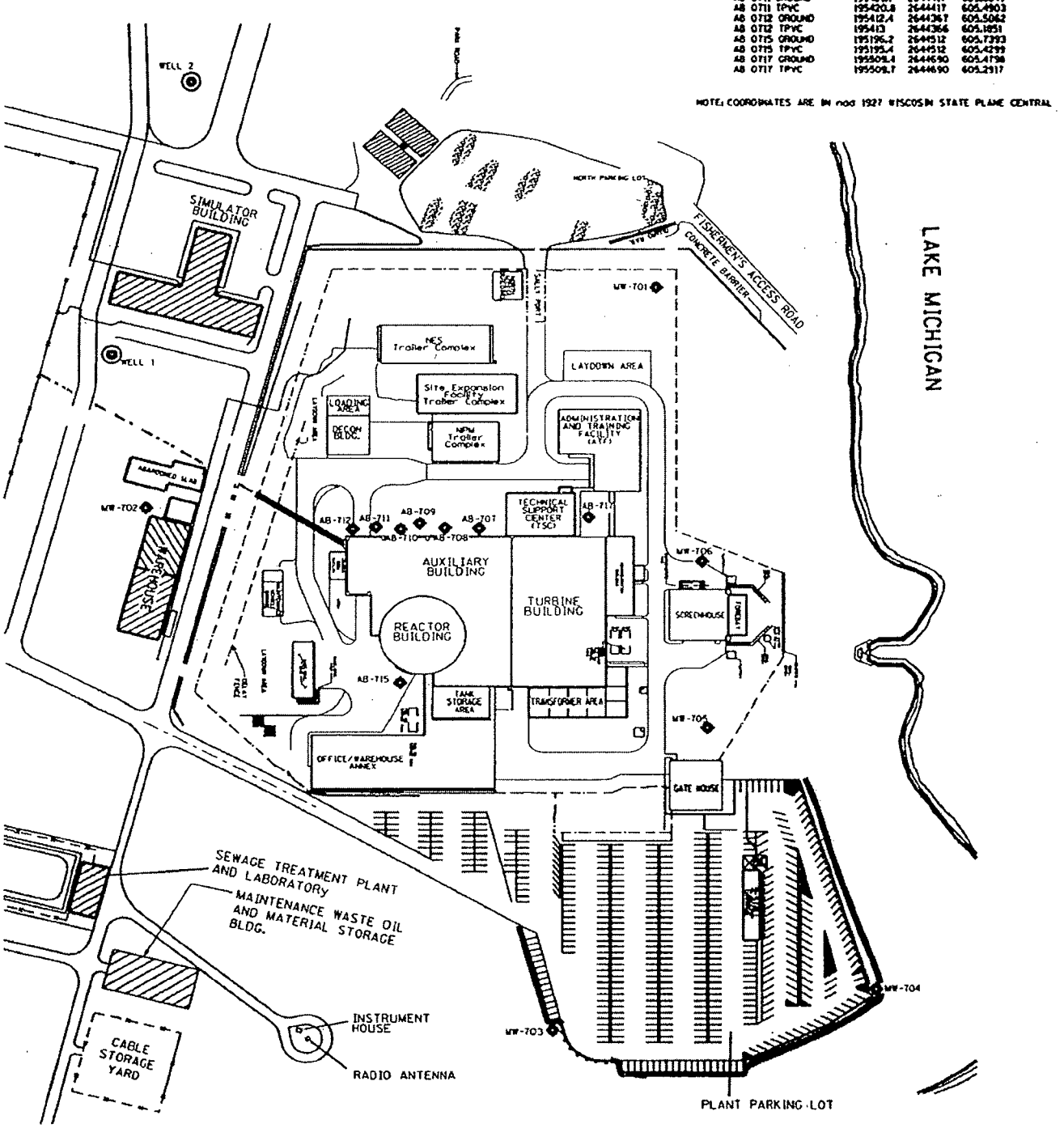
1. LOCATIONS OF MONITORING WELLS SURVEYED BY STS ON JUNE 21, 2007.
2. LOCATIONS OF WATER SUPPLY WELLS ARE ESTIMATED.

LOCATION	NORTHING	EASTING	ELEVATION
MW-0701 GROUND	195059.5	2644681	609.828
MW-0701 TPVC	195059	2644681	609.622
MW-0702 GROUND	195372.1	2644096	607.897
MW-0702 TPVC	195371.5	2644097	607.386
MW-0703 TPVC	194762.3	2644838	602.685
MW-0703 GROUND	194761.4	2644838	603.112
MW-0704 GROUND	194938.2	2645268	606.916
MW-0704 TPVC	194938.7	2645268	606.502
MW-0705 TPVC	195264.4	2644927	604.912
MW-0705 GROUND	195264.4	2644927	605.339
MW-0706 GROUND	195491.2	2644865	606.402
MW-0706 TPVC	195491.2	2644865	605.997
AB 0707 GROUND	195461	2644563	606.0953
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	605.8593
AB 0710 GROUND	195429.7	2644450	606.1495
AB 0710 TPVC	195429.2	2644450	605.8672
AB 0711 GROUND	195421.1	2644417	605.8849
AB 0711 TPVC	195420.8	2644417	605.4903
AB 0712 GROUND	195412.4	2644367	606.5062
AB 0712 TPVC	195413	2644366	605.1851
AB 0715 GROUND	195196.2	2644512	606.7393
AB 0715 TPVC	195195.4	2644512	605.4299
AB 0717 GROUND	195509.4	2644690	605.4198
AB 0717 TPVC	195508.7	2644690	605.2917

NOTE: COORDINATES ARE IN mod 1927 WISCOSIN STATE PLANE CENTRAL

LEGEND:

- 8' HIGH FENCE
- SUPPLY WELL
- MONITORING WELL



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Kewaunee Power Station

Radiological Environmental Monitoring Manual (REMM)

Revision 14

03/11/2009

Reviewed by: Michael J. Wilson — Date: 03/11/2009
Facility Safety Review Committee

Approved by: James M. Hale — Date: 03/02/2009
Manager, Radiological Protection and Chemistry

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Manager, Regulatory Affairs

Table of Contents

Tables & Figures

1.0 Introduction

1.1 Purpose

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

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

1.2 Scope

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

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

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

1.3 Implementation

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

The REMP is setup to be implemented by a vendor and controlled by KPS in accordance with Nuclear Administrative Directive NAD-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.

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

BASIS

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

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

Discussion

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

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

REMM 2.2.3/2.3.3 Interlaboratory Comparison Program

SPECIFICATION

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

APPLICABILITY

At all times.

ACTION

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

SURVEILLANCE REQUIREMENT

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

BASIS

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

Discussion

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

REMM 2.4.1 Reporting Requirements

2.4.1 The Annual Radiological Environmental Monitoring Report shall include:

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

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

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

Discussion

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

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

3.0 REMP Implementation

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

3.1 Sampling Requirements

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

3.2 Analysis Methodology

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

Updated copies will be maintained in KPS's vault.

3.3 Detection Capability (LLD) Requirements

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

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

3.4 Contracted Vendor Reporting Requirements

Monthly Progress Reports

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

Annual Reports

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

Non-Routine Reports

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

Action Limits

The CV will report any radioactive concentrations found in the environmental samples which exceed the reporting levels shown in Table 2.2.Y-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 forteen locations, six of which are air sampling locations (K-1f, K-2, K-7, K-8, K-31, and K-41) and four of which are milk sampling locations (K-3, K-5, K-25, and K-39); the remaining four locations are K -15, K-17, K-27, and K-30. One packet is changed quarterly and one annually. Annual TLDs will serve as an emergency set to be read when needed. They will be exchanged annually (without reading) if not read during the year. To insure the precision of the measurement, each packet will contain two cards with four dosimeters each (four sensitive areas each for a total of eight). For protection against moisture each set of cards is sealed in a plastic bag and placed in a plastic container.

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

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

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

Well Water

One gallon water samples are taken once every three months from four off-site wells, (K-10, K-11, K-13, and K-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-28), 26 miles from the reactor site.

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

If milk samples are not available, green leafy vegetables will be collected on a monthly basis (when available) from Locations K-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]	5 Inner Ring locations	**K-5, K-25, K-27, K-7, K-1F, K-30**	See Table 2.2.1-B	Gamma dose
	6 Outer Ring locations	**K-2, K-3, K-15, K-17, K-8, K-31, K-39**		
	1 Control location	**K-41**		
	1 Population center	**K-7**		
	1 Special interest location	**K-8**		
	1 Nearby resident	**K-27**		
2. Airborne Radioiodine and Particulates	3 samples close to the site boundary in highest average X/Q	**K-1f, K-2, K-7, K-8, K-31**	See Table 2.2.1-B Continuous sampler operation Iodine, charcoal	Iodine (I-131) by Gamma Isotopic[f]
	1 sample from the closest community having the highest X/Q	**K-7**	Particulates See Table 2.2.1-B	Particulates; gross beta analysis[e] Gamma isotopic of composite (by location) [f]
	1 sample from a control location	**K-41**[d]	See Table 2.2.1-B	
3. Waterborne a. Surface[g]	1 Upstream sample 1 Downstream sample	**K-1a, K-9[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, Gross Alpha, 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-28**	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-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			
K-28			MI[c]				
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]

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

a. Three times a year, second (April, May, June), third (July, August, September), and fourth (October, November, December) quarters
b. To be collected in May and November
c. Monthly from November through April; semimonthly from May through October
d. First (January, February, March) quarter only
e. Alternate if milk is not available
f. Second and third quarters
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-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
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-28	C	26 NW	Hansen Dairy, 1742 University Ave., Green Bay, Wisconsin

Table 2.2.1-C *Sampling Locations, Kewaunee Power Station*			
Code	**Type[a]**	**Distance (Miles)[b] and Sector**	**Location**
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

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

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

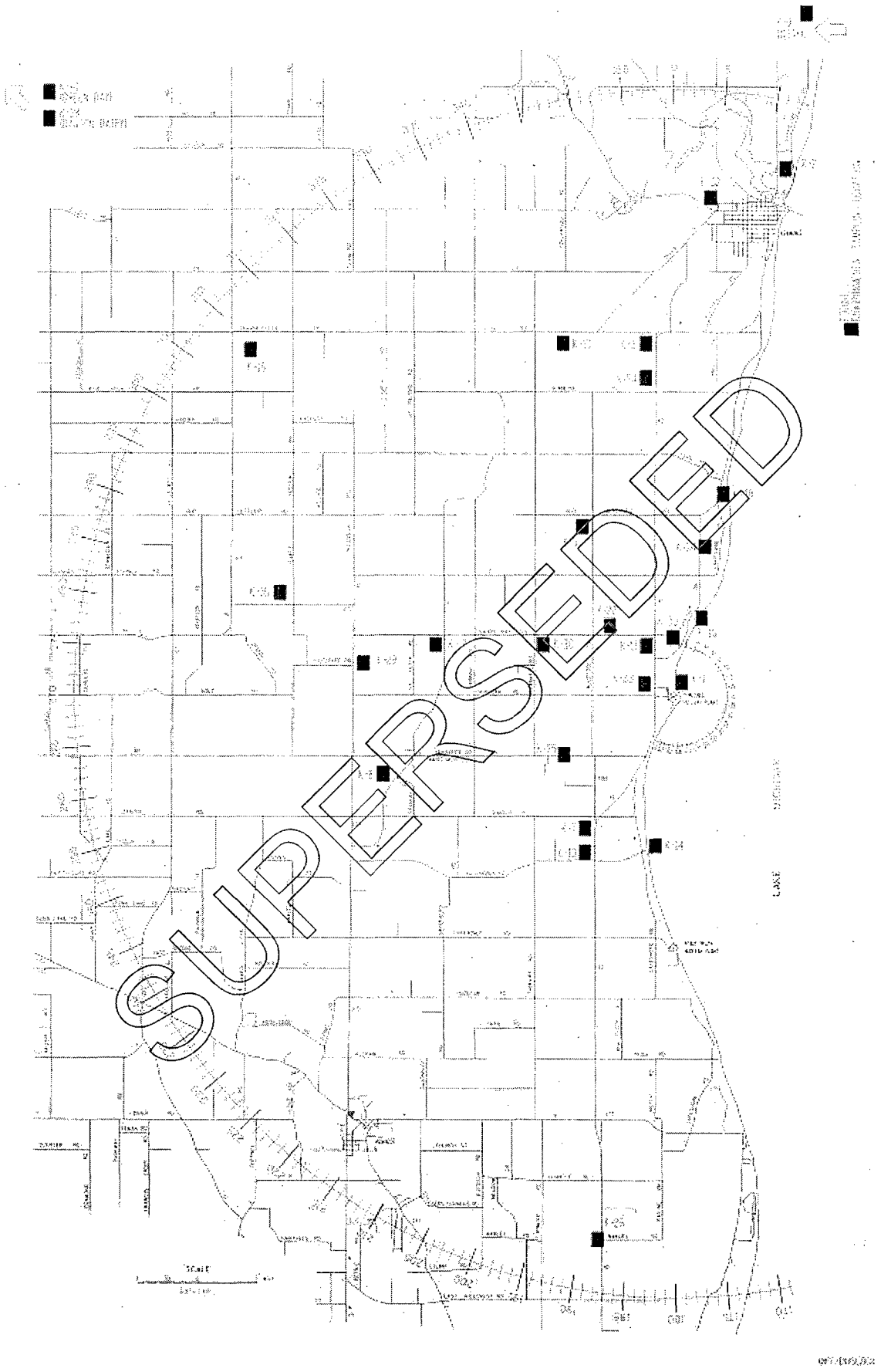


FIGURE 2

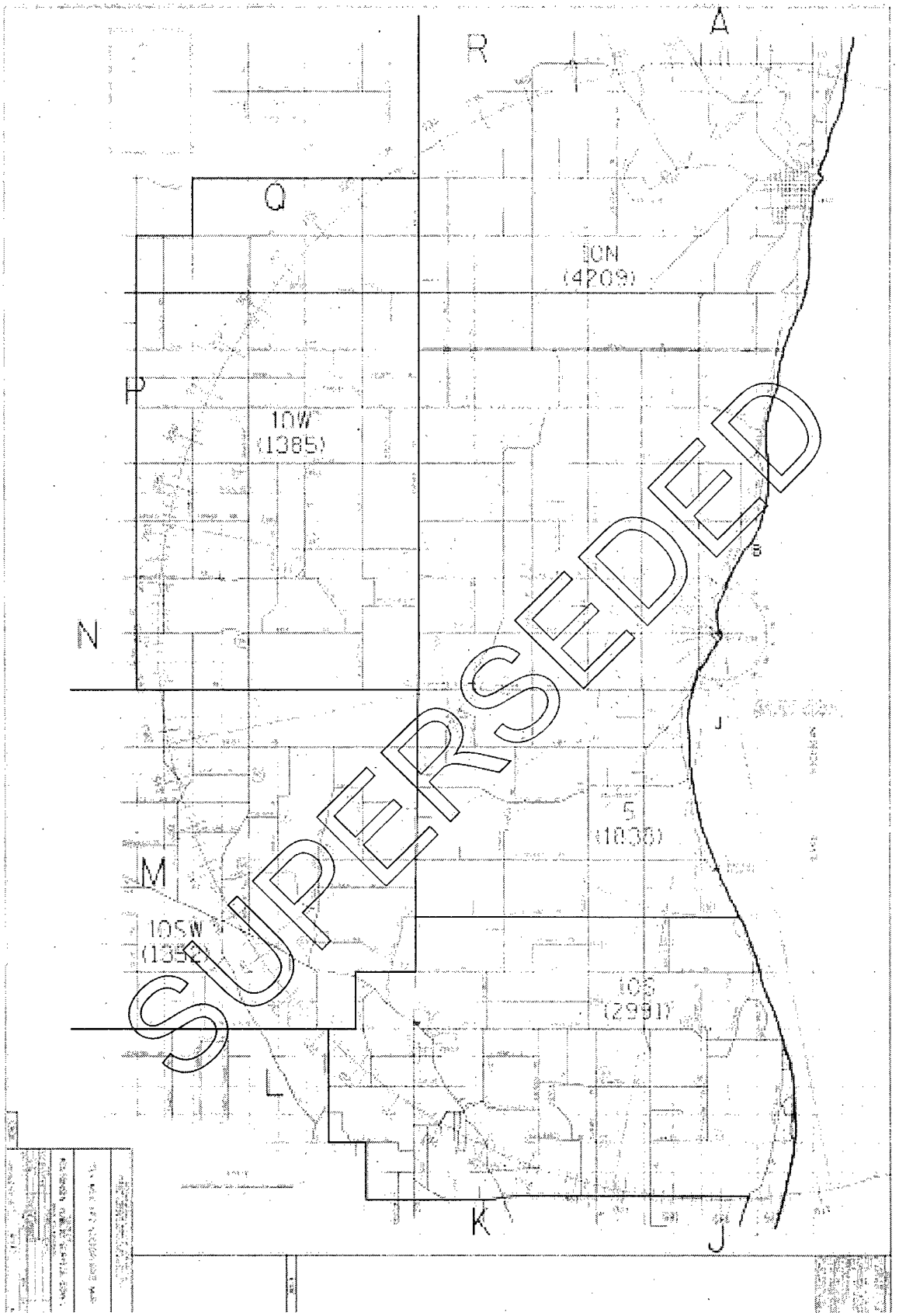


FIGURE 3

NOTES:

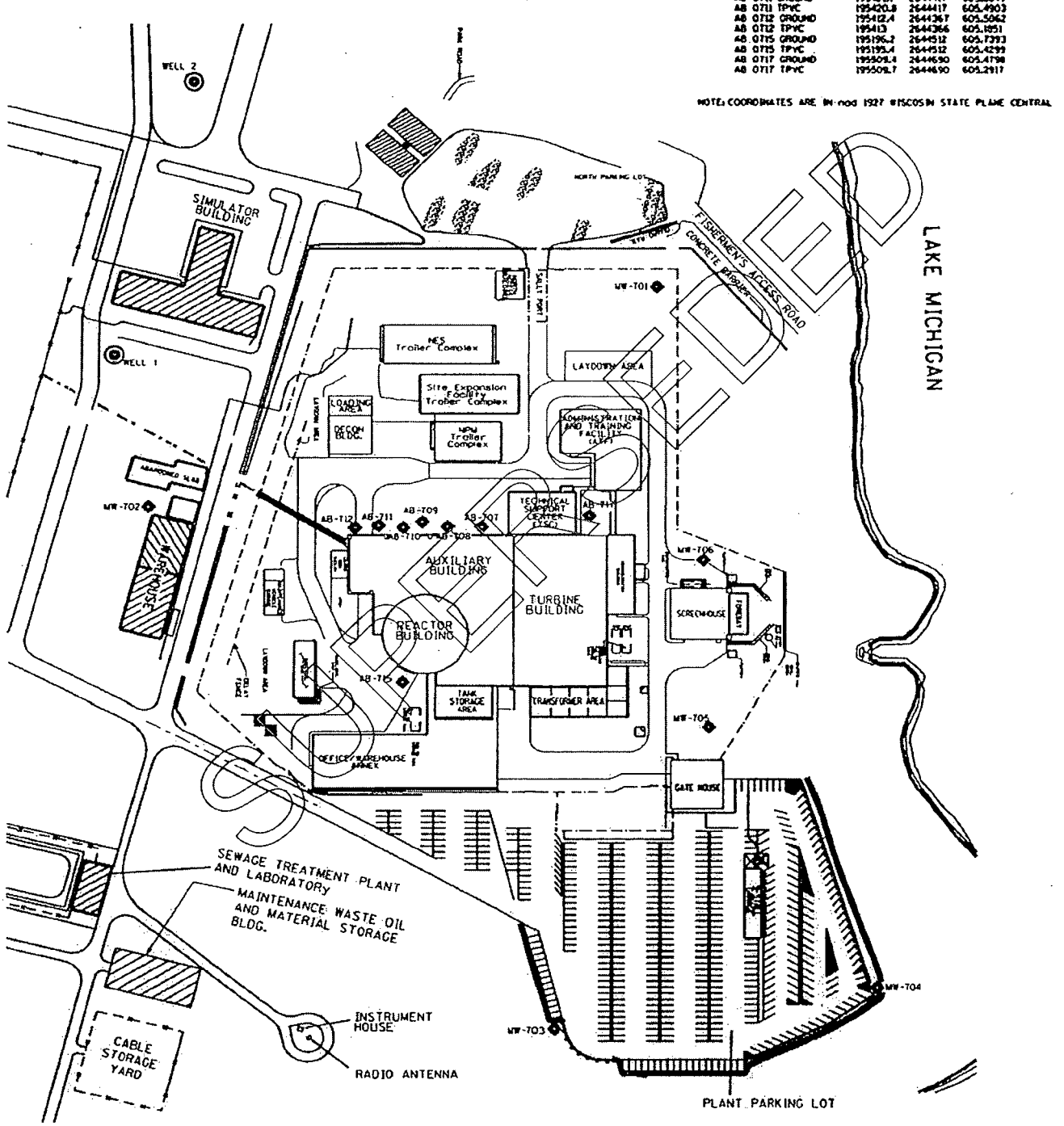
1. LOCATIONS OF MONITORING WELLS SURVEYED BY STS ON JUNE 21, 2007.
2. LOCATIONS OF WATER SUPPLY WELLS ARE ESTIMATED.

LOCATION	NORTHING	EASTING	ELEVATION
MW-0701 GROUND	1950958.5	2644681	605.828
MW-0701 TPVC	1950958	2644681	605.622
MW-0702 GROUND	1953372.1	2644096	607.897
MW-0702 TPVC	1953371.5	2644097	607.386
MW-0703 TPVC	1947762.3	2644838	602.685
MW-0703 GROUND	1947761.4	2644838	603.112
MW-0704 GROUND	1949338.2	2645268	608.918
MW-0704 TPVC	1949338.7	2645268	608.502
MW-0705 TPVC	1952644.4	2644927	604.912
MW-0705 GROUND	1952644.4	2644927	605.339
MW-0706 GROUND	1954911.2	2644865	606.402
MW-0706 TPVC	1954911.2	2644865	605.987
AB 0707 GROUND	1954611	2644563	606.0052
AB 0707 TPVC	1954604.4	2644563	605.6723
AB 0708 GROUND	1954581.3	2644530	606.0615
AB 0708 TPVC	1954591	2644529	605.5165
AB 0709 GROUND	1954548.3	2644493	606.1195
AB 0709 TPVC	1954548	2644493	605.8593
AB 0710 GROUND	1954528.7	2644450	606.1495
AB 0710 TPVC	1954529.3	2644450	605.8672
AB 0711 GROUND	1954511	2644417	605.8849
AB 0711 TPVC	1954510.8	2644417	605.4903
AB 0712 GROUND	1954512.4	2644367	605.5062
AB 0712 TPVC	1954513	2644366	605.1951
AB 0715 GROUND	1951196.2	2644512	605.7393
AB 0715 TPVC	1951195.4	2644512	605.4299
AB 0717 GROUND	1955098.4	2644690	605.4798
AB 0717 TPVC	1955098.7	2644690	605.2917

NOTE: COORDINATES ARE IN nad 1927 WISCONSIN STATE PLANE CENTRAL

LEGEND:

- 8' HIGH FENCE
- SUPPLY WELL
- MONITORING WELL



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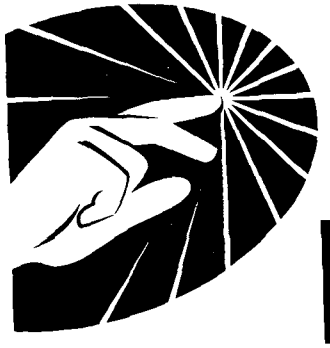

Dominion®

2009 Annual Environmental Monitoring Report

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

Dominion Energy Kewaunee, Inc.

Environmental, Inc.
Midwest Laboratory
an Allegheny Technologies Co.

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ph. (847) 564-0700 • fax (847) 564-4517

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, 2009

Prepared and submitted by

ENVIRONMENTAL, Inc.
Midwest Laboratory
Project No. 8002

Approved :

Bronia Grob
Laboratory Manager

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

PREFACE

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

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LIST OF TABLES

1.0 INTRODUCTION

The following constitutes Part II of the final report for the 2009 Radiological Monitoring Program conducted at the Kewaunee Power Station (KPS), Kewaunee, Wisconsin.

Included are tabulations of data for all samples collected in 2009 along with graphs of data trends. A summary and interpretation of the data presented here are published in Part I of the 2009 Annual Report on the Radiological Monitoring Program for the Kewaunee Power Station.

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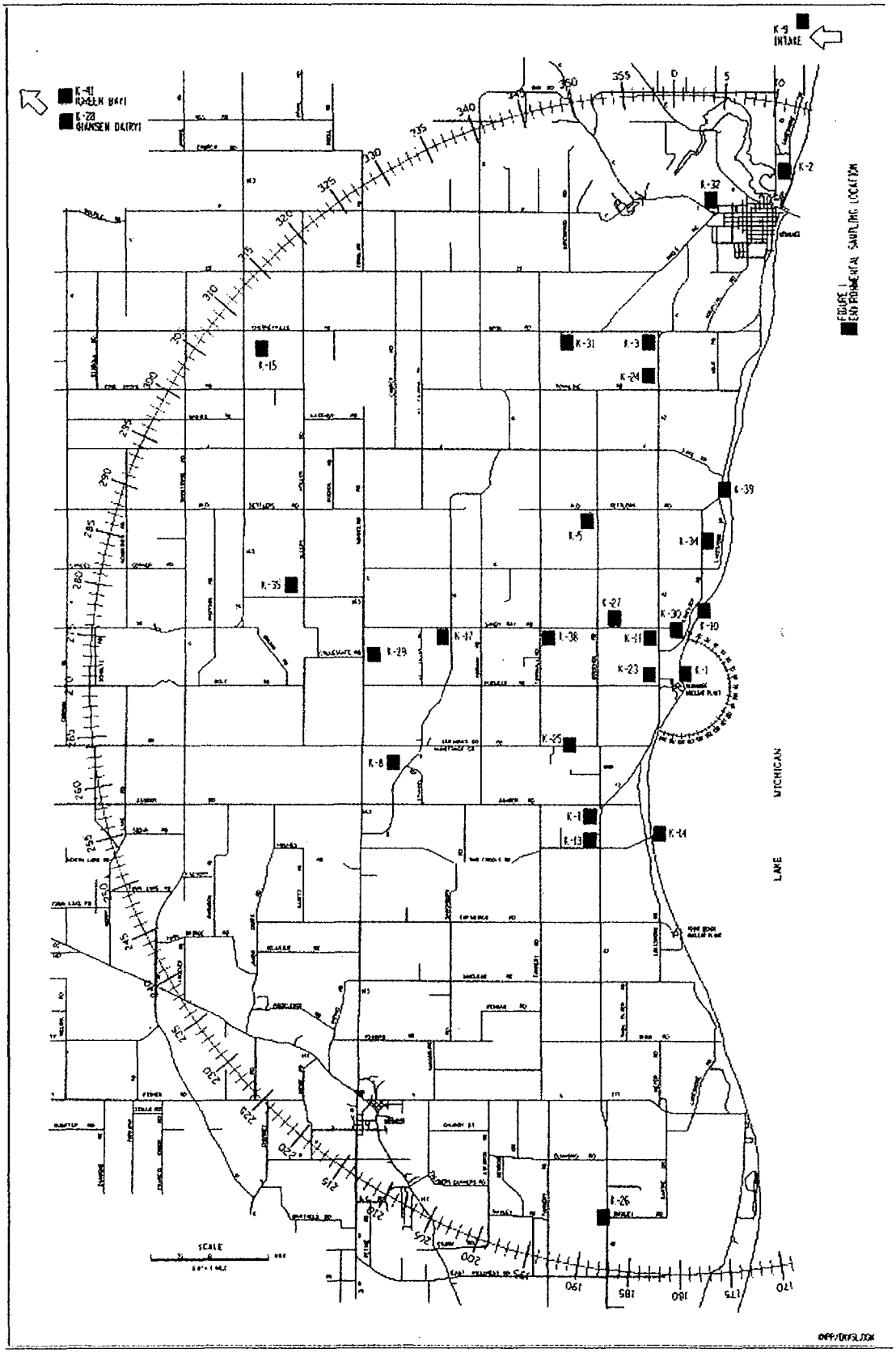

Figure 1. Sampling locations, Kewaunee Power Station

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-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-20	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	0.6 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

[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				WW		
K-11			PR	WW		
K-13				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		

[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.

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

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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KEWAUNEE

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

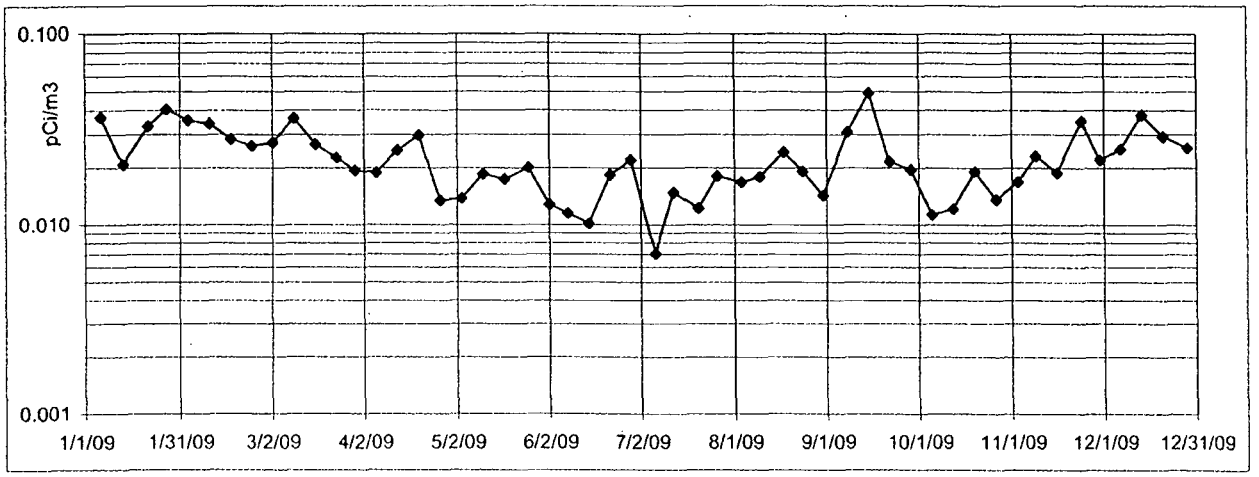

Figure 2. Location K-1f (weekly samples, 2009).

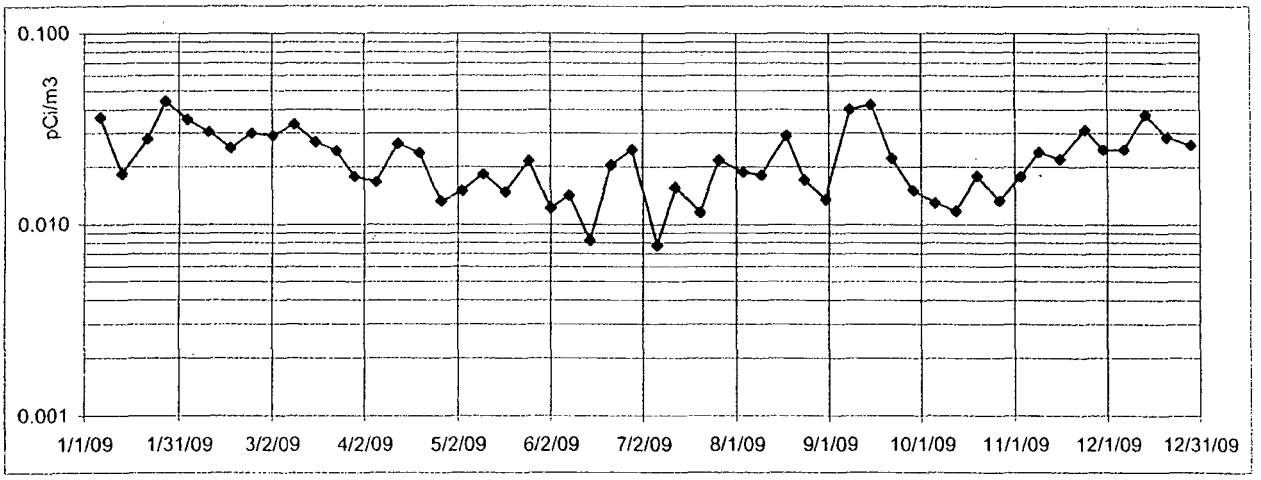

Figure 3. Location K-2 (weekly samples, 2009).

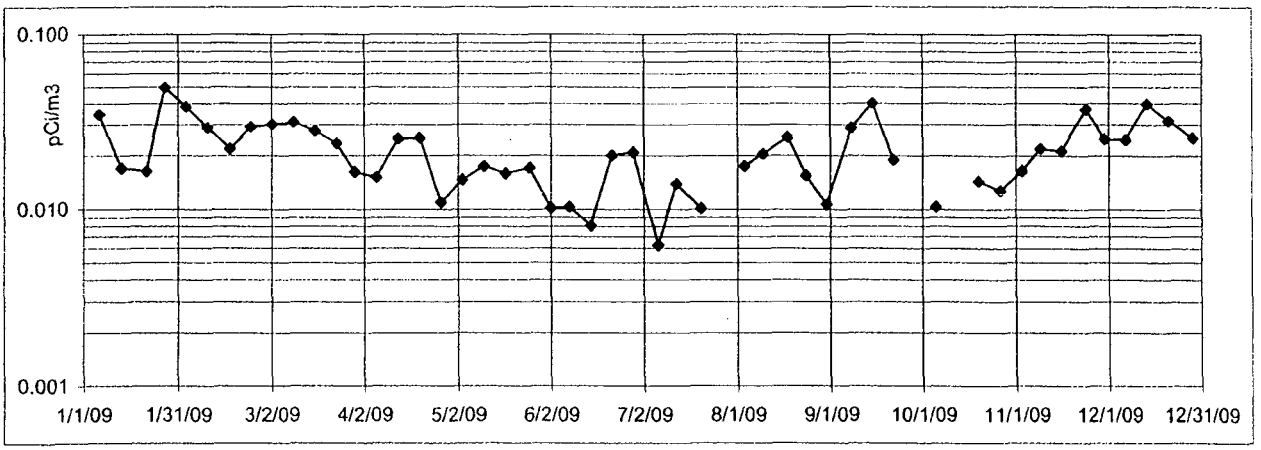

Figure 4. Location K-7 (weekly samples, 2009).

Kewaunee

Air Particulates - Gross Beta

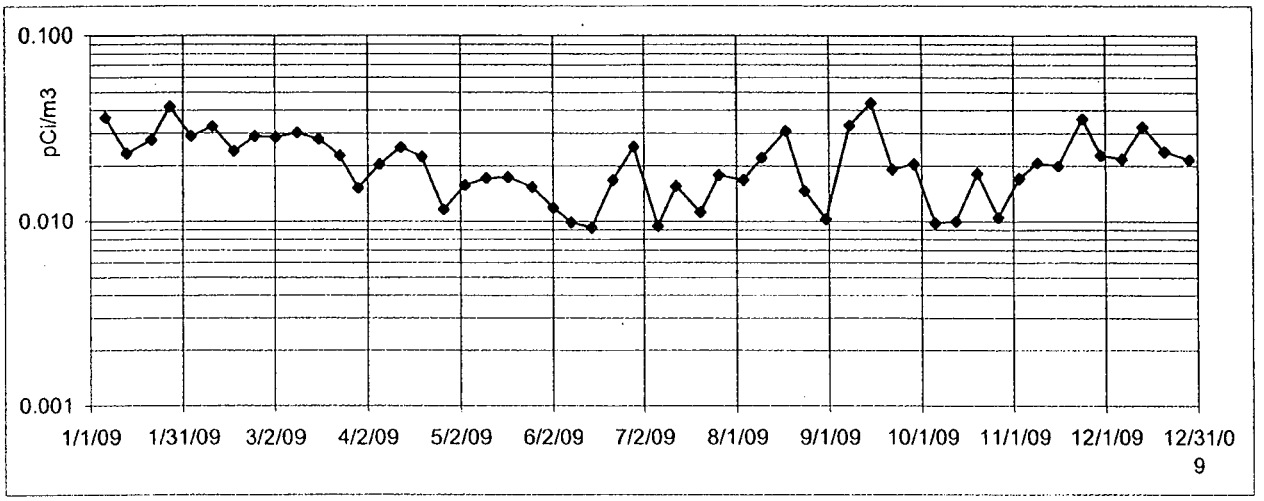

Figure 5. Location K-8 (weekly samples, 2009).

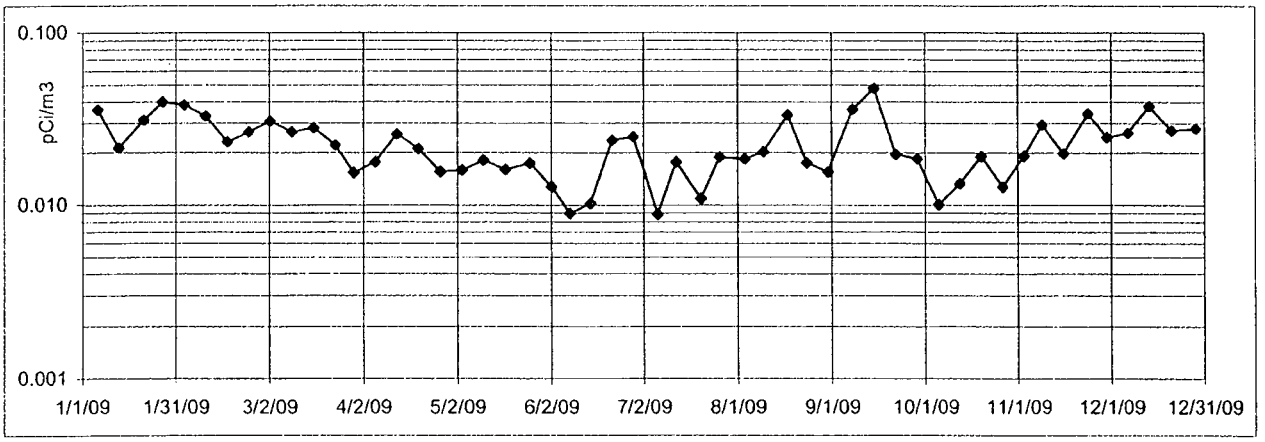

Figure 6. Location K-31 (weekly samples, 2009).

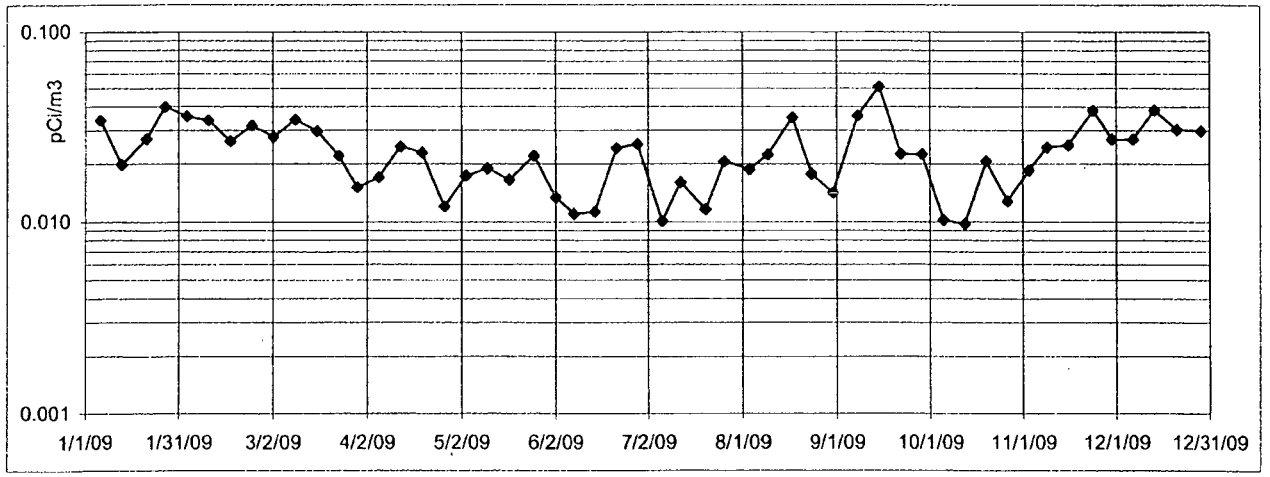

Figure 7. Location K-41 (weekly samples, 2009).

Kewaunee Power Station
Air Particulates - Gross Beta

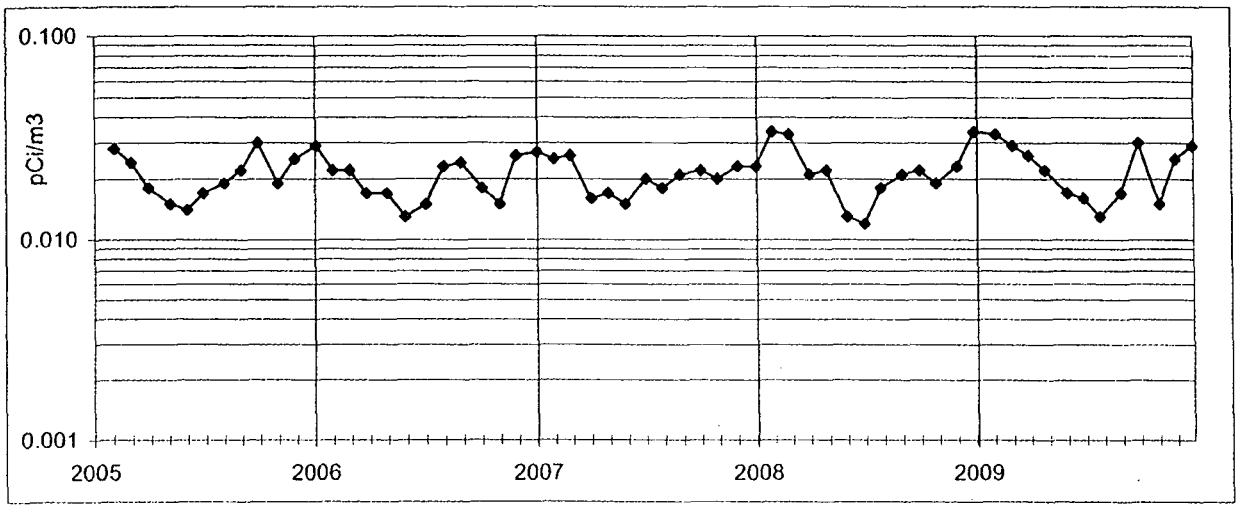

Figure 8. Location K-1f (monthly averages, 2005-2009).

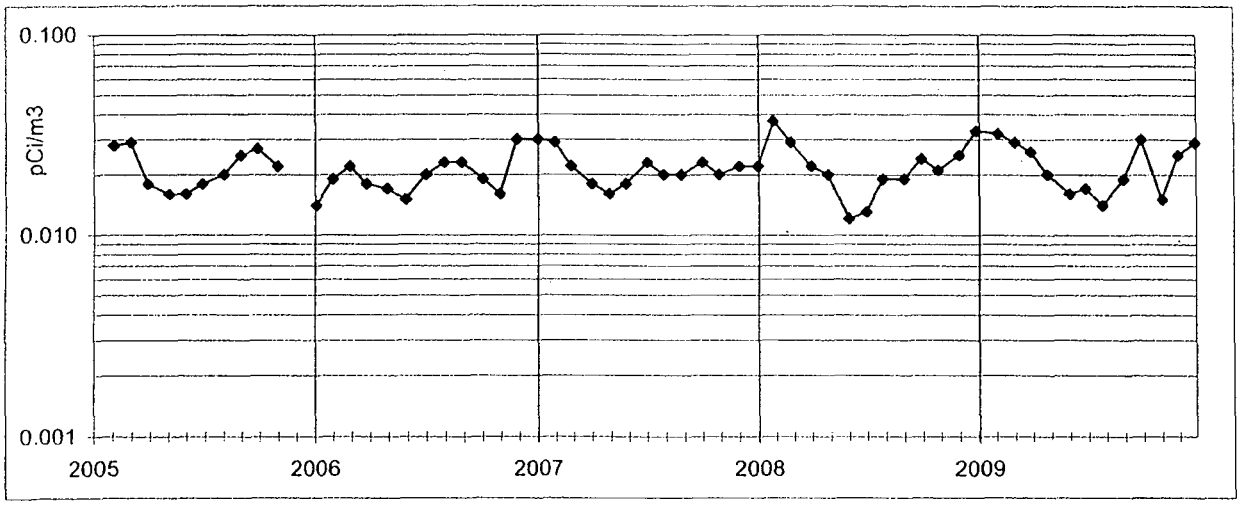

Figure 9. Location K-2 (monthly averages, 2005-2009).

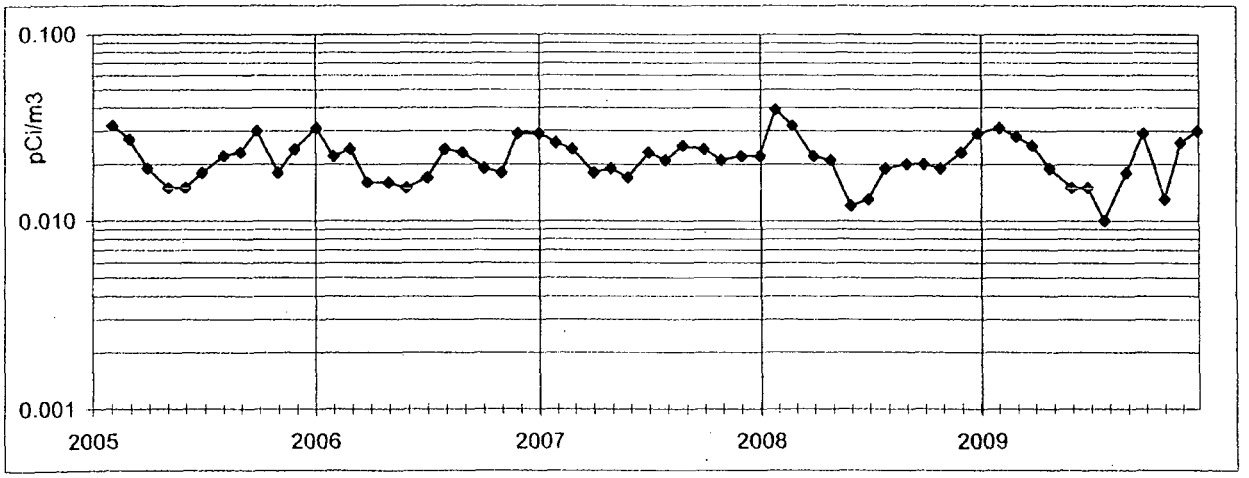

Figure 10. Location K-7 (monthly averages, 2005-2009).

Kewaunee Power Station
Air Particulates - Gross Beta

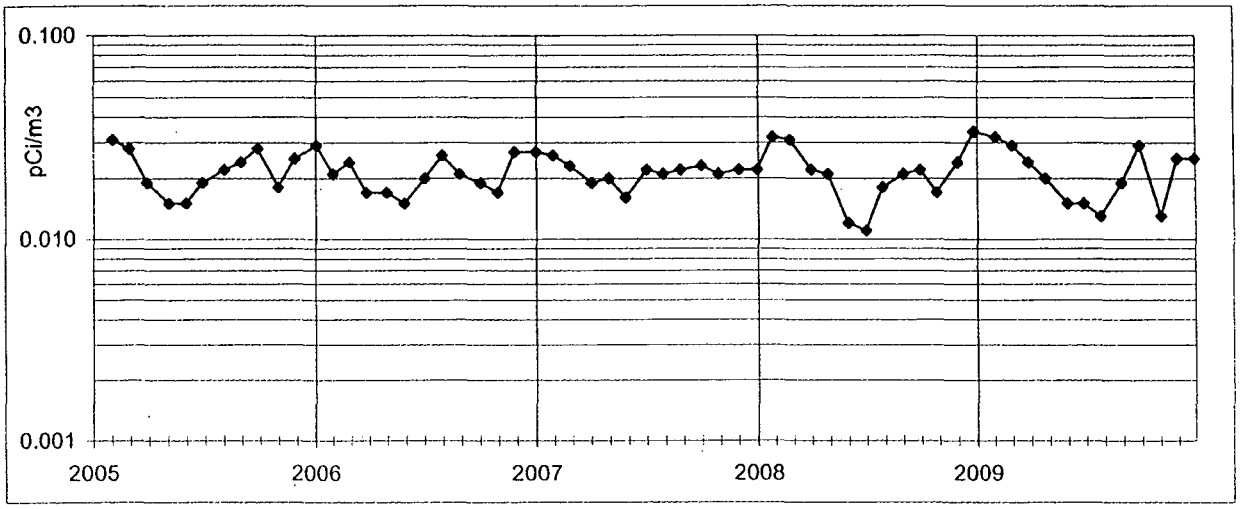

Figure 11. Location K-8 (monthly averages, 2005-2009).

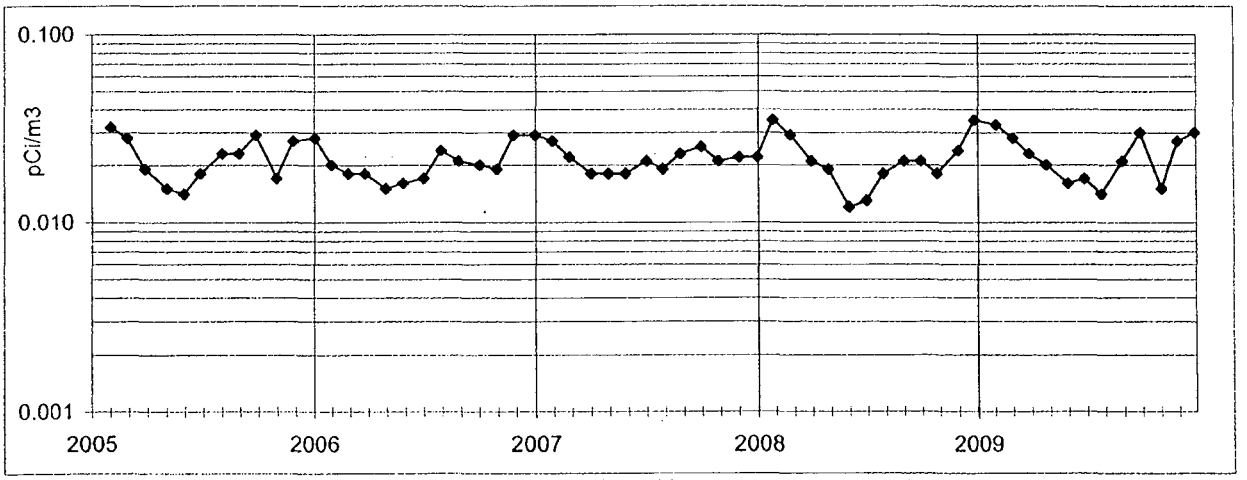

Figure 12. Location K-31 (monthly averages, 2005-2009).

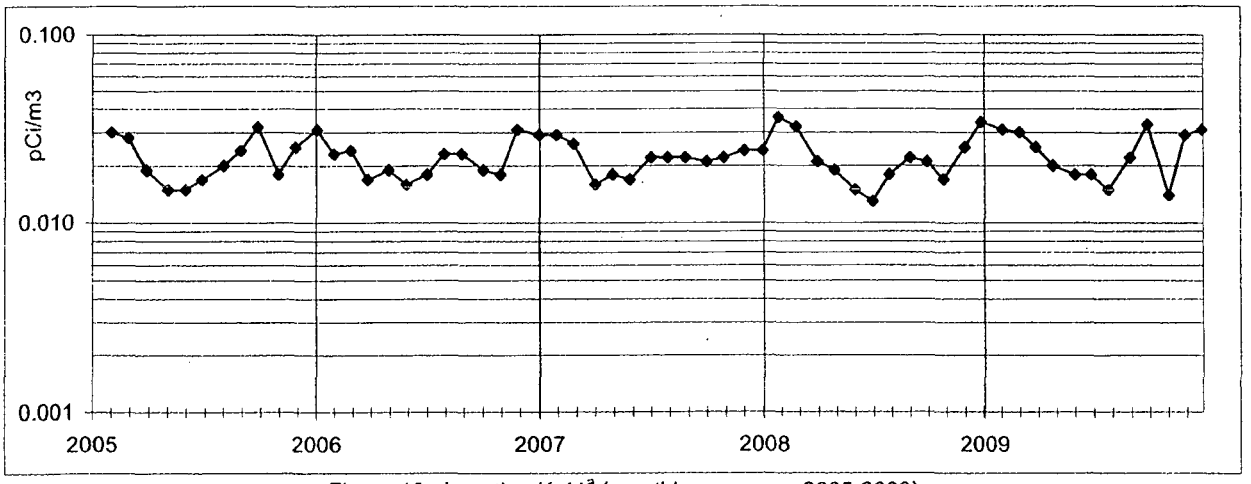

Figure 13. Location K-41[a] (monthly averages, 2005-2009).

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

Kewaunee

WELL WATER-GROSS ALPHA

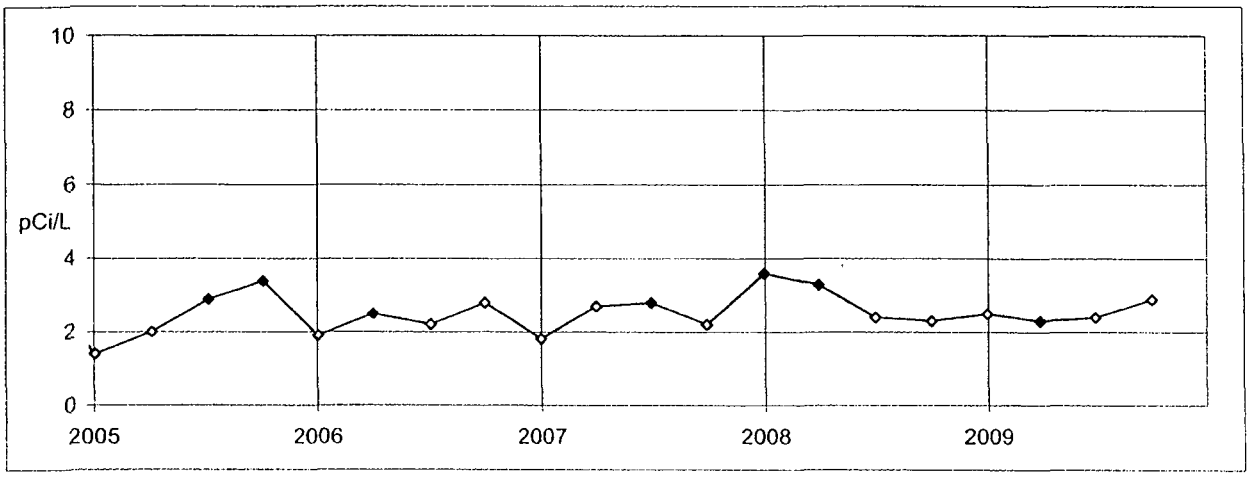

Figure 14. Location K-1g. Total Residue. Quarterly collection.

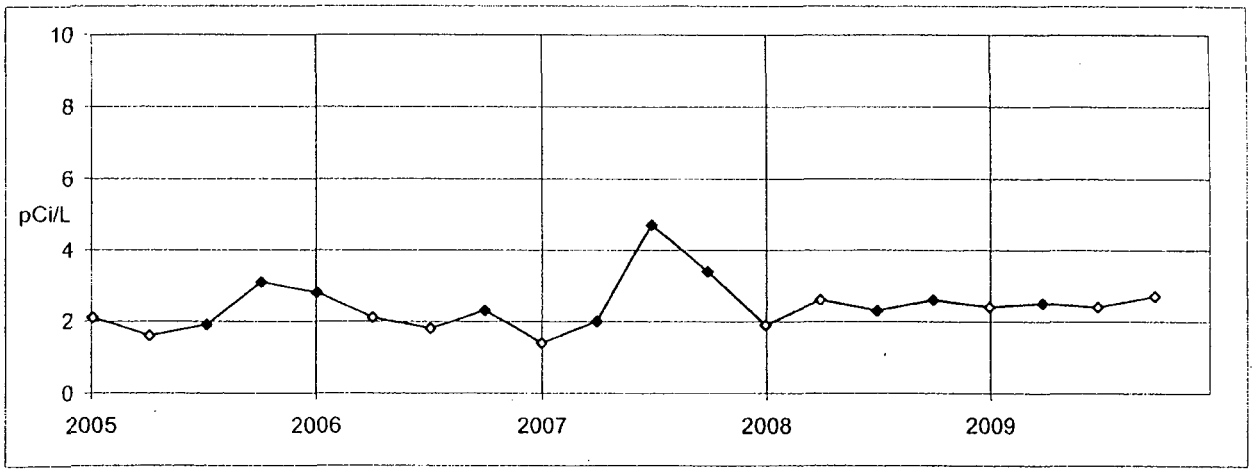

Figure 15. Location K-1h. Total Residue. Quarterly collection.

Kewaunee Power Station
WELL WATER-GROSS BETA

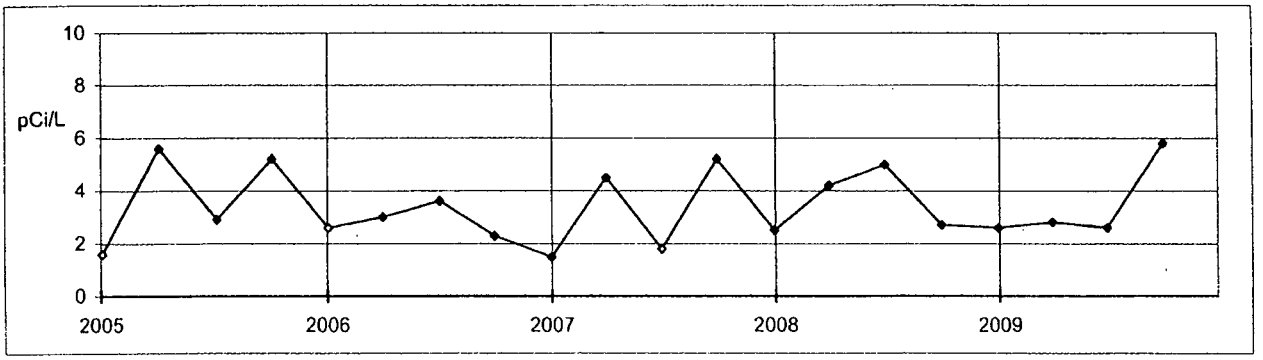

Figure 16. Location K-1g. Total Residue. Quarterly collection.

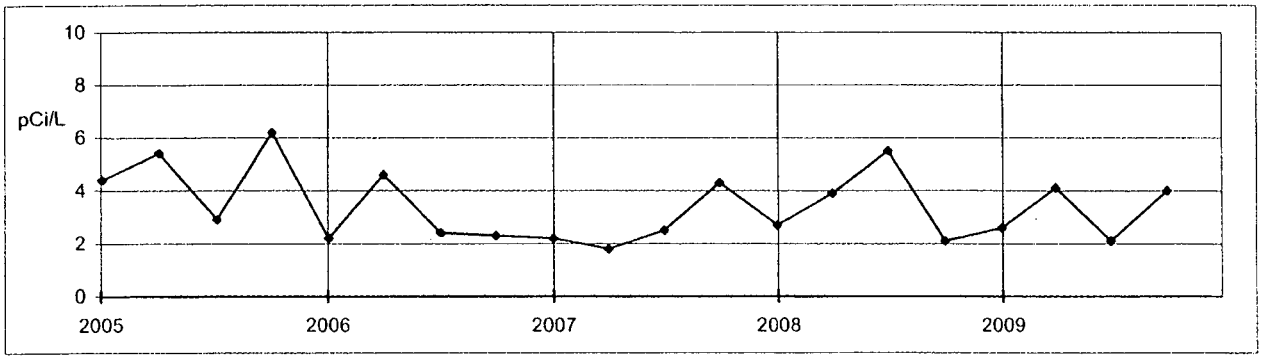

Figure 17. Location K-1h. Total Residue. Quarterly collection.

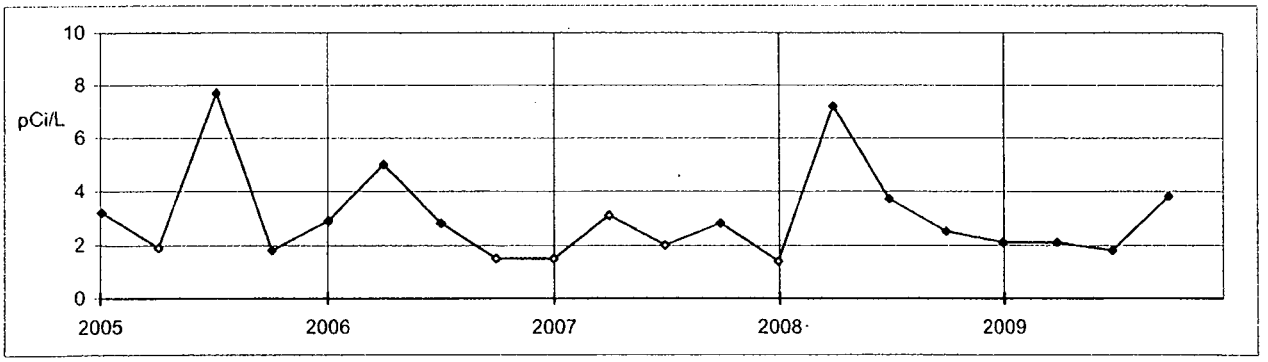

Figure 18. Location K-10. Total Residue. Quarterly collection.

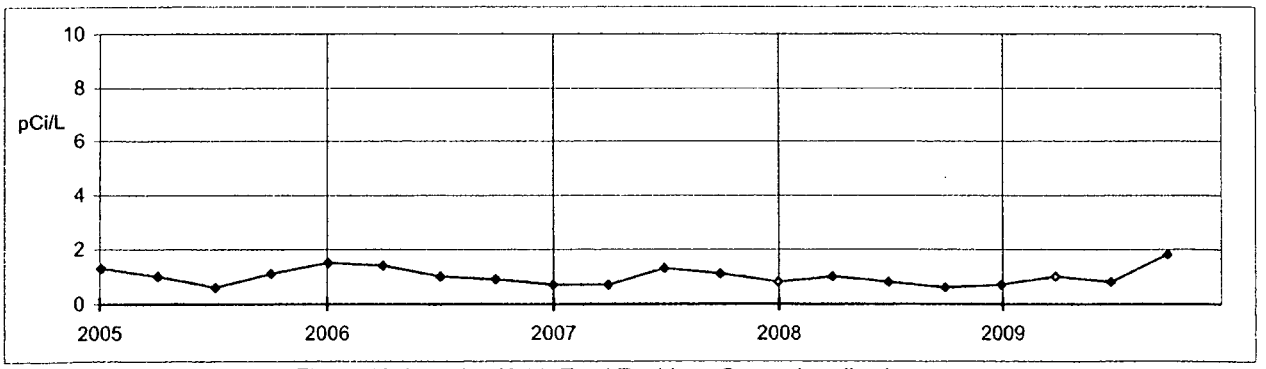

Figure 19. Location K-11. Total Residue. Quarterly collection.

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

Kewaunee Power Station
WELL WATER-GROSS BETA

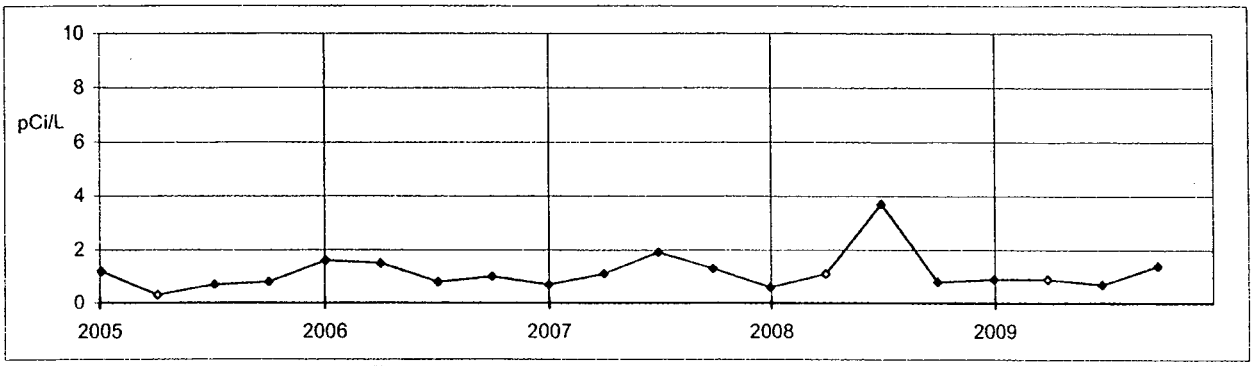

Figure 20. Location K-13. Total Residue. Quarterly collection.

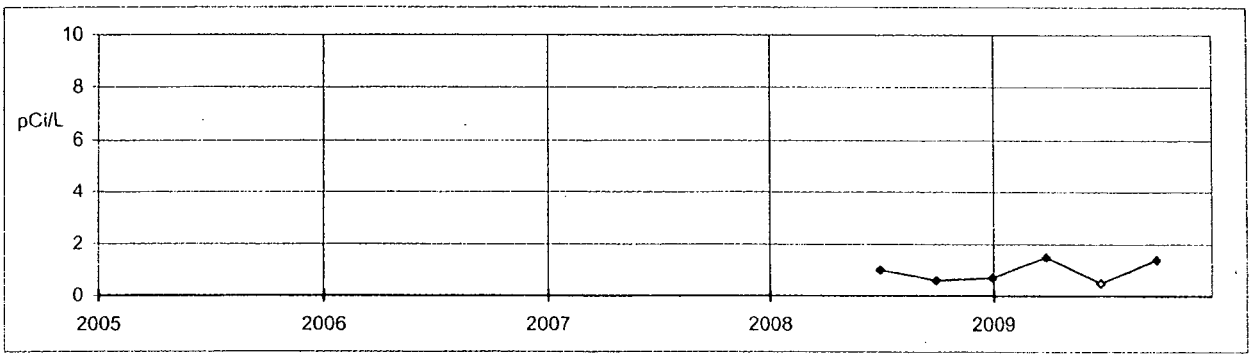

Figure 21. Location K-38*. Total Residue. Quarterly collection.
* Collected as substitute well for K-25. First collection, third quarter, 2008.

Kewaunee Power Station
Milk - Strontium-90

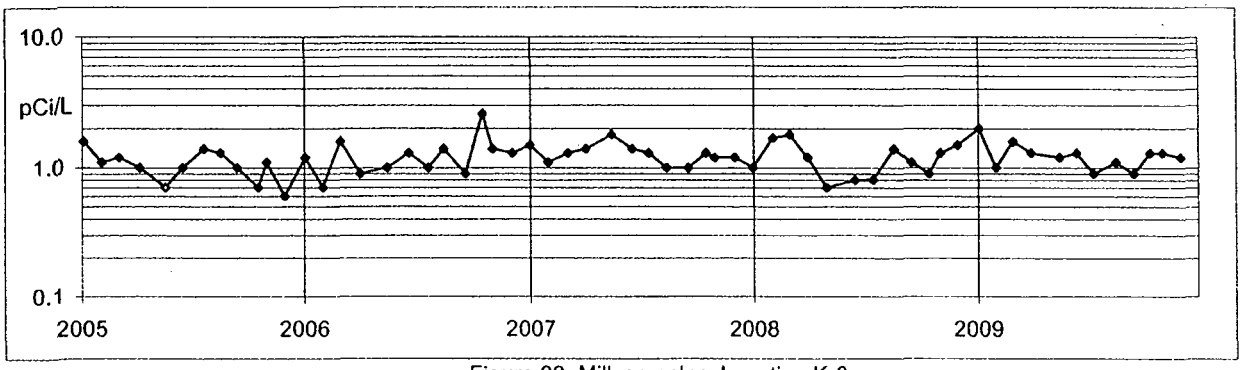

Figure 22. Milk samples. Location K-3.

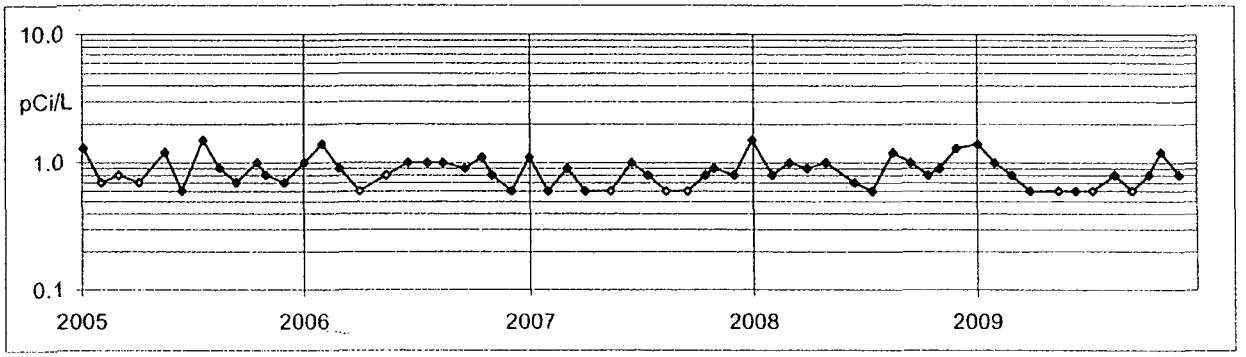

Figure 23. Milk samples. Location K-5.

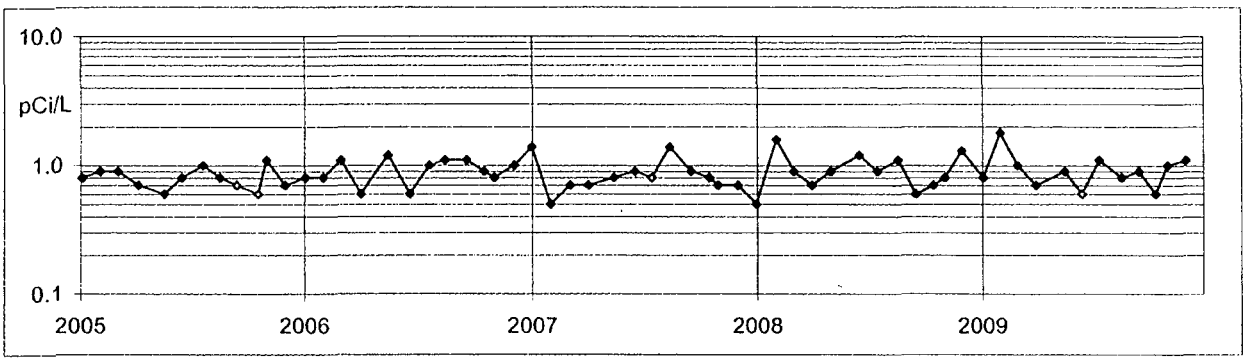

Figure 24. Milk samples. Location K-28.

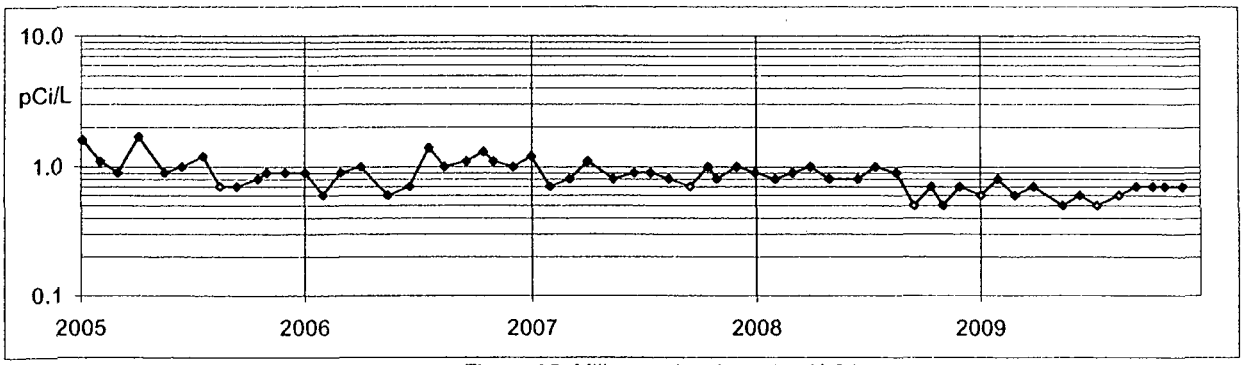

Figure 25. Milk samples. Location K-34.

Kewaunee Power Station
Milk - Strontium-90

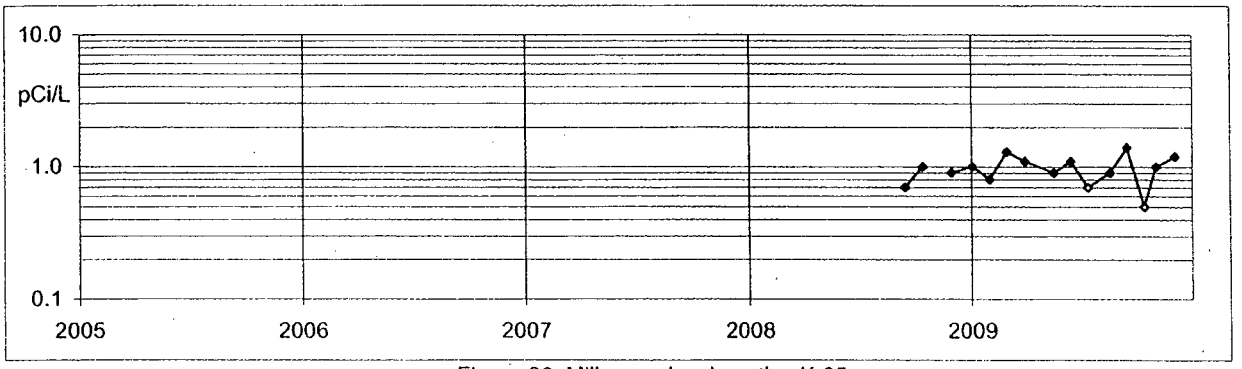

Figure 26. Milk samples. Location K-35.

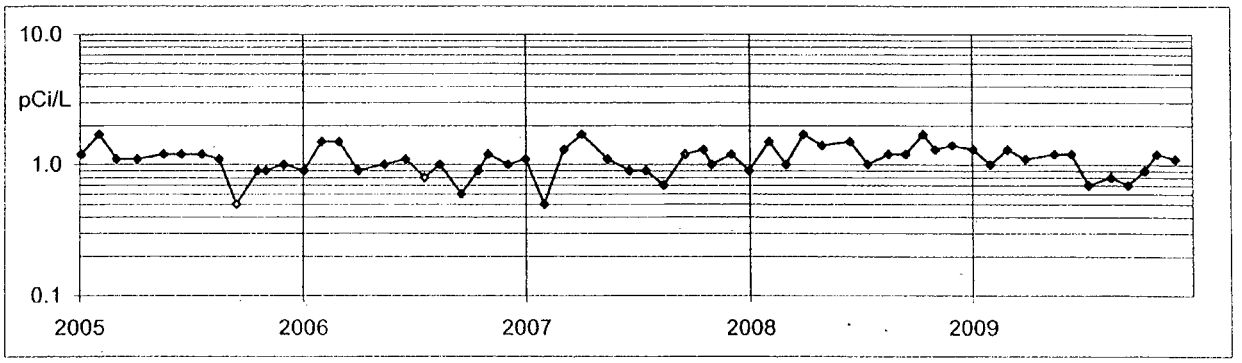

Figure 27. Milk samples. Location K-38.

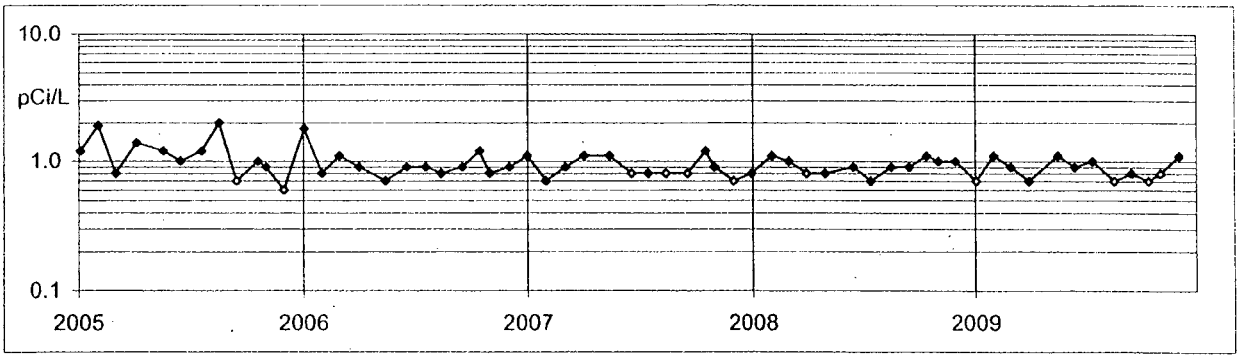

Figure 28. Milk samples. Location K-39.

Kewaunee Power Station
Surface Water - Gross Beta

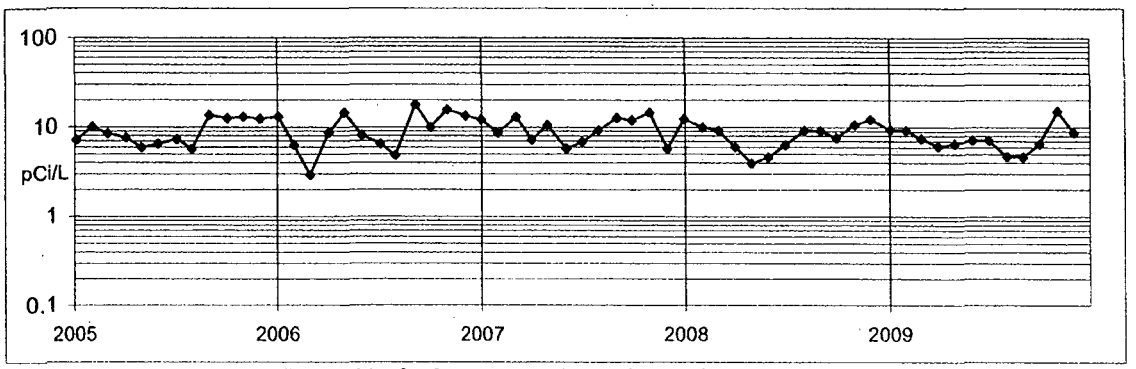

Figure 30. Surface water . North Creek, Onsite (K-1a).

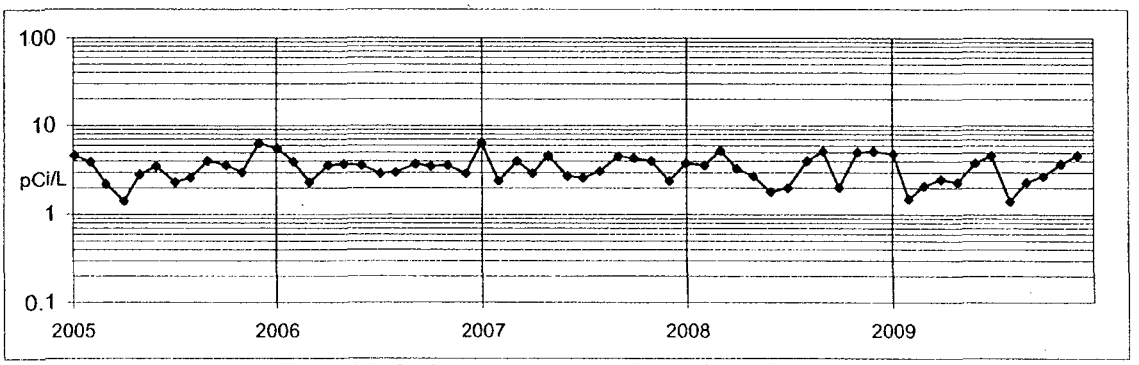

Figure 31. Surface water . Middle Creek, Onsite (K-1b).

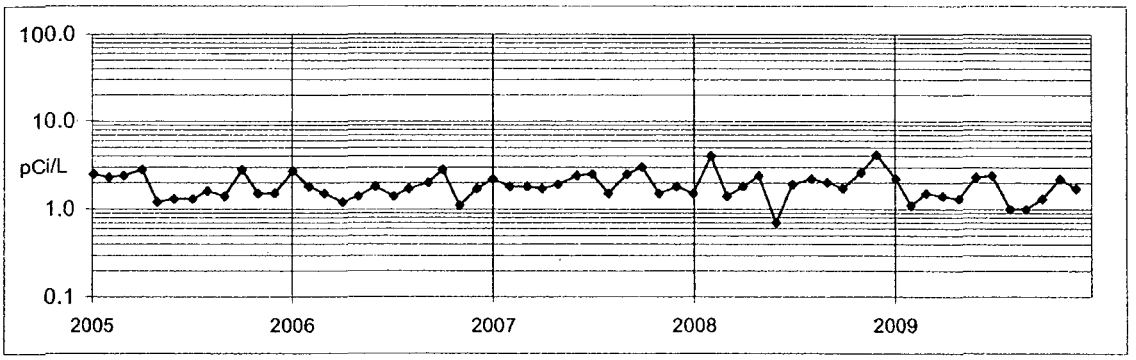

Figure 32. Surface water. Lake Michigan, condenser discharge, Onsite (K-1d).

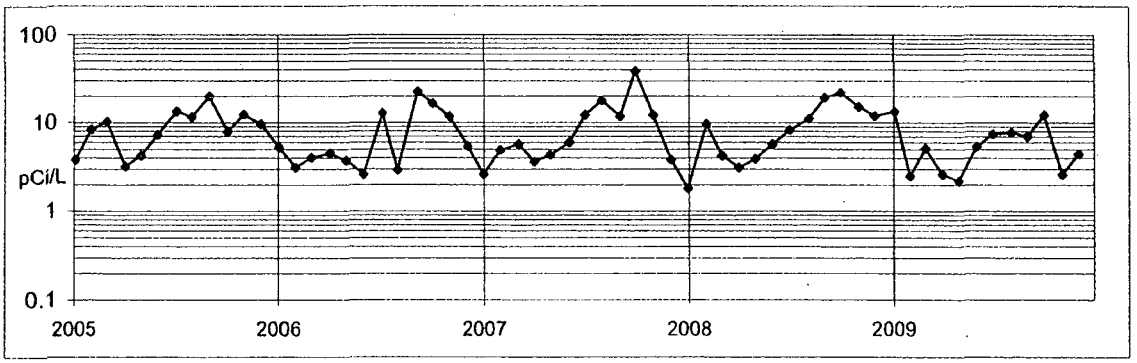

Figure 33. Surface water. South Creek, Onsite (K-1e).

Kewaunee Power Station
Surface Water - Gross Beta

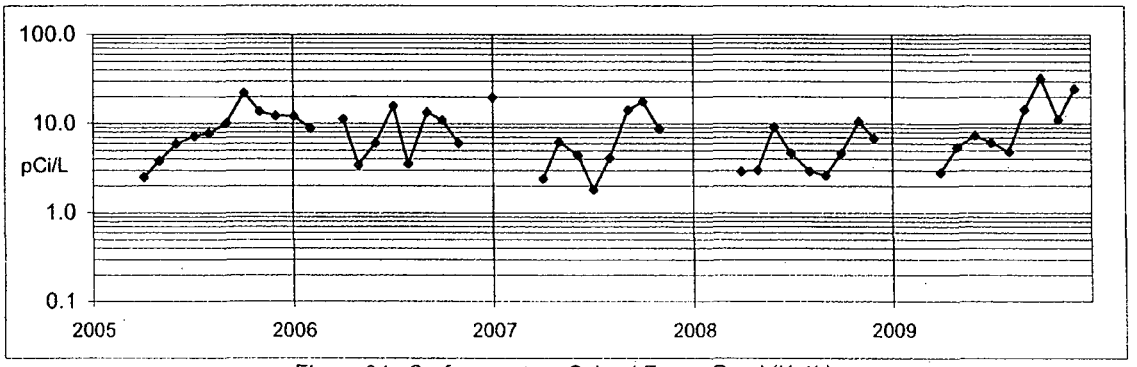

Figure 34. Surface water. School Forest Pond (K-1k).

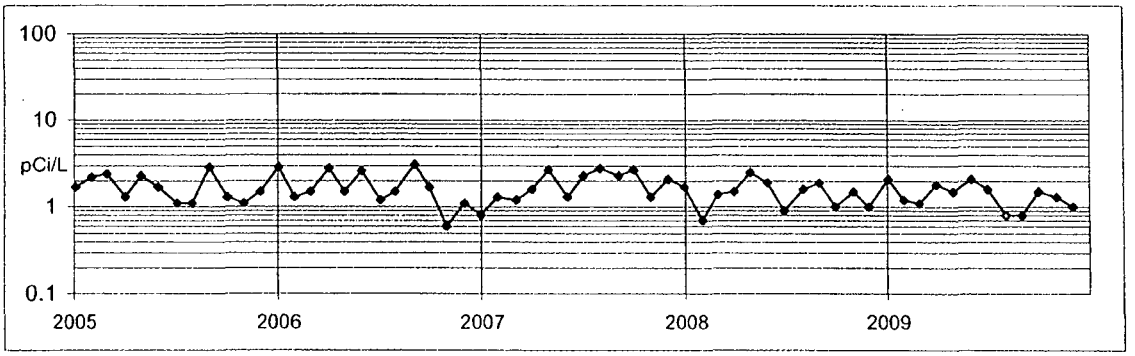

Figure 35. Surface water (raw). Lake Michigan, Rostok Intake (K-9)

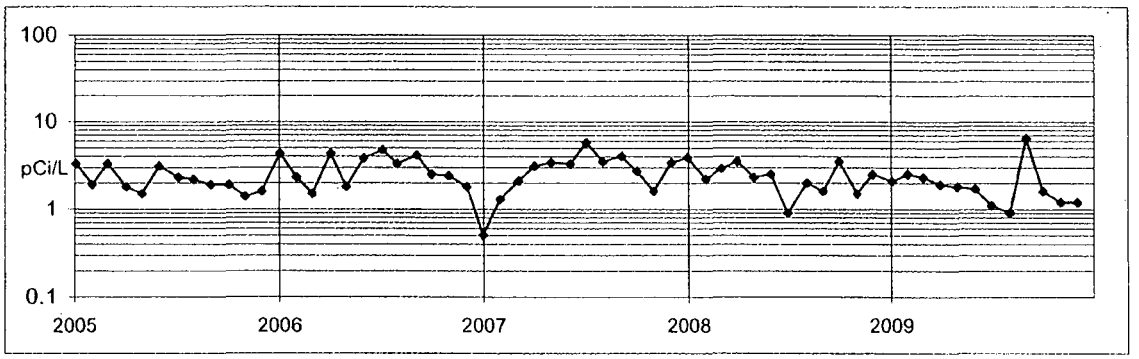

Figure 36. Surface water . Lake Michigan, Two Creeks Park (K-14a).

Kewaunee

Surface Water - Tritium

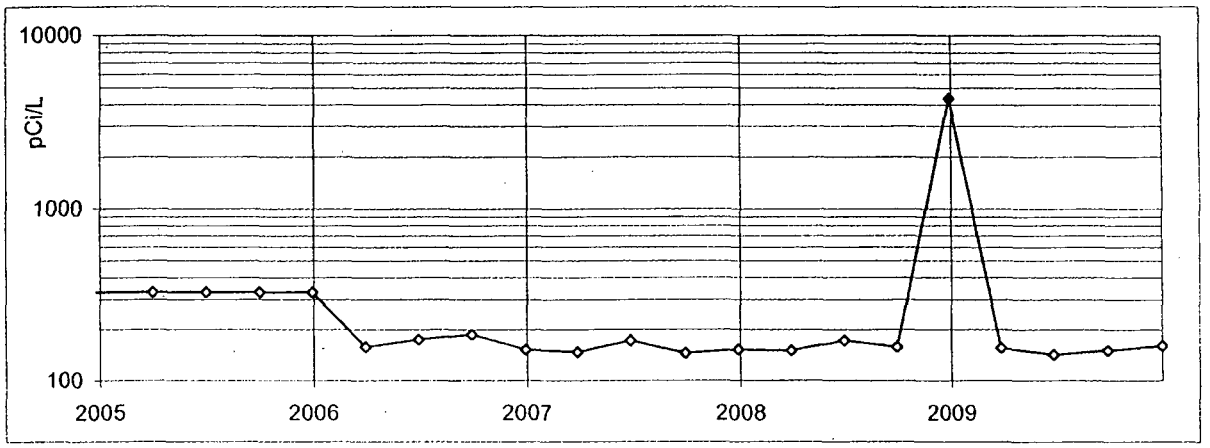

Figure 37. Surface water. Lake Michigan, condenser discharge, K-1d. Quarterly collection.

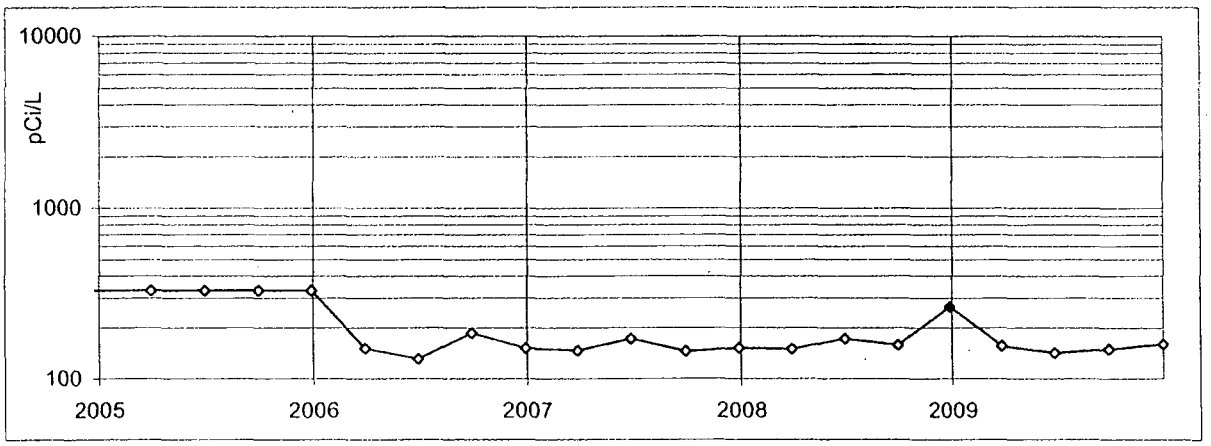

Figure 38. Surface water. Lake Michigan, Two Creeks Park, K-14a. Quarterly collection.

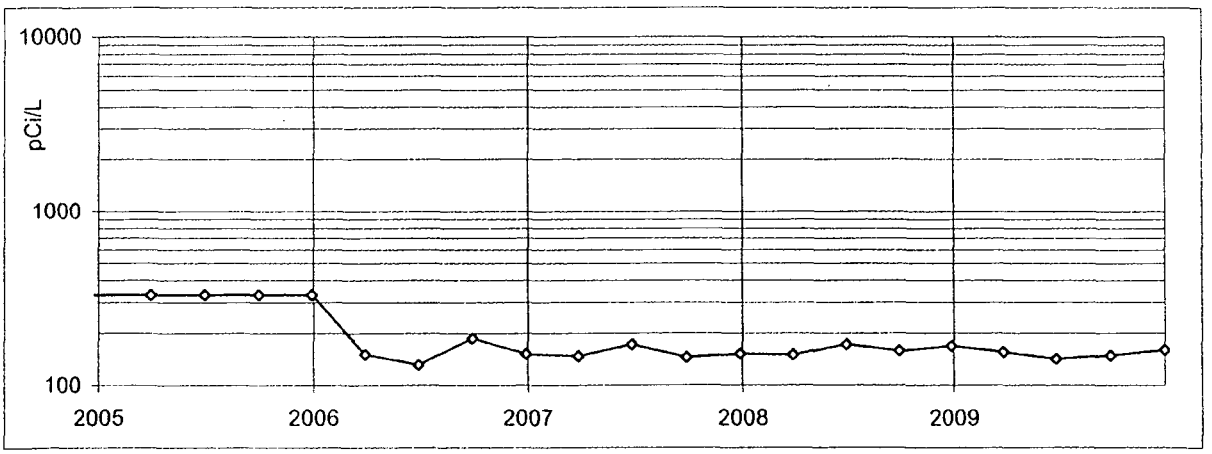

Figure 39. Surface water. Lake Michigan, Rostok Intake, K-9. Quarterly collection.

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

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
01-06-09	343	0.037 ± 0.003	07-07-09	346	0.007 ± 0.002
01-13-09	304	0.021 ± 0.003	07-13-09	266	0.015 ± 0.003
01-21-09	345	0.033 ± 0.003	07-21-09	337	0.012 ± 0.002
01-27-09	256	0.040 ± 0.004	07-27-09	261	0.018 ± 0.003
02-03-09	307	0.035 ± 0.004			
			08-04-09	345	0.017 ± 0.003
02-10-09	301	0.034 ± 0.004	08-10-09	260	0.018 ± 0.003
02-17-09	303	0.028 ± 0.004	08-18-09	352	0.024 ± 0.003
02-24-09	301	0.026 ± 0.003	08-24-09	251	0.019 ± 0.003
03-03-09	305	0.027 ± 0.003	08-31-09	304	0.014 ± 0.003
03-10-09	300	0.036 ± 0.004	09-08-09	344	0.031 ± 0.003
03-17-09	302	0.027 ± 0.003	09-15-09	327	0.049 ± 0.004
03-24-09	311	0.023 ± 0.003	09-22-09	355	0.022 ± 0.003
03-30-09	279	0.019 ± 0.003	09-29-09	327	0.020 ± 0.003
1st Quarter Mean ± s.d.		0.030 ± 0.007	3rd Quarter Mean ± s.d.		0.020 ± 0.010
04-06-09	314	0.019 ± 0.003	10-06-09	306	0.011 ± 0.002
04-13-09	300	0.025 ± 0.003	10-13-09	297	0.012 ± 0.003
04-20-09	302	0.030 ± 0.003	10-20-09	332	0.019 ± 0.003
04-27-09	303	0.013 ± 0.003	10-27-09	350	0.014 ± 0.002
			11-03-09	356	0.017 ± 0.003
05-04-09	302	0.014 ± 0.003			
05-11-09	304	0.019 ± 0.003	11-09-09	302	0.023 ± 0.003
05-18-09	299	0.017 ± 0.003	11-16-09	353	0.019 ± 0.003
05-26-09	353	0.020 ± 0.003	11-24-09	410	0.035 ± 0.003
06-02-09	299	0.013 ± 0.003	11-30-09	297	0.022 ± 0.003
06-08-09	258	0.011 ± 0.003	12-07-09	351	0.025 ± 0.003
06-15-09	301	0.010 ± 0.003	12-14-09	360	0.038 ± 0.003
06-22-09	309	0.018 ± 0.003	12-21-09	345	0.029 ± 0.003
06-29-09	313	0.022 ± 0.003	12-29-09	403	0.026 ± 0.003
2nd Quarter Mean ± s.d.		0.018 ± 0.006	4th Quarter Mean ± s.d.		0.022 ± 0.008
			Cumulative Average		0.023

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

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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
01-06-09	371	0.036 ± 0.003	07-07-09	346	0.008 ± 0.002
01-13-09	331	0.018 ± 0.003	07-13-09	258	0.016 ± 0.003
01-21-09	343	0.028 ± 0.003	07-21-09	344	0.011 ± 0.002
01-27-09	256	0.044 ± 0.004	07-27-09	262	0.022 ± 0.003
02-03-09	308	0.035 ± 0.004			
			08-04-09	345	0.019 ± 0.003
02-10-09	300	0.031 ± 0.004	08-10-09	249	0.018 ± 0.003
02-17-09	308	0.025 ± 0.003	08-18-09	355	0.029 ± 0.003
02-24-09	306	0.030 ± 0.003	08-24-09	259	0.017 ± 0.003
03-03-09	316	0.029 ± 0.003	08-31-09	304	0.013 ± 0.003
03-10-09	320	0.033 ± 0.004	09-08-09	342	0.040 ± 0.004
03-17-09	321	0.027 ± 0.003	09-15-09	310	0.042 ± 0.004
03-24-09	311	0.024 ± 0.003	09-22-09	298	0.022 ± 0.003
03-30-09	266	0.018 ± 0.003	09-29-09	301	0.015 ± 0.003
1st Quarter Mean ± s.d.		0.029 ± 0.007	3rd Quarter Mean ± s.d.		0.021 ± 0.010
03-30-00					
04-06-09	311	0.017 ± 0.003	10-06-09	306	0.013 ± 0.003
04-13-09	298	0.026 ± 0.003	10-13-09	300	0.012 ± 0.003
04-20-09	302	0.024 ± 0.003	10-20-09	304	0.018 ± 0.003
04-27-09	303	0.013 ± 0.003	10-27-09	299	0.013 ± 0.003
			11-03-09	306	0.018 ± 0.003
05-04-09	301	0.015 ± 0.003			
05-11-09	305	0.018 ± 0.003	11-09-09	258	0.024 ± 0.004
05-18-09	301	0.015 ± 0.003	11-16-09	326	0.022 ± 0.003
05-26-09	345	0.021 ± 0.003	11-24-09	380	0.031 ± 0.003
06-02-09	305	0.012 ± 0.003	11-30-09	255	0.024 ± 0.004
06-08-09	257	0.014 ± 0.003	12-07-09	325	0.025 ± 0.003
06-15-09	304	0.008 ± 0.002	12-14-09	360	0.038 ± 0.003
06-22-09	300	0.020 ± 0.003	12-21-09	346	0.028 ± 0.003
06-29-09	304	0.024 ± 0.003	12-29-09	385	0.026 ± 0.003
2nd Quarter Mean ± s.d.		0.017 ± 0.005	4th Quarter Mean ± s.d.		0.022 ± 0.008
			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

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
01-06-09	428	0.035 ± 0.003	07-07-09	404	0.006 ± 0.002
01-13-09	398	0.017 ± 0.002	07-13-09	308	0.014 ± 0.003
01-21-09	462	0.016 ± 0.002	07-21-09	399	0.010 ± 0.002
01-27-09	256	0.050 ± 0.005	07-27-09		ND [b]
02-03-09	330	0.038 ± 0.004			
			08-04-09	374	0.018 ± 0.003
02-10-09	356	0.029 ± 0.003	08-10-09	311	0.021 ± 0.003
02-17-09	339	0.022 ± 0.003	08-18-09	408	0.026 ± 0.003
02-24-09	308	0.029 ± 0.003	08-24-09	302	0.016 ± 0.003
03-03-09	335	0.030 ± 0.003	08-31-09	360	0.011 ± 0.002
03-10-09	344	0.031 ± 0.003	09-08-09	401	0.029 ± 0.003
03-17-09	352	0.028 ± 0.003	09-15-09	362	0.040 ± 0.003
03-24-09	356	0.024 ± 0.003	09-22-09	345	0.019 ± 0.003
03-30-09	306	0.016 ± 0.003	09-29-09		ND [c]
1st Quarter Mean ± s.d.		0.028 ± 0.010	3rd Quarter Mean ± s.d.		0.019 ± 0.010
04-06-09	344	0.015 ± 0.003	10-06-09	306	0.010 ± 0.002
04-13-09	339	0.025 ± 0.003	10-13-09		ND [b]
04-20-09	343	0.025 ± 0.003	10-20-09	299	0.014 ± 0.003
04-27-09	348	0.011 ± 0.002	10-27-09	353	0.013 ± 0.002
			11-03-09	353	0.016 ± 0.003
05-04-09	355	0.015 ± 0.003			
05-11-09	327	0.017 ± 0.003	11-09-09	308	0.022 ± 0.003
05-18-09	354	0.016 ± 0.003	11-16-09	331	0.021 ± 0.003
05-26-09	405	0.017 ± 0.002	11-24-09	343	0.037 ± 0.003
06-02-09	349	0.010 ± 0.002	11-30-09	254	0.025 ± 0.004
06-08-09	309	0.010 ± 0.003	12-07-09	316	0.025 ± 0.003
06-15-09	354	0.008 ± 0.002	12-14-09	324	0.040 ± 0.004
06-22-09	350	0.020 ± 0.003	12-21-09	315	0.032 ± 0.003
06-29-09	347	0.021 ± 0.003	12-29-09	388	0.025 ± 0.003
2nd Quarter Mean ± s.d.		0.016 ± 0.006	4th Quarter Mean ± s.d.		
			Cumulative Average		0.022

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

[b] ND = No Data, There was no power to the sampler pump, due to WPS maintenance.

[c] ND = No Data, Circuit breaker tripped.

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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
01-06-09	383	0.036 ± 0.003	07-07-09	346	0.009 ± 0.002
01-13-09	349	0.023 ± 0.003	07-13-09	264	0.016 ± 0.003
01-21-09	404	0.028 ± 0.003	07-21-09	355	0.011 ± 0.002
01-27-09	299	0.042 ± 0.004	07-27-09	273	0.018 ± 0.003
02-03-09	356	0.029 ± 0.003			
			08-04-09	368	0.017 ± 0.002
02-10-09	355	0.033 ± 0.003	08-10-09	275	0.022 ± 0.003
02-17-09	339	0.024 ± 0.003	08-18-09	357	0.031 ± 0.003
02-24-09	308	0.029 ± 0.003	08-24-09	269	0.015 ± 0.003
03-03-09	333	0.029 ± 0.003	08-31-09	324	0.010 ± 0.002
03-10-09	345	0.030 ± 0.003	09-08-09	367	0.033 ± 0.003
03-17-09	352	0.028 ± 0.003	09-15-09	330	0.044 ± 0.004
03-24-09	355	0.023 ± 0.003	09-22-09	315	0.019 ± 0.003
03-30-09	284	0.015 ± 0.003	09-29-09	299	0.020 ± 0.003
1st Quarter Mean ± s.d.		0.028 ± 0.007	3rd Quarter Mean ± s.d.		0.020 ± 0.010
04-06-09	305	0.020 ± 0.003	10-06-09	306	0.010 ± 0.002
04-13-09	310	0.025 ± 0.003	10-13-09	308	0.010 ± 0.003
04-20-09	312	0.022 ± 0.003	10-20-09	296	0.018 ± 0.003
04-27-09	308	0.012 ± 0.003	10-27-09	302	0.010 ± 0.003
			11-03-09	329	0.017 ± 0.003
05-04-09	303	0.016 ± 0.003			
05-11-09	302	0.017 ± 0.003	11-09-09	307	0.021 ± 0.003
05-18-09	303	0.017 ± 0.003	11-16-09	326	0.020 ± 0.003
05-26-09	376	0.015 ± 0.002	11-24-09	349	0.036 ± 0.003
06-02-09	350	0.012 ± 0.002	11-30-09	255	0.023 ± 0.004
06-08-09	308	0.010 ± 0.003	12-07-09	315	0.022 ± 0.003
06-15-09	355	0.009 ± 0.002	12-14-09	334	0.033 ± 0.003
06-22-09	335	0.017 ± 0.003	12-21-09	346	0.024 ± 0.003
06-29-09	318	0.025 ± 0.003	12-29-09	406	0.022 ± 0.003
2nd Quarter Mean ± s.d.		0.017 ± 0.005	4th Quarter Mean ± s.d.		0.020 ± 0.008
			Cumulative Average		0.021

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

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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
01-06-09	342	0.036 ± 0.003	07-07-09	346	0.009 ± 0.002
01-13-09	305	0.021 ± 0.003	07-13-09	259	0.018 ± 0.003
01-21-09	344	0.031 ± 0.003	07-21-09	355	0.011 ± 0.002
01-27-09	256	0.040 ± 0.004	07-27-09	278	0.019 ± 0.003
02-03-09	307	0.038 ± 0.004			
			08-04-09	357	0.018 ± 0.003
02-10-09	310	0.033 ± 0.004	08-10-09	260	0.020 ± 0.003
02-17-09	323	0.023 ± 0.003	08-18-09	345	0.033 ± 0.003
02-24-09	312	0.026 ± 0.003	08-24-09	260	0.017 ± 0.003
03-03-09	321	0.031 ± 0.003	08-31-09	303	0.015 ± 0.003
03-10-09	350	0.027 ± 0.003	09-08-09	343	0.036 ± 0.003
03-17-09	351	0.028 ± 0.003	09-15-09	309	0.048 ± 0.004
03-24-09	336	0.022 ± 0.003	09-22-09	298	0.019 ± 0.003
03-30-09	272	0.015 ± 0.003	09-29-09	300	0.018 ± 0.003
1st Quarter Mean ± s.d.		0.029 ± 0.007	3rd Quarter Mean ± s.d.		0.022 ± 0.011
04-06-09	304	0.018 ± 0.003	10-06-09	306	0.010 ± 0.002
04-13-09	298	0.026 ± 0.003	10-13-09	306	0.013 ± 0.003
04-20-09	303	0.021 ± 0.003	10-20-09	297	0.019 ± 0.003
04-27-09	302	0.016 ± 0.003	10-27-09	301	0.013 ± 0.003
			11-03-09	304	0.019 ± 0.003
05-04-09	302	0.016 ± 0.003			
05-11-09	304	0.018 ± 0.003	11-09-09	258	0.029 ± 0.004
05-18-09	301	0.016 ± 0.003	11-16-09	303	0.020 ± 0.003
05-26-09	357	0.017 ± 0.003	11-24-09	351	0.034 ± 0.003
06-02-09	326	0.013 ± 0.002	11-30-09	254	0.025 ± 0.004
06-08-09	265	0.009 ± 0.003	12-07-09	300	0.026 ± 0.003
06-15-09	304	0.010 ± 0.003	12-14-09	309	0.038 ± 0.004
06-22-09	301	0.024 ± 0.003	12-21-09	297	0.027 ± 0.003
06-29-09	303	0.025 ± 0.003	12-29-09	345	0.028 ± 0.003
2nd Quarter Mean ± s.d.		0.018 ± 0.005	4th Quarter Mean ± s.d.		0.023 ± 0.008
			Cumulative Average		0.023

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

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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
01-06-09	370	0.034 ± 0.003	07-07-09	346	0.010 ± 0.002
01-13-09	356	0.020 ± 0.003	07-13-09	258	0.016 ± 0.003
01-21-09	402	0.027 ± 0.003	07-21-09	346	0.012 ± 0.002
01-27-09	299	0.040 ± 0.004	07-27-09	260	0.021 ± 0.003
02-03-09	358	0.035 ± 0.003			
			08-04-09	345	0.019 ± 0.003
02-10-09	325	0.034 ± 0.003	08-10-09	262	0.022 ± 0.003
02-17-09	304	0.026 ± 0.003	08-18-09	342	0.035 ± 0.003
02-24-09	302	0.032 ± 0.004	08-24-09	260	0.018 ± 0.003
03-03-09	330	0.028 ± 0.003	08-31-09	303	0.014 ± 0.003
03-10-09	350	0.034 ± 0.003	09-08-09	347	0.036 ± 0.003
03-17-09	351	0.030 ± 0.003	09-15-09	301	0.051 ± 0.004
03-24-09	351	0.022 ± 0.003	09-22-09	303	0.022 ± 0.003
03-30-09	293	0.015 ± 0.003	09-29-09	301	0.022 ± 0.003
1st Quarter Mean ± s.d.		0.029 ± 0.007	3rd Quarter Mean ± s.d.		0.023 ± 0.011
04-06-09	342	0.017 ± 0.003	10-06-09	306	0.010 ± 0.002
04-13-09	345	0.025 ± 0.003	10-13-09	300	0.010 ± 0.003
04-20-09	353	0.023 ± 0.003	10-20-09	304	0.021 ± 0.003
04-27-09	328	0.012 ± 0.003	10-27-09	301	0.013 ± 0.003
			11-03-09	304	0.019 ± 0.003
05-04-09	303	0.017 ± 0.003			
05-11-09	303	0.019 ± 0.003	11-09-09	260	0.024 ± 0.004
05-18-09	305	0.017 ± 0.003	11-16-09	302	0.025 ± 0.003
05-26-09	342	0.022 ± 0.003	11-24-09	352	0.038 ± 0.003
06-02-09	305	0.013 ± 0.003	11-30-09	254	0.027 ± 0.004
06-08-09	260	0.011 ± 0.003	12-07-09	301	0.027 ± 0.003
06-15-09	301	0.011 ± 0.003	12-14-09	312	0.038 ± 0.004
06-22-09	303	0.024 ± 0.003	12-21-09	294	0.030 ± 0.004
06-29-09	302	0.025 ± 0.003	12-29-09	348	0.030 ± 0.003
2nd Quarter Mean ± s.d.		0.018 ± 0.005	4th Quarter Mean ± s.d.		0.024 ± 0.009
			Cumulative Average		0.024

[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	0.032	0.016	0.050
K-1f	0.033	0.021	0.040
K-7	0.031	0.016	0.050
Controls	0.032	0.018	0.044
K-2	0.032	0.018	0.044
K-8	0.032	0.023	0.042
K-31	0.033	0.021	0.040
K-41	0.031	0.020	0.040

February

Location	Average	Minima	Maxima
Indicators	0.027	0.015	0.036
K-1f	0.029	0.026	0.034
K-7	0.028	0.022	0.030
Controls	0.029	0.023	0.034
K-2	0.029	0.025	0.031
K-8	0.029	0.024	0.033
K-31	0.028	0.023	0.033
K-41	0.030	0.026	0.034

March

Location	Average	Minima	Maxima
Indicators	0.026	0.016	0.036
K-1f	0.026	0.019	0.036
K-7	0.025	0.016	0.031
Controls	0.025	0.015	0.034
K-2	0.026	0.018	0.033
K-8	0.024	0.015	0.030
K-31	0.023	0.015	0.028
K-41	0.025	0.015	0.034

April

Location	Average	Minima	Maxima
Indicators	0.021	0.011	0.030
K-1f	0.022	0.013	0.030
K-7	0.019	0.011	0.025
Controls	0.020	0.012	0.026
K-2	0.020	0.013	0.026
K-8	0.020	0.012	0.025
K-31	0.020	0.016	0.026
K-41	0.020	0.016	0.026

May

Location	Average	Minima	Maxima
Indicators	0.016	0.008	0.025
K-1f	0.017	0.013	0.020
K-7	0.015	0.010	0.017
Controls	0.016	0.012	0.022
K-2	0.016	0.012	0.021
K-8	0.015	0.012	0.017
K-31	0.016	0.013	0.018
K-41	0.018	0.013	0.022

June

Location	Average	Minima	Maxima
Indicators	0.015	0.008	0.022
K-1f	0.015	0.010	0.022
K-7	0.015	0.008	0.021
Controls	0.016	0.008	0.025
K-2	0.017	0.008	0.024
K-8	0.015	0.009	0.025
K-31	0.017	0.009	0.025
K-41	0.018	0.011	0.025

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	0.012	0.006	0.018
K-1f	0.013	0.007	0.018
K-7	0.010	0.006	0.014
Controls	0.014	0.008	0.022
K-2	0.014	0.008	0.022
K-8	0.014	0.009	0.018
K-31	0.014	0.009	0.019
K-41	0.015	0.010	0.021

August

Location	Average	Minima	Maxima
Indicators	0.018	0.011	0.026
K-1f	0.018	0.014	0.024
K-7	0.018	0.011	0.026
Controls	0.020	0.010	0.035
K-2	0.019	0.013	0.029
K-8	0.019	0.010	0.031
K-31	0.021	0.015	0.033
K-41	0.022	0.014	0.035

September

Location	Average	Minima	Maxima
Indicators	0.030	0.019	0.049
K-1f	0.031	0.020	0.049
K-7	0.029	0.019	0.040
Controls	0.031	0.015	0.051
K-2	0.030	0.015	0.042
K-8	0.029	0.019	0.044
K-31	0.030	0.018	0.048
K-41	0.033	0.022	0.051

October

Location	Average	Minima	Maxima
Indicators	0.014	0.010	0.019
K-1f	0.015	0.011	0.019
K-7	0.013	0.010	0.016
Controls	0.015	0.010	0.021
K-2	0.015	0.012	0.018
K-8	0.013	0.010	0.018
K-31	0.015	0.010	0.019
K-41	0.015	0.010	0.021

November

Location	Average	Minima	Maxima
Indicators	0.026	0.019	0.037
K-1f	0.025	0.019	0.035
K-7	0.026	0.021	0.037
Controls	0.027	0.020	0.038
K-2	0.025	0.022	0.031
K-8	0.025	0.020	0.036
K-31	0.027	0.020	0.034
K-41	0.029	0.024	0.038

December

Location	Average	Minima	Maxima
Indicators	0.031	0.025	0.040
K-1f	0.030	0.025	0.038
K-7	0.031	0.025	0.040
Controls	0.029	0.022	0.038
K-2	0.029	0.025	0.038
K-8	0.025	0.022	0.033
K-31	0.030	0.026	0.038
K-41	0.031	0.027	0.038

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- 1439	KAP- 3649	KAP- 5780	KAP- 7210
Volume (m^3)	3957	3957	4075	4462
Be-7	0.086 ± 0.014	0.090 ± 0.018	0.089 ± 0.015	0.057 ± 0.013
Nb-95	< 0.0012	< 0.0012	< 0.0015	< 0.0007
Zr-95	< 0.0016	< 0.0012	< 0.0016	< 0.0009
Ru-103	< 0.0012	< 0.0009	< 0.0012	< 0.0007
Ru-106	< 0.0065	< 0.0079	< 0.0076	< 0.0055
Cs-134	< 0.0008	< 0.0008	< 0.0006	< 0.0003
Cs-137	< 0.0010	< 0.0006	< 0.0007	< 0.0005
Ce-141	< 0.0015	< 0.0011	< 0.0017	< 0.0012
Ce-144	< 0.0036	< 0.0043	< 0.0048	< 0.0032
K-7				
Lab Code	KAP- 1441	KAP- 3651	KAP- 5782	KAP- 7212
Volume (m^3)	4570	4524	3974	3890
Be-7	0.076 ± 0.012	0.078 ± 0.014	0.085 ± 0.015	0.058 ± 0.011
Nb-95	< 0.0006	< 0.0005	< 0.0009	< 0.0008
Zr-95	< 0.0008	< 0.0009	< 0.0011	< 0.0014
Ru-103	< 0.0008	< 0.0012	< 0.0010	< 0.0010
Ru-106	< 0.0066	< 0.0065	< 0.0067	< 0.0050
Cs-134	< 0.0005	< 0.0006	< 0.0007	< 0.0004
Cs-137	< 0.0005	< 0.0007	< 0.0006	< 0.0006
Ce-141	< 0.0013	< 0.0008	< 0.0020	< 0.0012
Ce-144	< 0.0035	< 0.0037	< 0.0032	< 0.0027

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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- 1440	KAP- 3650	KAP- 5783	KAP- 7211
Volume (m^3)	4057	3936	3973	4150
Be-7	0.071 ± 0.015	0.090 ± 0.016	0.074 ± 0.016	0.064 ± 0.012
Nb-95	< 0.0008	< 0.0010	< 0.0007	< 0.0009
Zr-95	< 0.0016	< 0.0013	< 0.0010	< 0.0011
Ru-103	< 0.0008	< 0.0005	< 0.0007	< 0.0006
Ru-106	< 0.0087	< 0.0070	< 0.0065	< 0.0086
Cs-134	< 0.0009	< 0.0008	< 0.0007	< 0.0007
Cs-137	< 0.0008	< 0.0005	< 0.0007	< 0.0006
Ce-141	< 0.0020	< 0.0018	< 0.0015	< 0.0015
Ce-144	< 0.0050	< 0.0026	< 0.0042	< 0.0035
K-8				
Lab Code	KAP- 1443	KAP- 3652	KAP- 5784	KAP- 7213
Volume (m^3)	4462	4185	4142	4179
Be-7	0.087 ± 0.014	0.085 ± 0.015	0.083 ± 0.017	0.051 ± 0.014
Nb-95	< 0.0008	< 0.0007	< 0.0011	< 0.0008
Zr-95	< 0.0012	< 0.0011	< 0.0022	< 0.0012
Ru-103	< 0.0005	< 0.0007	< 0.0010	< 0.0006
Ru-106	< 0.0077	< 0.0067	< 0.0084	< 0.0057
Cs-134	< 0.0008	< 0.0003	< 0.0008	< 0.0008
Cs-137	< 0.0005	< 0.0008	< 0.0009	< 0.0006
Ce-141	< 0.0012	< 0.0012	< 0.0017	< 0.0013
Ce-144	< 0.0038	< 0.0028	< 0.0044	< 0.0036

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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-31				
Lab Code	KAP- 1444	KAP- 3653	KAP- 5785	KAP- 7214
Volume (m^3)	4129	3970	4013	3931
Be-7	0.079 ± 0.015	0.098 ± 0.018	0.079 ± 0.019	0.051 ± 0.012
Nb-95	< 0.0008	< 0.0012	< 0.0009	< 0.0012
Zr-95	< 0.0016	< 0.0014	< 0.0018	< 0.0019
Ru-103	< 0.0010	< 0.0010	< 0.0007	< 0.0014
Ru-106	< 0.0067	< 0.0081	< 0.0064	< 0.0051
Cs-134	< 0.0009	< 0.0008	< 0.0006	< 0.0007
Cs-137	< 0.0010	< 0.0007	< 0.0005	< 0.0008
Ce-141	< 0.0012	< 0.0014	< 0.0011	< 0.0019
Ce-144	< 0.0031	< 0.0059	< 0.0031	< 0.0056
K-41				
Lab Code	KAP- 1445	KAP- 3654	KAP- 5786	KAP- 7215
Volume (m^3)	4391	4092	3974	3938
Be-7	0.081 ± 0.012	0.098 ± 0.016	0.089 ± 0.013	0.069 ± 0.015
Nb-95	< 0.0006	< 0.0009	< 0.0011	< 0.0006
Zr-95	< 0.0009	< 0.0021	< 0.0013	< 0.0011
Ru-103	< 0.0004	< 0.0008	< 0.0012	< 0.0011
Ru-106	< 0.0024	< 0.0084	< 0.0070	< 0.0077
Cs-134	< 0.0004	< 0.0006	< 0.0006	< 0.0006
Cs-137	< 0.0007	< 0.0005	< 0.0009	< 0.0007
Ce-141	< 0.0015	< 0.0016	< 0.0020	< 0.0012
Ce-144	< 0.0035	< 0.0048	< 0.0046	< 0.0039

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

	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	
Date Placed	01-05-09	04-01-09	07-01-09	10-01-09	
Date Removed	04-01-09	07-01-09	10-01-09	01-04-10	
	mR/91 days[a]				
Indicator					Mean±s.d.
K-1f	10.6 ± 0.4	12.1 ± 0.5	10.9 ± 0.5	10.7 ± 1.0	11.1 ± 0.7
K-5	13.9 ± 0.3	18.2 ± 0.5	16.1 ± 0.5	17.3 ± 0.7	16.4 ± 1.9
K-7	15.1 ± 0.6	18.2 ± 0.7	17.9 ± 0.6	19.0 ± 1.0	17.6 ± 1.7
K-17	13.6 ± 0.2	13.5 ± 0.4	14.9 ± 0.5	16.5 ± 0.6	14.6 ± 1.4
K-25	13.8 ± 0.4	17.1 ± 0.5	16.6 ± 0.5	17.8 ± 0.3	16.3 ± 1.8
K-27	12.5 ± 0.4	17.6 ± 0.8	15.8 ± 0.7	17.9 ± 0.6	16.0 ± 2.5
K-30	12.9 ± 0.6	15.0 ± 0.7	14.7 ± 0.5	15.3 ± 0.2	14.5 ± 1.1
K-39	14.5 ± 0.7	15.8 ± 0.6	15.7 ± 0.3	16.4 ± 0.4	15.6 ± 0.8
Mean ± s.d.	13.4 ± 1.4	15.9 ± 2.3	15.3 ± 2.0	16.4 ± 2.5	15.3 ± 1.3
Control					
K-2	11.2 ± 0.2	15.5 ± 0.6	14.2 ± 0.2	14.7 ± 0.6	13.9 ± 1.9
K-3	13.3 ± 0.6	17.1 ± 0.8	15.2 ± 0.3	15.5 ± 0.5	15.3 ± 1.6
K-8	12.3 ± 0.4	15.1 ± 0.6	16.1 ± 0.7	16.1 ± 0.4	14.9 ± 1.8
K-15	11.1 ± 0.3	14.3 ± 0.5	14.4 ± 0.4	15.2 ± 0.4	13.8 ± 1.8
K-31	11.3 ± 0.6	13.0 ± 0.3	11.2 ± 0.4	12.0 ± 0.1	11.9 ± 0.8
K-41	11.9 ± 0.7	14.5 ± 0.6	13.4 ± 0.5	15.3 ± 0.6	13.8 ± 1.5
Mean ± s.d.	11.9 ± 0.8	14.9 ± 1.4	14.1 ± 1.7	14.8 ± 1.4	13.9 ± 1.4

Inside the Protected Area [b]

	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	
Date Placed		04-13-09	06-30-09	09-21-09	
Date Removed		06-30-09	09-21-09	12-29-09	
K-1L	-	10.1 ± 0.3	15.9 ± 0.2	13.2 ± 0.7	12.3 ± 2.8
K-1M	-	10.4 ± 0.3	15.8 ± 0.8	15.7 ± 0.4	13.1 ± 3.1
K-1N	-	10.0 ± 0.3	15.8 ± 1.2	13.2 ± 0.4	12.3 ± 2.8
K-1O	-	9.8 ± 0.3	14.9 ± 0.4	13.6 ± 1.0	12.0 ± 2.6
K-1P	-	10.1 ± 0.3	15.0 ± 0.3	13.4 ± 0.7	12.2 ± 2.5
K-1Q	-	9.7 ± 0.3	13.2 ± 0.9	11.9 ± 0.3	11.1 ± 1.7
K-1R	-	10.2 ± 0.3	15.1 ± 0.4	13.0 ± 0.2	12.1 ± 2.4
K-1S	-	9.7 ± 0.3	15.1 ± 0.6	13.2 ± 0.3	11.9 ± 2.7
Mean ± s.d.		10.0 ± 0.3	15.1 ± 0.9	13.4 ± 1.1	12.1 ± 0.6

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

[b] New locations installed 2nd Qtr, 2009

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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)
01/06/09	KP- 77	< 133	< 42
02/03/09	KP- 382	< 156	< 49
03/03/09	KP- 757	< 151	< 47
04/06/09	KP- 1213	< 152	< 48
05/04/09	KP- 2110	< 161	< 50
06/02/09	KP- 2729	< 154	< 48
07/07/09	KP- 3433	< 147	< 46
08/04/09	KP- 4137	< 146	< 46
09/08/09	KP- 4650	< 151	< 47
10/06/09	KP- 5442	< 151	< 47
11/03/09	KP- 6172	263 ± 88 [a]	82 ± 28
12/07/09	KP- 6747	< 151	< 47

[a] Analysis was repeated; Result of reanalysis, 265 ± 89 pCi/L.

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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						
01-05-09	KMI- 14	< 0.5	< 10	< 10	< 15	1288 ± 121
02-02-09	KMI- 334	< 0.5	< 10	< 10	< 15	1407 ± 117
03-02-09	KMI- 631	< 0.5	< 10	< 10	< 15	1422 ± 108
04-01-09	KMI- 1108	< 0.5	< 10	< 10	< 15	1535 ± 118
05-04-09	KMI- 2027	< 0.5	< 10	< 10	< 15	1389 ± 118
05-18-09	KMI- 2345	< 0.5	< 10	< 10	< 15	1362 ± 170
06-01-09	KMI- 2671	< 0.5	< 10	< 10	< 15	1332 ± 103
06-15-09	KMI- 2978	< 0.5	< 10	< 10	< 15	1380 ± 161
07-01-09	KMI- 3300	< 0.5	< 10	< 10	< 15	1479 ± 120
07-13-09	KMI- 3675	< 0.5	< 10	< 10	< 15	1272 ± 113
08-03-09	KMI- 4080	< 0.5	< 10	< 10	< 15	1501 ± 119
08-18-09	KMI- 4328	< 0.5	< 10	< 10	< 15	1383 ± 112
09-01-09	KMI- 4573	< 0.5	< 10	< 10	< 15	1372 ± 120
09-15-09	KMI- 4821	< 0.5	< 10	< 10	< 15	1306 ± 118
10-01-09	KMI- 5264	< 0.5	< 10	< 10	< 15	1414 ± 133
10-13-09	KMI- 5508	< 0.5	< 10	< 10	< 15	1312 ± 117
11-02-09	KMI- 6101	< 0.5	< 10	< 10	< 15	1335 ± 117
12-01-09	KMI- 6570	< 0.5	< 10	< 10	< 15	1327 ± 109
K-34						
01-05-09	KMI- 16	< 0.5	< 10	< 10	< 15	1404 ± 118
02-02-09	KMI- 336	< 0.5	< 10	< 10	< 15	1387 ± 123
03-02-09	KMI- 633	< 0.5	< 10	< 10	< 15	1368 ± 107
04-01-09	KMI- 1110	< 0.5	< 10	< 10	< 15	1339 ± 113
05-04-09	KMI- 2029	< 0.5	< 10	< 10	< 15	1499 ± 105
05-18-09	KMI- 2347	< 0.5	< 10	< 10	< 15	1388 ± 111
06-01-09	KMI- 2673	< 0.5	< 10	< 10	< 15	1477 ± 131
06-15-09	KMI- 2980	< 0.5	< 10	< 10	< 15	1401 ± 136
07-01-09	KMI- 3302	< 0.5	< 10	< 10	< 15	1418 ± 126
07-13-09	KMI- 3677	< 0.5	< 10	< 10	< 15	1426 ± 108
08-04-09	KMI- 4082	< 0.5	< 10	< 10	< 15	1457 ± 126
08-18-09	KMI- 4330	< 0.5	< 10	< 10	< 15	1285 ± 109
09-01-09	KMI- 4575	< 0.5	< 10	< 10	< 15	1435 ± 119
09-15-09	KMI- 4823	< 0.5	< 10	< 10	< 15	1277 ± 111
10-01-09	KMI- 5266	< 0.5	< 10	< 10	< 15	1279 ± 134
10-13-09	KMI- 5510	< 0.5	< 10	< 10	< 15	1423 ± 120
11-02-09	KMI- 6103	< 0.5	< 10	< 10	< 15	1377 ± 130
12-02-09	KMI- 6572	< 0.5	< 10	< 10	< 15	1422 ± 117

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						
01-06-09	KMI- 18	< 0.5	< 10	< 10	< 15	1265 ± 165
02-03-09	KMI- 338	< 0.5	< 10	< 10	< 15	1302 ± 114
03-03-09	KMI- 635	< 0.5	< 10	< 10	< 15	1325 ± 110
04-02-09	KMI- 1112	< 0.5	< 10	< 10	< 15	1316 ± 104
05-04-09	KMI- 2031	< 0.5	< 10	< 10	< 15	1379 ± 95
05-18-09	KMI- 2349	< 0.5	< 10	< 10	< 15	1370 ± 123
06-01-09	KMI- 2675	< 0.5	< 10	< 10	< 15	1371 ± 113
06-15-09	KMI- 2982	< 0.5	< 10	< 10	< 15	1309 ± 108
07-01-09	KMI- 3304	< 0.5	< 10	< 10	< 15	1330 ± 124
07-13-09	KMI- 3679	< 0.5	< 10	< 10	< 15	1396 ± 117
08-04-09	KMI- 4084	< 0.5	< 10	< 10	< 15	1470 ± 114
08-18-09	KMI- 4332	< 0.5	< 10	< 10	< 15	1333 ± 114
09-01-09	KMI- 4577	< 0.5	< 10	< 10	< 15	1324 ± 122
09-15-09	KMI- 4825	< 0.5	< 10	< 10	< 15	1325 ± 115
10-01-09	KMI- 5268	< 0.5	< 10	< 10	< 15	1192 ± 122
10-13-09	KMI- 5512	< 0.5	< 10	< 10	< 15	1397 ± 119
11-02-09	KMI- 6105	< 0.5	< 10	< 10	< 15	1168 ± 106
12-02-09	KMI- 6574	< 0.5	< 10	< 10	< 15	1343 ± 117
K-39						
01-06-09	KMI- 19	< 0.5	< 10	< 10	< 15	1289 ± 169
02-03-09	KMI- 339	< 0.5	< 10	< 10	< 15	1416 ± 127
03-03-09	KMI- 636	< 0.5	< 10	< 10	< 15	1207 ± 103
04-02-09	KMI- 1113	< 0.5	< 10	< 10	< 15	1356 ± 108
05-04-09	KMI- 2032	< 0.5	< 10	< 10	< 15	1248 ± 111
05-18-09	KMI- 2350	< 0.5	< 10	< 10	< 15	1379 ± 182
06-01-09	KMI- 2676	< 0.5	< 10	< 10	< 15	1402 ± 116
06-15-09	KMI- 2983	< 0.5	< 10	< 10	< 15	1280 ± 114
07-01-09	KMI- 3305	< 0.5	< 10	< 10	< 15	1334 ± 128
07-13-09	KMI- 3680	< 0.5	< 10	< 10	< 15	1351 ± 112
08-04-09	KMI- 4085	< 0.5	< 10	< 10	< 15	1408 ± 111
08-18-09	KMI- 4333	< 0.5	< 10	< 10	< 15	1367 ± 112
09-01-09	KMI- 4578	< 0.5	< 10	< 10	< 15	1427 ± 116
09-15-09	KMI- 4826	< 0.5	< 10	< 10	< 15	1467 ± 125
10-01-09	KMI- 5269	< 0.5	< 10	< 10	< 15	1433 ± 119
10-13-09	KMI- 5513	< 0.5	< 10	< 10	< 15	1405 ± 116
11-02-09	KMI- 6106	< 0.5	< 10	< 10	< 15	1401 ± 112
12-02-09	KMI- 6575	< 0.5	< 10	< 10	< 15	1380 ± 113

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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						
01-06-09	KMI- 13	< 0.5	< 10	< 10	< 15	1270 ± 171
02-03-09	KMI- 333	< 0.5	< 10	< 10	< 15	1358 ± 187
03-03-09	KMI- 630	< 0.5	< 10	< 10	< 15	1323 ± 163
04-02-09	KMI- 1107	< 0.5	< 10	< 10	< 15	1429 ± 133
05-05-09	KMI- 2026	< 0.5	< 10	< 10	< 15	1403 ± 175
05-18-09	KMI- 2344	< 0.5	< 10	< 10	< 15	1378 ± 128
06-02-09	KMI- 2670	< 0.5	< 10	< 10	< 15	1471 ± 160
06-15-09	KMI- 2977	< 0.5	< 10	< 10	< 15	1236 ± 106
07-02-09	KMI- 3299	< 0.5	< 10	< 10	< 15	1338 ± 154
07-13-09	KMI- 3674	< 0.5	< 10	< 10	< 15	1329 ± 119
08-04-09	KMI- 4079	< 0.5	< 10	< 10	< 15	1321 ± 113
08-18-09	KMI- 4327	< 0.5	< 10	< 10	< 15	1362 ± 116
09-02-09	KMI- 4572	< 0.5	< 10	< 10	< 15	1393 ± 127
09-15-09	KMI- 4820	< 0.5	< 10	< 10	< 15	1419 ± 119
10-02-09	KMI- 5263	< 0.5	< 10	< 10	< 15	1318 ± 113
10-13-09	KMI- 5507	< 0.5	< 10	< 10	< 15	1310 ± 126
11-03-09	KMI- 6100	< 0.5	< 10	< 10	< 15	1285 ± 110
12-02-09	KMI- 6569	< 0.5	< 10	< 10	< 15	1380 ± 123
K-28						
01-05-09	KMI- 15	< 0.5	< 10	< 10	< 15	1381 ± 136
02-03-09	KMI- 335	< 0.5	< 10	< 10	< 15	1380 ± 186
03-02-09	KMI- 632	< 0.5	< 10	< 10	< 15	1322 ± 121
04-02-09	KMI- 1109	< 0.5	< 10	< 10	< 15	1332 ± 170
05-05-09	KMI- 2028	< 0.5	< 10	< 10	< 15	1366 ± 109
05-18-09	KMI- 2346	< 0.5	< 10	< 10	< 15	1431 ± 129
06-02-09	KMI- 2672	< 0.5	< 10	< 10	< 15	1418 ± 189
06-15-09	KMI- 2979	< 0.5	< 10	< 10	< 15	1389 ± 119
07-02-09	KMI- 3301	< 0.5	< 10	< 10	< 15	1313 ± 176
07-13-09	KMI- 3676	< 0.5	< 10	< 10	< 15	1392 ± 120
08-04-09	KMI- 4081	< 0.5	< 10	< 10	< 15	1407 ± 176
08-18-09	KMI- 4329	< 0.5	< 10	< 10	< 15	1248 ± 111
09-02-09	KMI- 4574	< 0.5	< 10	< 10	< 15	1457 ± 113
09-15-09	KMI- 4822	< 0.5	< 10	< 10	< 15	1319 ± 115
10-02-09	KMI- 5265	< 0.5	< 10	< 10	< 15	1367 ± 111
10-13-09	KMI- 5509	< 0.5	< 10	< 10	< 15	1393 ± 109
11-03-09	KMI- 6102	< 0.5	< 10	< 10	< 15	1350 ± 125
12-02-09	KMI- 6571	< 0.5	< 10	< 10	< 15	1375 ± 117

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						
01-06-09	KMI- 17	< 0.5	< 10	< 10	< 15	1322 ± 125
02-03-09	KMI- 337	< 0.5	< 10	< 10	< 15	1411 ± 127
03-03-09	KMI- 634	< 0.5	< 10	< 10	< 15	1438 ± 170
04-02-09	KMI- 1111	< 0.5	< 10	< 10	< 15	1433 ± 125
05-05-09	KMI- 2030	< 0.5	< 10	< 10	< 15	1524 ± 115
05-18-09	KMI- 2348	< 0.5	< 10	< 10	< 15	1408 ± 179
06-02-09	KMI- 2674	< 0.5	< 10	< 10	< 15	1397 ± 121
06-15-09	KMI- 2981	< 0.5	< 10	< 10	< 15	1298 ± 112
07-02-09	KMI- 3303	< 0.5	< 10	< 10	< 15	1452 ± 158
07-13-09	KMI- 3678	< 0.5	< 10	< 10	< 15	1501 ± 120
08-03-09	KMI- 4083	< 0.5	< 10	< 10	< 15	1624 ± 117
08-18-09	KMI- 4331	< 0.5	< 10	< 10	< 15	1574 ± 117
09-01-09	KMI- 4576	< 0.5	< 10	< 10	< 15	1479 ± 124
09-15-09	KMI- 4824	< 0.5	< 10	< 10	< 15	1298 ± 128
10-01-09	KMI- 5267	< 0.5	< 10	< 10	< 15	1364 ± 108
10-13-09	KMI- 5511	< 0.5	< 10	< 10	< 15	1347 ± 135
11-03-09	KMI- 6104	< 0.5	< 10	< 10	< 15	1343 ± 120
12-02-09	KMI- 6573	< 0.5	< 10	< 10	< 15	1473 ± 111

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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 - 14	< 1.2	1.4 ± 0.5	1.52 ± 0.14	1.28	1.09	< 6.58
February	- 334	< 0.9	1.0 ± 0.3	1.66 ± 0.14	1.03	0.97	< 6.02
March	- 631	< 0.9	0.8 ± 0.3	1.68 ± 0.13	1.29	0.62	< 5.95
April	- 1108	< 0.9	0.6 ± 0.3	1.81 ± 0.14	1.24	0.48	< 5.52
May	- 2528	< 0.7	< 0.6	1.62 ± 0.17	0.94	< 0.64	< 6.17
June	- 3101	< 0.9	0.6 ± 0.3	1.60 ± 0.16	1.06	0.57	< 6.25
July	- 3799	< 1.0	< 0.6	1.62 ± 0.14	1.12	< 0.54	< 6.17
August	- 4339	< 0.9	0.8 ± 0.4	1.70 ± 0.14	0.92	0.87	< 5.88
September	- 4916	< 1.3	< 0.6	1.58 ± 0.14	0.89	< 0.67	< 6.33
October	- 5764	< 1.0	0.8 ± 0.4	1.61 ± 0.15	1.04	0.77	< 6.21
November	- 6101	< 0.9	1.2 ± 0.4	1.57 ± 0.14	1.25	0.96	< 6.37
December	- 6570	< 1.2	0.8 ± 0.4	1.56 ± 0.13	1.29	0.62	< 6.41
				K-34			
January	KMI - 16	< 0.8	< 0.6	1.66 ± 0.14	1.29	< 0.47	< 6.02
February	- 336	< 0.7	0.8 ± 0.3	1.64 ± 0.15	0.98	0.82	< 6.10
March	- 633	< 0.9	0.6 ± 0.3	1.61 ± 0.13	1.17	0.51	< 6.21
April	- 1110	< 0.9	0.7 ± 0.3	1.58 ± 0.13	1.08	0.65	< 6.33
May	- 2530	< 0.6	0.5 ± 0.3	1.70 ± 0.13	0.94	0.53	< 5.88
June	- 3103	< 0.8	0.6 ± 0.3	1.70 ± 0.16	1.05	0.57	< 5.88
July	- 3801	< 0.8	< 0.5	1.68 ± 0.14	1.06	< 0.47	< 5.95
August	- 4341	< 0.7	< 0.6	1.62 ± 0.14	0.92	< 0.76	< 6.17
September	- 4918	< 1.0	0.7 ± 0.3	1.60 ± 0.14	1.14	0.61	< 6.25
October	- 5766	< 0.8	0.7 ± 0.3	1.59 ± 0.15	1.10	0.64	< 6.29
November	- 6103	< 0.8	0.7 ± 0.3	1.62 ± 0.15	1.26	0.56	< 6.17
December	- 6572	< 0.9	0.7 ± 0.3	1.68 ± 0.14	1.21	0.58	< 5.95

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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 - 18	< 1.0	1.3 ± 0.5	1.49 ± 0.19	1.23	1.06	< 6.71
February	- 338	< 0.8	1.0 ± 0.4	1.54 ± 0.13	1.12	0.89	< 6.49
March	- 635	< 0.8	1.3 ± 0.4	1.56 ± 0.13	1.19	1.09	< 6.41
April	- 1112	< 0.9	1.1 ± 0.4	1.55 ± 0.12	1.23	0.89	< 6.45
May	- 2532	< 0.8	1.2 ± 0.4	1.62 ± 0.13	0.94	1.28	< 6.17
June	- 3105	< 0.8	1.2 ± 0.4	1.58 ± 0.13	1.17	1.03	< 6.33
July	- 3803	< 0.9	0.7 ± 0.4	1.61 ± 0.14	0.97	0.72	< 6.21
August	- 4343	< 0.8	0.8 ± 0.4	1.65 ± 0.13	0.89	0.90	< 6.06
September	- 4920	< 0.8	0.7 ± 0.4	1.56 ± 0.14	0.96	0.73	< 6.41
October	- 5768	< 0.8	0.9 ± 0.4	1.53 ± 0.14	1.03	0.87	< 6.54
November	- 6105	< 1.0	1.2 ± 0.5	1.38 ± 0.13	1.11	1.08	< 7.25
December	- 6574	< 1.0	1.1 ± 0.4	1.58 ± 0.14	1.17	0.94	< 6.33
				K-39			
January	KMI - 19	< 1.1	< 0.7	1.52 ± 0.20	1.20	< 0.58	< 6.58
February	- 339	< 0.9	1.1 ± 0.4	1.67 ± 0.15	1.01	1.09	< 5.99
March	- 636	< 0.8	0.9 ± 0.3	1.42 ± 0.12	1.24	0.73	< 7.04
April	- 1113	< 1.2	0.7 ± 0.4	1.60 ± 0.13	1.11	0.63	< 6.25
May	- 2533	< 0.7	1.1 ± 0.4	1.55 ± 0.17	1.17	0.94	< 6.45
June	- 3106	< 0.9	0.9 ± 0.4	1.58 ± 0.14	1.07	0.84	< 6.33
July	- 3804	< 1.0	1.0 ± 0.4	1.58 ± 0.14	1.12	0.89	< 6.33
August	- 4344	< 1.0	< 0.7	1.64 ± 0.13	0.93	< 0.75	< 6.10
September	- 4921	< 0.9	0.8 ± 0.4	1.71 ± 0.14	0.97	0.82	< 5.85
October	- 5769	< 1.0	< 0.7	1.67 ± 0.14	1.12	< 0.63	< 5.99
November	- 6106	< 1.0	< 0.8	1.65 ± 0.13	1.14	< 0.70	< 6.06
December	- 6575	< 1.1	1.1 ± 0.4	1.63 ± 0.13	1.19	0.92	< 6.13

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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 - 13	< 1.0	2.0 ± 0.5	1.50 ± 0.20	1.26	1.59	< 6.67
February	- 333	< 0.8	1.0 ± 0.4	1.60 ± 0.22	1.04	0.96	< 6.25
March	- 630	< 0.9	1.6 ± 0.4	1.56 ± 0.19	1.32	1.21	< 6.41
April	- 1107	< 0.9	1.3 ± 0.4	1.69 ± 0.16	1.25	1.04	< 5.92
May	- 2527	< 0.9	1.2 ± 0.4	1.64 ± 0.18	1.00	1.20	< 6.10
June	- 3100	< 0.7	1.3 ± 0.4	1.60 ± 0.16	0.98	1.33	< 6.25
July	- 3798	< 0.9	0.9 ± 0.4	1.57 ± 0.16	1.00	0.90	< 6.37
August	- 4338	< 0.8	1.1 ± 0.4	1.58 ± 0.14	0.94	1.17	< 6.33
September	- 4915	< 1.1	0.9 ± 0.5	1.66 ± 0.15	0.97	0.93	< 6.02
October	- 5763	< 0.8	1.3 ± 0.4	1.55 ± 0.14	1.19	1.09	< 6.45
November	- 6100	< 0.9	1.3 ± 0.4	1.52 ± 0.13	1.20	1.08	< 6.58
December	- 6569	< 1.0	1.2 ± 0.4	1.63 ± 0.15	1.25	0.96	< 6.13
				K-28			
January	KMI - 15	< 0.9	0.8 ± 0.4	1.63 ± 0.16	1.15	0.70	< 6.13
February	- 335	< 0.8	1.8 ± 0.5	1.63 ± 0.22	0.97	1.86	< 6.13
March	- 632	< 0.9	1.0 ± 0.4	1.56 ± 0.14	1.09	0.92	< 6.41
April	- 1109	< 0.8	0.7 ± 0.3	1.57 ± 0.20	1.19	0.59	< 6.37
May	- 2529	< 0.7	0.9 ± 0.3	1.65 ± 0.14	0.92	0.98	< 6.06
June	- 3102	< 0.7	0.6 ± 0.3	1.66 ± 0.18	0.92	0.65	< 6.02
July	- 3800	< 0.9	1.1 ± 0.4	1.59 ± 0.17	1.00	1.10	< 6.29
August	- 4340	< 0.7	0.8 ± 0.4	1.57 ± 0.17	0.96	0.83	< 6.37
September	- 4917	< 1.1	0.9 ± 0.5	1.64 ± 0.13	0.90	1.00	< 6.10
October	- 5765	< 0.7	0.6 ± 0.3	1.63 ± 0.13	1.00	0.60	< 6.13
November	- 6102	< 0.9	1.0 ± 0.4	1.59 ± 0.15	1.14	0.88	< 6.29
December	- 6571	< 0.9	1.1 ± 0.4	1.62 ± 0.14	1.25	0.88	< 6.17
				K-35			
January	KMI - 17	< 0.9	1.0 ± 0.4	1.56 ± 0.15	1.23	0.81	< 6.41
February	- 337	< 0.7	0.8 ± 0.3	1.66 ± 0.15	1.08	0.74	< 6.02
March	- 634	< 1.0	1.3 ± 0.4	1.70 ± 0.20	1.15	1.13	< 5.88
April	- 1111	< 0.8	1.1 ± 0.3	1.69 ± 0.15	1.19	0.92	< 5.92
May	- 2531	< 0.8	0.9 ± 0.4	1.73 ± 0.17	1.06	0.85	< 5.78
June	- 3104	< 0.7	1.1 ± 0.4	1.59 ± 0.14	1.13	0.97	< 6.29
July	- 3802	< 0.8	< 0.7	1.74 ± 0.16	1.06	< 0.66	< 5.75
August	- 4342	< 0.7	0.9 ± 0.4	1.89 ± 0.14	0.92	0.98	< 5.29
September	- 4919	< 1.0	1.4 ± 0.6	1.64 ± 0.15	0.99	1.41	< 6.10
October	- 5767	< 0.8	< 0.5	1.60 ± 0.14	1.03	< 0.49	< 6.25
November	- 6104	< 0.8	1.0 ± 0.4	1.58 ± 0.14	1.20	0.83	< 6.33
December	- 6573	< 1.0	1.2 ± 0.4	1.74 ± 0.13	1.28	0.94	< 5.75

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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	01-05-09	04-01-09	07-01-09	10-01-09
Lab Code	KWW- 23	KWW- 1100	KWW- 3323	KWW- 5355
Gross alpha	< 2.5	2.3 ± 1.2	< 2.4	< 2.9
Gross beta	2.6 ± 1.3	2.8 ± 0.7	2.6 ± 1.3	5.8 ± 2.6
H-3	< 133	< 159	< 136	< 170
Sr-89	< 0.5	< 0.6	< 0.8	< 0.8
Sr-90	< 0.5	< 0.5	< 0.4	< 0.5
K-40 (ICP)	2.34	2.25	2.51	2.77
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	01-05-09	04-01-09	07-01-09	10-01-09
Lab Code	KWW- 24	KWW- 1101	KWW- 3324	KWW- 5356
Gross alpha	< 2.4	2.5 ± 1.2	< 2.4	< 2.7
Gross beta	2.6 ± 1.3	4.1 ± 1.5 [b]	2.1 ± 1.3	4.0 ± 2.3
H-3	< 133	< 159	< 136	< 170
K-40 (ICP)	1.28	2.27	2.60	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.
[b] Result of reanalysis.

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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	01-05-09	04-01-09	07-01-09	10-01-09
Lab Code	KWW- 25	KWW- 1102	KWW- 3325	KWW- 5357
Gross beta	2.1 ± 0.8	2.1 ± 1.3	1.8 ± 0.7	3.8 ± 1.4
H-3	< 133	< 159	< 136	< 170
K-40 (ICP)	0.87	2.68	2.94	3.03
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	01-05-09	04-01-09	07-01-09	10-01-09
Lab Code	KWW- 26	KWW- 1104	KWW- 3326	KWW- 5358
Gross beta	0.7 ± 0.3	< 1.0	0.8 ± 0.3	1.8 ± 1.0
H-3	< 133	< 159	< 136	< 170
K-40 (ICP)	0.95	0.61	0.87	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

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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	01-05-09	04-01-09	07-01-09	10-01-09
Lab Code	KWW- 28	KWW- 1106	KWW- 3328	KWW- 5360
Gross beta	0.7 ± 0.4	1.5 ± 0.7	< 0.5	1.4 ± 1.2
H-3	< 133	< 159	< 136	< 170
K-40 (ICP)	0.79	0.86	0.52	0.69
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	01-05-09	04-01-09	07-01-09	10-01-09
Lab Code	KWW- 27	KWW- 1105	KWW- 3327	KWW- 5359
Gross beta	0.9 ± 0.3	< 0.9	0.7 ± 0.3	1.4 ± 0.9
H-3	< 133	< 159	< 136	< 170
K-40 (ICP)	0.77	0.84	0.95	1.21
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 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	09-01-09	11-03-09	09-01-09
Lab Code	KME- 4570	KME- 6116	KME- 4571
Gross Alpha	0.066 ± 0.034	0.040 ± 0.020	0.051 ± 0.028
Gross Beta	3.65 ± 0.11	2.57 ± 0.08	3.25 ± 0.09
Be-7	< 0.14	< 0.057	< 0.12
K-40	3.12 ± 0.42	2.83 ± 0.39	2.06 ± 0.32
Nb-95	< 0.022	< 0.014	< 0.016
Zr-95	< 0.029	< 0.037	< 0.026
Ru-103	< 0.019	< 0.017	< 0.014
Ru-106	< 0.137	< 0.072	< 0.148
Cs-134	< 0.019	< 0.013	< 0.013
Cs-137	< 0.016	< 0.012	< 0.012
Ce-141	< 0.026	< 0.022	< 0.024
Ce-144	< 0.094	< 0.071	< 0.082

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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	01-05-09	04-01-09	07-01-09	10-01-09
Lab Code	KE- 20	KE- 1114	KE- 3315	KE- 5251
Gross beta	1.79 ± 0.07	1.96 ± 0.08	1.84 ± 0.09	2.27 ± 0.10
Sr-89	< 0.012	< 0.008	< 0.011	< 0.007
Sr-90	< 0.006	< 0.003	< 0.007	< 0.004
Be-7	< 0.072	< 0.046	< 0.063	< 0.077
K-40	1.34 ± 0.21	1.18 ± 0.13	1.14 ± 0.21	1.15 ± 0.17
Nb-95	< 0.009	< 0.006	< 0.009	< 0.012
Zr-95	< 0.014	< 0.008	< 0.015	< 0.018
Ru-103	< 0.011	< 0.005	< 0.011	< 0.008
Ru-106	< 0.057	< 0.043	< 0.064	< 0.067
Cs-134	< 0.009	< 0.004	< 0.008	< 0.004
Cs-137	< 0.007	< 0.005	< 0.008	< 0.008
Ce-141	< 0.012	< 0.012	< 0.017	< 0.021
Ce-144	< 0.068	< 0.035	< 0.055	< 0.064

Location	K-32			
Date Collected	01-05-09	04-01-09	07-01-09	10-01-09
Lab Code	KE- 22	KE- 1115	KE- 3316	KE- 5253
Gross beta	1.77 ± 0.06	1.52 ± 0.06	1.63 ± 0.07	1.86 ± 0.08
Sr-89	< 0.009	< 0.006	< 0.006	< 0.008
Sr-90	< 0.004	< 0.002	< 0.003	< 0.005
Be-7	< 0.049	< 0.049	< 0.068	< 0.063
K-40	1.30 ± 0.21	1.40 ± 0.14	1.12 ± 0.20	1.16 ± 0.16
Nb-95	< 0.008	< 0.006	< 0.010	< 0.012
Zr-95	< 0.019	< 0.006	< 0.010	< 0.014
Ru-103	< 0.008	< 0.005	< 0.010	< 0.009
Ru-106	< 0.080	< 0.041	< 0.070	< 0.067
Cs-134	< 0.009	< 0.005	< 0.007	< 0.007
Cs-137	< 0.009	< 0.006	< 0.009	< 0.006
Ce-141	< 0.028	< 0.012	< 0.019	< 0.019
Ce-144	< 0.076	< 0.047	< 0.056	< 0.057

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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	K-24
Date Collected	08-03-09	08-03-09	09-01-09
Lab Code	KVE- 4097	KVE- 4098	KVE- 4594
Type	Clover	Oats	Leaf Lettuce
Gross beta	4.96 ± 0.13	5.15 ± 0.17	4.96 ± 0.09
Sr-89	< 0.006	< 0.015	< 0.019
Sr-90	< 0.004	< 0.010	0.015 ± 0.006
Be-7	0.49 ± 0.17	0.58 ± 0.16	0.55 ± 0.11
K-40	4.07 ± 0.36	5.17 ± 0.51	6.25 ± 0.41
Nb-95	< 0.013	< 0.018	< 0.013
Zr-95	< 0.017	< 0.025	< 0.025
Ru-103	< 0.012	< 0.012	< 0.012
Ru-106	< 0.071	< 0.126	< 0.048
Cs-134	< 0.010	< 0.015	< 0.010
Cs-137	< 0.014	< 0.022	< 0.013
Ce-141	< 0.016	< 0.031	< 0.017
Ce-144	< 0.091	< 0.074	< 0.056

Location	K-29
Date Collected	10-01-09
Lab Code	KVE- 5366
Type	Pumpkin
Gross beta	2.19 ± 0.04
Sr-89	< 0.003
Sr-90	0.003 ± 0.001
Be-7	< 0.062
K-40	1.53 ± 0.17
Nb-95	< 0.007
Zr-95	< 0.008
Ru-103	< 0.005
Ru-106	< 0.036
Cs-134	< 0.005
Cs-137	< 0.007
Ce-141	< 0.014
Ce-144	< 0.042

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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	09-02-09	09-02-09	09-02-09	09-02-09
Lab Code	KVE- 4595	KVE- 4596	KVE- 4597	KVE- 4598
Type	Onions	Cabbage	Kohlrabi	Green Beans
Gross beta	0.99 ± 0.02	1.94 ± 0.04	1.91 ± 0.03	1.80 ± 0.03
Sr-89	< 0.002	< 0.002	< 0.002	< 0.003
Sr-90	< 0.001	0.002 ± 0.001	< 0.001	0.003 ± 0.001
Be-7	< 0.088	< 0.072	< 0.060	< 0.094
K-40	1.43 ± 0.20	1.49 ± 0.21	1.83 ± 0.17	2.17 ± 0.26
Nb-95	< 0.006	< 0.007	< 0.006	< 0.010
Zr-95	< 0.008	< 0.010	< 0.007	< 0.018
Ru-103	< 0.010	< 0.006	< 0.006	< 0.009
Ru-106	< 0.073	< 0.055	< 0.052	< 0.059
Cs-134	< 0.008	< 0.006	< 0.005	< 0.011
Cs-137	< 0.009	< 0.009	< 0.007	< 0.012
Ce-141	< 0.021	< 0.010	< 0.009	< 0.014
Ce-144	< 0.053	< 0.061	< 0.054	< 0.052
Date Collected	09-02-09	09-02-09	09-02-09	10-02-09
Lab Code	KVE- 4599	KVE- 4600	KVE- 4601	KVE- 5365
Type	Cauliflower	Corn	Cucumber	Pumpkin
Gross beta	1.92 ± 0.04	3.65 ± 0.08	2.35 ± 0.04	4.07 ± 0.08
Sr-89	< 0.002	< 0.008	< 0.003	< 0.004
Sr-90	< 0.001	< 0.004	< 0.001	< 0.005
Be-7	< 0.071	< 0.052	< 0.067	< 0.053
K-40	2.06 ± 0.20	2.39 ± 0.23	1.80 ± 0.18	2.62 ± 0.20
Nb-95	< 0.005	< 0.009	< 0.006	< 0.004
Zr-95	< 0.005	< 0.016	< 0.015	< 0.010
Ru-103	< 0.006	< 0.011	< 0.004	< 0.005
Ru-106	< 0.040	< 0.081	< 0.054	< 0.052
Cs-134	< 0.007	< 0.008	< 0.008	< 0.005
Cs-137	< 0.006	< 0.007	< 0.008	< 0.005
Ce-141	< 0.016	< 0.014	< 0.013	< 0.009
Ce-144	< 0.052	< 0.074	< 0.059	< 0.034

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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	01-05-09	01-05-09	01-05-09	01-05-09
Lab Code	KCF- 61	KCF- 67	KCF- 64	KCF- 71
Type	Hay	Silage	Hay [a]	Silage [a]
Gross beta	13.46 ± 0.31	4.34 ± 0.11	19.60 ± 0.49	3.55 ± 0.08
Sr-89	< 0.020	< 0.014	< 0.027	< 0.008
Sr-90	0.017 ± 0.007	< 0.008	0.016 ± 0.008	< 0.004
Be-7	0.17 ± 0.08	0.34 ± 0.12	0.41 ± 0.14	0.22 ± 0.06
K-40	8.51 ± 0.30	3.16 ± 0.26	12.12 ± 0.40	2.35 ± 0.12
Nb-95	< 0.011	< 0.017	< 0.017	< 0.006
Zr-95	< 0.017	< 0.020	< 0.022	< 0.010
Ru-103	< 0.007	< 0.010	< 0.019	< 0.007
Ru-106	< 0.047	< 0.125	< 0.090	< 0.041
Cs-134	< 0.007	< 0.009	< 0.012	< 0.003
Cs-137	< 0.008	< 0.009	< 0.014	< 0.005
Ce-141	< 0.020	< 0.031	< 0.031	< 0.011
Ce-144	< 0.044	< 0.098	< 0.12	< 0.027
	Indicator			
Location	K-5	K-5	K-34	K-34
Date Collected	01-05-09	01-05-09	01-05-09	01-05-09
Lab Code	KCF- 62	KCF- 69	KCF- 63	KCF- 70
Type	Hay	Silage	Hay	Silage
Gross beta	34.86 ± 0.74	9.53 ± 0.21	27.92 ± 0.63	5.86 ± 0.15
Sr-89	< 0.047	< 0.017	< 0.019	< 0.009
Sr-90	0.031 ± 0.016	< 0.007	0.021 ± 0.007	< 0.004
Be-7	0.38 ± 0.16	0.34 ± 0.13	< 0.14	< 0.10
K-40	24.30 ± 0.54	7.75 ± 0.36	17.19 ± 0.35	4.24 ± 0.33
Nb-95	< 0.017	< 0.012	< 0.015	< 0.016
Zr-95	< 0.030	< 0.018	< 0.021	< 0.012
Ru-103	< 0.014	< 0.014	< 0.013	< 0.015
Ru-106	< 0.094	< 0.067	< 0.093	< 0.083
Cs-134	< 0.013	< 0.007	< 0.008	< 0.007
Cs-137	< 0.012	< 0.010	< 0.011	< 0.010
Ce-141	< 0.031	< 0.024	< 0.032	< 0.019
Ce-144	< 0.111	< 0.055	< 0.07	< 0.062

[a] Corrected values, gamma isotopic results.

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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	01-05-09	01-05-09	01-05-09	01-05-09
Lab Code	KCF- 65	KCF- 72	KCF- 66	KCF- 73
Type	Hay	Silage	Hay	Silage
Gross beta	26.56 ± 0.55	9.02 ± 0.21	31.98 ± 0.72	11.87 ± 0.28
Sr-89	< 0.017	< 0.029	< 0.052	< 0.018
Sr-90	0.010 ± 0.005	0.017 ± 0.007	< 0.028	< 0.008
Be-7	< 0.17	< 0.13	< 0.27	0.21 ± 0.10
K-40	16.13 ± 0.45	5.58 ± 0.36	17.98 ± 0.85	8.73 ± 0.21
Nb-95	< 0.019	< 0.009	< 0.032	< 0.010
Zr-95	< 0.023	< 0.023	< 0.052	< 0.014
Ru-103	< 0.022	< 0.011	< 0.026	< 0.007
Ru-106	< 0.084	< 0.090	< 0.204	< 0.043
Cs-134	< 0.012	< 0.009	< 0.024	< 0.005
Cs-137	< 0.013	< 0.011	< 0.027	< 0.006
Ce-141	< 0.037	< 0.022	< 0.059	< 0.015
Ce-144	< 0.100	< 0.060	< 0.15	< 0.027

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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	06-01-09	06-01-09	06-01-09	06-01-09
Lab Code	KG- 2645	KG- 2646	KG- 2649	KG- 2650
Gross beta	8.14 ± 0.24	7.27 ± 0.21	9.46 ± 0.29	8.69 ± 0.30
Sr-89	< 0.006	< 0.008	< 0.017	< 0.014
Sr-90	< 0.003	< 0.004	< 0.011	< 0.008
Be-7	0.63 ± 0.20	0.40 ± 0.13	0.34 ± 0.11	0.46 ± 0.13
K-40	6.23 ± 0.47	5.34 ± 0.37	6.26 ± 0.39	5.60 ± 0.42
Mn-54	< 0.012	< 0.008	< 0.009	< 0.008
Co-58	< 0.015	< 0.007	< 0.008	< 0.009
Co-60	< 0.008	< 0.010	< 0.005	< 0.010
Nb-95	< 0.009	< 0.010	< 0.007	< 0.014
Zr-95	< 0.023	< 0.016	< 0.018	< 0.018
Ru-103	< 0.013	< 0.011	< 0.011	< 0.010
Ru-106	< 0.140	< 0.087	< 0.081	< 0.080
Cs-134	< 0.017	< 0.012	< 0.012	< 0.008
Cs-137	< 0.010	< 0.011	< 0.012	< 0.010
Ce-141	< 0.038	< 0.018	< 0.022	< 0.019
Ce-144	< 0.124	< 0.054	< 0.058	< 0.099

	Indicator		Control	
Location	K-38	K-39	K-3	K-35
Date Collected	06-01-09	06-01-09	06-01-09	06-01-09
Lab Code	KG- 2652	KG- 2653	KG- 2647	KG- 2651
Gross beta	8.76 ± 0.24	8.89 ± 0.19	7.99 ± 0.16	7.29 ± 0.20
Sr-89	< 0.012	< 0.007	< 0.007	< 0.005
Sr-90	< 0.007	< 0.005	< 0.004	< 0.003
Be-7	0.48 ± 0.17	0.48 ± 0.24	0.49 ± 0.13	0.52 ± 0.15
K-40	6.39 ± 0.47	6.27 ± 0.56	5.77 ± 0.39	4.87 ± 0.35
Mn-54	< 0.013	< 0.014	< 0.009	< 0.011
Co-58	< 0.015	< 0.016	< 0.009	< 0.009
Co-60	< 0.013	< 0.017	< 0.009	< 0.009
Nb-95	< 0.017	< 0.018	< 0.010	< 0.014
Zr-95	< 0.034	< 0.029	< 0.019	< 0.014
Ru-103	< 0.014	< 0.022	< 0.009	< 0.013
Ru-106	< 0.165	< 0.201	< 0.065	< 0.110
Cs-134	< 0.015	< 0.013	< 0.009	< 0.015
Cs-137	< 0.008	< 0.015	< 0.010	< 0.012
Ce-141	< 0.032	< 0.021	< 0.019	< 0.029
Ce-144	< 0.131	< 0.084	< 0.073	< 0.122

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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

	Indicator			
Location	K-1b	K-1f	K-5	K-34
Date Collected	08-03-09	08-03-09	08-03-09	08-03-09
Lab Code	KG- 4088	KG- 4089	KG- 4091	KG- 4092
Gross beta	6.34 ± 0.16	8.12 ± 0.18	6.96 ± 0.18	6.23 ± 0.18
Sr-89	< 0.011	< 0.016	< 0.022	< 0.012
Sr-90	< 0.005	< 0.008	0.017 ± 0.007	0.006 ± 0.003
Be-7	0.96 ± 0.18	1.05 ± 0.21	1.35 ± 0.21	1.59 ± 0.20
K-40	4.64 ± 0.43	6.41 ± 0.51	5.37 ± 0.45	4.99 ± 0.43
Mn-54	< 0.016	< 0.016	< 0.012	< 0.011
Co-58	< 0.014	< 0.015	< 0.012	< 0.010
Co-60	< 0.011	< 0.015	< 0.013	< 0.008
Nb-95	< 0.018	< 0.020	< 0.010	< 0.015
Zr-95	< 0.039	< 0.034	< 0.014	< 0.013
Ru-103	< 0.016	< 0.017	< 0.015	< 0.011
Ru-106	< 0.180	< 0.106	< 0.123	< 0.096
Cs-134	< 0.016	< 0.010	< 0.012	< 0.011
Cs-137	< 0.012	< 0.018	< 0.009	< 0.011
Ce-141	< 0.028	< 0.025	< 0.025	< 0.028
Ce-144	< 0.129	< 0.104	< 0.072	< 0.093

	Indicator		Control	
Location	K-38	K-39	K-3	K-35
Date Collected	08-03-09	08-03-09	08-03-09	08-03-09
Lab Code	KG- 4094	KG- 4095	KG- 4090	KG- 4093
Gross beta	7.57 ± 0.19	5.33 ± 0.14	8.01 ± 0.16	4.25 ± 0.10
Sr-89	< 0.016	< 0.008	< 0.011	< 0.007
Sr-90	0.011 ± 0.005	< 0.004	< 0.005	0.004 ± 0.002
Be-7	1.48 ± 0.19	1.76 ± 0.22	0.85 ± 0.17	1.69 ± 0.21
K-40	5.61 ± 0.43	4.53 ± 0.42	7.63 ± 0.55	3.84 ± 0.38
Mn-54	< 0.011	< 0.009	< 0.012	< 0.015
Co-58	< 0.008	< 0.008	< 0.015	< 0.012
Co-60	< 0.010	< 0.012	< 0.017	< 0.009
Nb-95	< 0.010	< 0.013	< 0.018	< 0.018
Zr-95	< 0.024	< 0.024	< 0.025	< 0.023
Ru-103	< 0.012	< 0.013	< 0.015	< 0.008
Ru-106	< 0.085	< 0.160	< 0.071	< 0.081
Cs-134	< 0.010	< 0.015	< 0.012	< 0.011
Cs-137	< 0.013	< 0.015	< 0.016	< 0.014
Ce-141	< 0.025	< 0.022	< 0.020	< 0.027
Ce-144	< 0.097	< 0.096	< 0.085	< 0.085

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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	10-01-09	10-01-09	10-01-09	10-01-09
Lab Code	KG- 5270	KG- 5271	KG- 5274	KG- 5275
Gross beta	9.74 ± 0.23	4.83 ± 0.13	3.90 ± 0.13	9.58 ± 0.21
Sr-89	< 0.023	< 0.020	< 0.028	< 0.032
Sr-90	< 0.010	< 0.008	< 0.013	< 0.016
Be-7	4.27 ± 0.34	1.84 ± 0.24	3.41 ± 0.21	3.07 ± 0.23
K-40	4.75 ± 0.47	4.61 ± 0.47	4.37 ± 0.33	7.43 ± 0.41
Mn-54	< 0.019	< 0.012	< 0.010	< 0.012
Co-58	< 0.018	< 0.013	< 0.008	< 0.010
Co-60	< 0.015	< 0.012	< 0.012	< 0.009
Nb-95	< 0.013	< 0.016	< 0.016	< 0.010
Zr-95	< 0.024	< 0.027	< 0.024	< 0.023
Ru-103	< 0.016	< 0.018	< 0.009	< 0.008
Ru-106	< 0.133	< 0.091	< 0.110	< 0.114
Cs-134	< 0.014	< 0.016	< 0.011	< 0.013
Cs-137	< 0.019	< 0.020	< 0.013	< 0.013
Ce-141	< 0.035	< 0.031	< 0.020	< 0.023
Ce-144	< 0.110	< 0.112	< 0.088	< 0.104

	Indicator		Control	
Location	K-38	K-39	K-3	K-35
Date Collected	10-01-09	10-01-09	10-01-09	10-01-09
Lab Code	KG- 5277	KG- 5278	KG- 5272	KG- 5276
Gross beta	3.90 ± 0.10	8.27 ± 0.25	19.81 ± 0.80	5.35 ± 0.11
Sr-89	< 0.013	< 0.034	< 0.028	< 0.019
Sr-90	< 0.006	< 0.021	< 0.013	< 0.008
Be-7	2.04 ± 0.25	4.53 ± 0.27	3.31 ± 0.29	1.52 ± 0.15
K-40	4.54 ± 0.46	6.03 ± 0.38	16.47 ± 0.75	5.54 ± 0.32
Mn-54	< 0.017	< 0.013	< 0.020	< 0.011
Co-58	< 90.000	< 0.010	< 0.019	< 0.012
Co-60	< 0.016	< 0.015	< 0.013	< 0.005
Nb-95	< 0.011	< 0.011	< 0.018	< 0.012
Zr-95	< 0.030	< 0.017	< 0.029	< 0.023
Ru-103	< 0.020	< 0.014	< 0.018	< 0.011
Ru-106	< 0.143	< 0.085	< 0.137	< 0.074
Cs-134	< 0.016	< 0.009	< 0.014	< 0.011
Cs-137	< 0.017	< 0.011	< 0.016	< 0.013
Ce-141	< 0.040	< 0.021	< 0.036	< 0.028
Ce-144	< 0.147	< 0.084	< 0.119	< 0.108

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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	05-04-09	05-04-09
Lab Code	KSO- 2039	KSO- 2041
Gross alpha	4.75 ± 3.14	5.61 ± 2.95
Gross beta	25.89 ± 3.65	37.53 ± 3.80
Sr-89	< 0.027	< 0.027
Sr-90	< 0.015	0.021 ± 0.009
Be-7	< 0.17	< 0.22
K-40	16.10 ± 0.75	20.82 ± 0.86
Nb-95	< 0.015	< 0.016
Zr-95	< 0.045	< 0.027
Ru-103	< 0.021	< 0.021
Ru-106	< 0.144	< 0.132
Cs-134	< 0.017	< 0.014
Cs-137	0.061 ± 0.033	0.102 ± 0.029
Ce-141	< 0.038	< 0.041
Ce-144	< 0.064	< 0.114

Location	K-1f	K-5
Date Collected	10-01-09	10-01-09
Lab Code	KSO- 5367	KSO- 5369
Gross alpha	3.80 ± 2.46	4.97 ± 2.65
Gross beta	25.30 ± 3.17	30.36 ± 3.19
Sr-89	< 0.031	< 0.036
Sr-90	< 0.018	0.035 ± 0.013
Be-7	< 0.21	< 0.20
K-40	17.96 ± 0.90	21.43 ± 0.87
Nb-95	< 0.019	< 0.026
Zr-95	< 0.040	< 0.046
Ru-103	< 0.018	< 0.020
Ru-106	< 0.098	< 0.171
Cs-134	< 0.014	< 0.019
Cs-137	0.050 ± 0.029	0.072 ± 0.023
Ce-141	< 0.022	< 0.047
Ce-144	< 0.102	< 0.130

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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	05-04-09	05-04-09	05-04-09
Lab Code	KSO- 2042	KSO- 2044	KSO- 2045
Gross alpha	6.26 ± 3.23	7.17 ± 2.95	6.22 ± 2.87
Gross beta	30.72 ± 3.34	32.62 ± 3.30	28.85 ± 3.15
Sr-89	< 0.026	< 0.026	< 0.026
Sr-90	0.017 ± 0.009	0.030 ± 0.010	0.036 ± 0.010
Be-7	< 0.23	< 0.22	< 0.23
K-40	18.58 ± 0.83	22.16 ± 0.88	17.63 ± 0.84
Nb-95	< 0.015	< 0.029	< 0.022
Zr-95	< 0.034	< 0.030	< 0.042
Ru-103	< 0.026	< 0.019	< 0.011
Ru-106	< 0.148	< 0.164	< 0.168
Cs-134	< 0.019	< 0.016	< 0.014
Cs-137	0.12 ± 0.030	0.14 ± 0.034	0.16 ± 0.036
Ce-141	< 0.043	< 0.049	< 0.051
Ce-144	< 0.069	< 0.129	< 0.104
Location	K-34	K-38	K-39
Date Collected	10-01-09	10-01-09	10-01-09
Lab Code	KSO- 5370	KSO- 5372	KSO- 5373
Gross alpha	6.09 ± 3.40	3.93 ± 2.72	8.45 ± 3.63
Gross beta	29.71 ± 2.99	30.41 ± 3.53	34.55 ± 3.98
Sr-89	< 0.038	< 0.026	< 0.035
Sr-90	< 0.024	0.029 ± 0.010	0.042 ± 0.014
Be-7	< 0.26	< 0.16	< 0.20
K-40	21.97 ± 0.86	22.02 ± 0.71	18.73 ± 0.88
Nb-95	< 0.017	< 0.023	< 0.033
Zr-95	< 0.023	< 0.024	< 0.040
Ru-103	< 0.022	< 0.012	< 0.028
Ru-106	< 0.119	< 0.090	< 0.203
Cs-134	< 0.018	< 0.013	< 0.018
Cs-137	0.057 ± 0.020	0.124 ± 0.020	0.088 ± 0.038
Ce-141	< 0.041	< 0.031	< 0.054
Ce-144	< 0.144	< 0.128	< 0.118

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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	05-04-09	05-04-09
Lab Code	KSO- 2040	KSO- 2043
Gross alpha	6.90 ± 3.37	8.74 ± 3.22
Gross beta	34.42 ± 3.81	29.93 ± 3.30
Sr-89	< 0.038	< 0.031
Sr-90	0.027 ± 0.012	0.049 ± 0.014
Be-7	< 0.23	< 0.23
K-40	20.34 ± 0.84	16.28 ± 0.83
Nb-95	< 0.017	< 0.016
Zr-95	< 0.030	< 0.017
Ru-103	< 0.017	< 0.014
Ru-106	< 0.103	< 0.171
Cs-134	< 0.018	< 0.014
Cs-137	0.152 ± 0.033	0.110 ± 0.028
Ce-141	< 0.048	< 0.049
Ce-144	< 0.114	< 0.072
Location	K-3	K-35
Date Collected	10-01-09	10-01-09
Lab Code	KSO- 5368	KSO- 5371
Gross alpha	5.30 ± 2.71	5.99 ± 3.21
Gross beta	29.54 ± 3.13	27.01 ± 3.23
Sr-89	< 0.028	< 0.036
Sr-90	0.020 ± 0.009	0.040 ± 0.013
Be-7	< 0.21	< 0.25
K-40	19.95 ± 0.95	18.27 ± 0.96
Nb-95	< 0.021	< 0.027
Zr-95	< 0.049	< 0.040
Ru-103	< 0.027	< 0.023
Ru-106	< 0.208	< 0.166
Cs-134	< 0.015	< 0.016
Cs-137	0.185 ± 0.050	0.165 ± 0.037
Ce-141	< 0.046	< 0.038
Ce-144	< 0.132	< 0.132

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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	01-05-09	02-02-09	03-02-09
Lab Code	KSW- 5	KSW- 321	KSW- 615
Gross beta			
Suspended Solids	< 0.9	< 0.8	< 0.8
Dissolved Solids	9.3 ± 1.5	9.2 ± 1.1	7.4 ± 0.5
Total Residue	9.3 ± 1.5	9.2 ± 1.1	7.4 ± 0.5
K-40 (ICP)	7.57	7.21	6.95
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-1b			
Date Collected	01-05-09	02-02-09	03-02-09
Lab Code	KSW- 6	KSW- 322	KSW- 616
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.7
Dissolved Solids	4.8 ± 1.2	1.5 ± 0.6	2.1 ± 0.4
Total Residue	4.8 ± 1.2	1.5 ± 0.6	2.1 ± 0.4
K-40 (ICP)	2.67	1.87	1.86
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	04-01-09	05-04-09	06-01-09
Lab Code	KSW- 1091	KSW- 2014	KSW- 2654
Gross beta			
Suspended Solids	< 0.6	< 0.8	< 0.8
Dissolved Solids	6.1 ± 0.9	6.5 ± 1.0	7.1 ± 1.7
Total Residue	6.1 ± 0.9	6.5 ± 1.0	7.1 ± 1.7
K-40 (ICP)	6.02	6.02	5.00
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-1b			
Date Collected	04-01-09	05-04-09	06-01-09
Lab Code	KSW- 1092	KSW- 2015	KSW- 2655
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.8
Dissolved Solids	2.5 ± 0.7	2.3 ± 0.7	3.8 ± 1.1
Total Residue	2.5 ± 0.7	2.3 ± 0.7	3.8 ± 1.1
K-40 (ICP)	2.44	2.45	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	07-01-09	08-03-09	09-01-09
Lab Code	KSW- 3306	KSW- 4067	KSW- 4579
Gross beta			
Suspended Solids	< 0.7	< 0.8	< 0.8
Dissolved Solids	7.1 ± 2.3	4.7 ± 0.5	4.6 ± 1.0
Total Residue	7.1 ± 2.3	4.7 ± 0.5	4.6 ± 1.0
K-40 (ICP)	5.27	6.24	5.63
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
K-1b			
Date Collected	07-01-09	08-03-09	09-01-09
Lab Code	KSW- 3307	KSW- 4068	KSW- 4580
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.7
Dissolved Solids	4.6 ± 1.1	1.4 ± 0.3	2.3 ± 0.7
Total Residue	4.6 ± 1.1	1.4 ± 0.3	2.3 ± 0.7
K-40 (ICP)	1.98	1.59	2.45
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	10-01-09	11-02-09	12-01-09
Lab Code	KSW- 5254	KSW- 6107	KSW- 6576
Gross beta			
Suspended Solids	< 0.7	< 0.8	< 0.9
Dissolved Solids	6.5 ± 1.1	14.9 ± 2.0	8.7 ± 1.8
Total Residue	6.5 ± 1.1	14.9 ± 2.0	8.7 ± 1.8
K-40 (ICP)	7.09	7.50	7.17
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-1b			
Date Collected	10-01-09	11-02-09	12-01-09
Lab Code	KSW- 5255	KSW- 6108	KSW- 6577
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.8
Dissolved Solids	2.7 ± 0.6	3.7 ± 0.8	4.6 ± 1.2
Total Residue	2.7 ± 0.6	3.7 ± 0.8	4.6 ± 1.2
K-40 (ICP)	2.53	3.37	2.47
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	01-05-09	02-02-09	03-02-09
Lab Code	KSW- 7	KSW- 323	KSW- 617
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.8
Dissolved Solids	2.2 ± 0.7	1.1 ± 0.4	1.5 ± 0.2
Total Residue	2.2 ± 0.7	1.1 ± 0.4	1.5 ± 0.2
K-40 (ICP)	1.28	1.19	1.24
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	01-05-09	02-02-09	03-02-09
Lab Code	KSW- 8	KSW- 324	KSW- 618
Gross beta			
Suspended Solids	< 0.7	1.2 ± 0.5	< 0.7
Dissolved Solids	13.3 ± 2.3	1.3 ± 0.7	5.1 ± 0.6
Total Residue	13.3 ± 2.3	2.5 ± 0.9	5.1 ± 0.6
K-40 (ICP)	8.73	1.30	3.90
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	04-01-09	05-04-09	06-01-09
Lab Code	KSW- 1093	KSW- 2016	KSW- 2656
Gross beta			
Suspended Solids	< 0.6	< 0.8	< 0.8
Dissolved Solids	1.4 ± 0.4	1.3 ± 0.4	2.3 ± 0.8
Total Residue	1.4 ± 0.4	1.3 ± 0.4	2.3 ± 0.8
K-40 (ICP)	1.19	1.19	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-1e			
Date Collected	04-01-09	05-04-09	06-01-09
Lab Code	KSW- 1094	KSW- 2017	KSW- 2657
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.7
Dissolved Solids	2.6 ± 0.8	2.2 ± 0.9	5.4 ± 1.6
Total Residue	2.6 ± 0.8	2.2 ± 0.9	5.4 ± 1.6
K-40 (ICP)	2.65	3.15	4.21
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

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

Sample Description and Concentration (pCi/L)			
Indicator			
K-1d			
Date Collected	07-01-09	08-03-09	09-01-09
Lab Code	KSW- 3308	KSW- 4069	KSW- 4581
Gross beta			
Suspended Solids	< 0.7	< 0.8	< 0.7
Dissolved Solids	2.4 ± 0.7	1.0 ± 0.4	1.0 ± 0.4
Total Residue	2.4 ± 0.7	1.0 ± 0.4	1.0 ± 0.4
K-40 (ICP)	1.16	1.31	1.16
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-1e			
Date Collected	07-01-09	08-03-09	09-01-09
Lab Code	KSW- 3309	KSW- 4070	KSW- 4582
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.7
Dissolved Solids	7.4 ± 1.2	7.7 ± 0.6	7.0 ± 1.2
Total Residue	7.4 ± 1.2	7.7 ± 0.6	7.0 ± 1.2
K-40 (ICP)	9.16	7.28	9.67
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	10-01-09	11-02-09	12-01-09
Lab Code	KSW- 5256	KSW- 6109	KSW- 6578
Gross beta			
Suspended Solids	< 0.7	< 0.8	< 0.7
Dissolved Solids	1.3 ± 0.4	2.2 ± 0.5	1.7 ± 0.7
Total Residue	1.3 ± 0.4	2.2 ± 0.5	1.7 ± 0.7
K-40 (ICP)	1.14	1.02	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
K-1e			
Date Collected	10-01-09	11-02-09	12-01-09
Lab Code	KSW- 5257	KSW- 6110	KSW- 6579
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.8
Dissolved Solids	12.2 ± 1.6	2.6 ± 0.8	4.4 ± 0.9
Total Residue	12.2 ± 1.6	2.6 ± 0.8	4.4 ± 0.9
K-40 (ICP)	15.01	2.77	2.54
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-1k			
Date Collected	01-05-09	02-02-09	03-02-09
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	04-01-09	05-04-09	06-01-09
Lab Code	KSW- 1095	KSW- 2018	KSW- 2658
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 1.5
Dissolved Solids	2.8 ± 0.5	5.4 ± 0.7	9.7 ± 1.2
Total Residue	2.8 ± 0.5	5.4 ± 0.7	9.7 ± 1.2
K-40 (ICP)	2.01	4.91	7.33
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

[a] NS= No sample; water frozen.

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

Sample Description and Concentration (pCi/L)			
Indicator			
K-1k			
Date Collected	07-01-09	08-03-09	09-01-09
Lab Code	KSW- 3310	KSW- 4071	KSW- 4583
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 1.6
Dissolved Solids	6.1 ± 0.7	4.8 ± 0.7	14.4 ± 1.6
Total Residue	6.1 ± 0.7	4.8 ± 0.7	14.4 ± 1.6
K-40 (ICP)	5.00	3.99	11.36
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
Date Collected	10-01-09	11-02-09	12-01-09
Lab Code	KSW- 5258	KSW- 6111	KSW- 6580
Gross beta			
Suspended Solids	< 0.8	< 1.4	1.0 ± 0.4
Dissolved Solids	32.0 ± 1.4	11.0 ± 0.9	23.6 ± 1.6
Total Residue	32.0 ± 1.4	11.0 ± 0.9	24.6 ± 1.6
K-40 (ICP)	12.55	15.69	17.21
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

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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	01-05-09	02-02-09	03-02-09
Lab Code	KSW- 9	KSW- 325	KSW- 620
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.7
Dissolved Solids	2.1 ± 0.7	1.2 ± 0.4	1.1 ± 0.2
Total Residue	2.1 ± 0.7	1.2 ± 0.4	1.1 ± 0.2
K-40 (ICP)	1.20	1.10	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
K-9 (Tap)			
Date Collected	01-05-09	02-02-09	03-02-09
Lab Code	KSW- 10	KSW- 326	KSW- 621
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.8
Dissolved Solids	1.0 ± 0.6	1.4 ± 0.4	1.5 ± 0.4
Total Residue	1.0 ± 0.6	1.4 ± 0.4	1.5 ± 0.4
K-40 (ICP)	1.20	1.09	1.12
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

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

Sample Description and Concentration (pCi/L)			
Indicator			
K-9 (Raw)			
Date Collected	04-01-09	05-04-09	06-01-09
Lab Code	KSW- 1096	KSW- 2019	KSW- 2659
Gross beta			
Suspended Solids	< 0.8	< 0.9	< 0.7
Dissolved Solids	1.8 ± 0.5	1.5 ± 0.4	2.1 ± 0.8
Total Residue	1.8 ± 0.5	1.5 ± 0.4	2.1 ± 0.8
K-40 (ICP)	1.02	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	04-01-09	05-04-09	06-01-09
Lab Code	KSW- 1097	KSW- 2020	KSW- 2660
Gross beta			
Suspended Solids	1.2 ± 0.5	< 0.8	< 0.8
Dissolved Solids	1.0 ± 0.4	1.2 ± 0.4	2.3 ± 0.7
Total Residue	2.2 ± 0.6	1.2 ± 0.4	2.3 ± 0.7
K-40 (ICP)	1.03	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	07-01-09	08-03-09	09-01-09
Lab Code	KSW- 3311	KSW- 4072	KSW- 4584
Gross beta			
Suspended Solids	< 0.7	< 0.8	< 0.8
Dissolved Solids	1.6 ± 0.4	< 0.6	0.8 ± 0.4
Total Residue	1.6 ± 0.4	< 0.8	0.8 ± 0.4
K-40 (ICP)	1.11	1.16	1.14
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-9 (Tap)			
Date Collected	07-01-09	08-03-09	09-01-09
Lab Code	KSW- 3312	KSW- 4073	KSW- 4585
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.7
Dissolved Solids	1.3 ± 0.4	0.7 ± 0.4	1.4 ± 0.7
Total Residue	1.3 ± 0.4	0.7 ± 0.4	1.4 ± 0.7
K-40 (ICP)	1.12	1.19	1.17
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	10-01-09	11-02-09	12-01-09
Lab Code	KSW- 5259	KSW- 6112	KSW- 6581
Gross beta			
Suspended Solids	< 0.7	< 0.9	< 0.8
Dissolved Solids	1.5 ± 0.4	1.3 ± 0.4	1.0 ± 0.4
Total Residue	1.5 ± 0.4	1.3 ± 0.4	1.0 ± 0.4
K-40 (ICP)	1.00	1.12	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	10-01-09	11-02-09	12-01-09
Lab Code	KSW- 5260	KSW- 6113	KSW- 6582
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.8
Dissolved Solids	1.4 ± 0.7	0.8 ± 0.4	0.9 ± 0.3
Total Residue	1.4 ± 0.7	0.8 ± 0.4	0.9 ± 0.3
K-40 (ICP)	1.16	1.14	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

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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	01-05-09	02-02-09	03-02-09
Lab Code	KSW- 11	KSW- 327	KSW- 622
Gross beta			
Suspended Solids	< 0.9	< 0.8	< 0.7
Dissolved Solids	2.1 ± 0.7	2.5 ± 0.8	2.3 ± 0.5
Total Residue	2.1 ± 0.7	2.5 ± 0.8	2.3 ± 0.5
K-40 (ICP)	1.27	1.19	1.57
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-14b			
Date Collected	01-05-09	02-02-09	03-02-09
Lab Code	KSW- 12	KSW- 328	KSW- 623
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.8
Dissolved Solids	2.3 ± 0.7	2.2 ± 0.7	1.7 ± 0.4
Total Residue	2.3 ± 0.7	2.2 ± 0.7	1.7 ± 0.4
K-40 (ICP)	1.31	1.20	1.55
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	04-01-09	05-04-09	06-01-09
Lab Code	KSW- 1098	KSW- 2021	KSW- 2661
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.5
Dissolved Solids	1.9 ± 0.5	1.8 ± 0.4	1.7 ± 0.7
Total Residue	1.9 ± 0.5	1.8 ± 0.4	1.7 ± 0.7
K-40 (ICP)	1.70	1.36	1.19
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	04-01-09	05-04-09	06-01-09
Lab Code	KSW- 1099	KSW- 2022	KSW- 2662
Gross beta			
Suspended Solids	< 0.8	< 0.9	< 0.5
Dissolved Solids	1.5 ± 0.4	2.4 ± 0.5	2.2 ± 0.7
Total Residue	1.5 ± 0.4	2.4 ± 0.5	2.2 ± 0.7
K-40 (ICP)	1.73	1.36	1.44
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	07-01-09	08-03-09	09-01-09
Lab Code	KSW- 3313	KSW- 4074	KSW- 4586
Gross beta			
Suspended Solids	< 0.7	< 0.8	< 0.8
Dissolved Solids	1.1 ± 0.4	0.9 ± 0.4	8.3 ± 1.0 [a]
Total Residue	1.1 ± 0.4	0.9 ± 0.4	8.3 ± 1.0
K-40 (ICP)	1.26	1.16	3.74
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-14b			
Date Collected	07-01-09	08-03-09	09-01-09
Lab Code	KSW- 3314	KSW- 4075	KSW- 4587
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.7
Dissolved Solids	1.8 ± 0.5	0.9 ± 0.4	7.8 ± 1.0
Total Residue	1.8 ± 0.5	0.9 ± 0.4	7.8 ± 1.0
K-40 (ICP)	1.43	1.23	6.86
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 6.4 ± 0.7 pCi/L.

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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	10-01-09	11-02-09	12-01-09
Lab Code	KSW- 5261	KSW- 6114	KSW- 6583
Gross beta			
Suspended Solids	< 0.7	< 0.8	< 0.7
Dissolved Solids	1.6 ± 0.7	1.2 ± 0.4	1.2 ± 0.4
Total Residue	1.6 ± 0.7	1.2 ± 0.4	1.2 ± 0.4
K-40 (ICP)	1.29	1.41	1.37
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15
K-14b			
Date Collected	10-01-09	11-02-09	12-01-09
Lab Code	KSW- 5262	KSW- 6115	KSW- 6584
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.8
Dissolved Solids	2.1 ± 0.7	1.0 ± 0.4	1.7 ± 0.4
Total Residue	2.1 ± 0.7	1.0 ± 0.4	1.7 ± 0.4
K-40 (ICP)	1.19	1.31	1.34
Mn-54	< 15	< 15	< 15
Fe-59	< 30	< 30	< 30
Co-58	< 15	< 15	< 15
Co-60	< 15	< 15	< 15
Zn-65	< 30	< 30	< 30
Zr-Nb-95	< 15	< 15	< 15
Cs-134	< 10	< 10	< 10
Cs-137	< 10	< 10	< 10
Ba-La-140	< 15	< 15	< 15

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

Location and Collection Period	Lab Code	Concentration pCi/L H-3	Sr-89	Sr-90
Indicator				
K-1a				
1st Quarter	KSW -746	< 156	< 0.6	0.5 ± 0.3
2nd Quarter	-2820	< 136	< 1.6	< 0.6
3rd Quarter	-4792	< 149	< 1.9	< 0.8
4th Quarter	-6717	< 160	< 1.1	< 0.5
K-1b				
1st Quarter	KSW -747	< 156	< 0.8	< 0.5
2nd Quarter	-2821	< 152	< 1.7	< 0.5
3rd Quarter	-4793	< 149	< 1.6	< 0.5
4th Quarter	-6718	< 160	< 1.2	< 0.5
K-1d				
1st Quarter	KSW -748	< 156	< 0.7	< 0.5
2nd Quarter	-2823	< 142	< 1.6	< 0.5
3rd Quarter	-4794	< 150	< 1.4	< 0.5
4th Quarter	-6719	< 160	< 1.0	< 0.5
K-1e				
1st Quarter	KSW -749	< 156	< 0.7	< 0.5
2nd Quarter	-2824	< 136	< 1.5	< 0.5
3rd Quarter	-4795	174 ± 87	< 1.4	< 0.5
4th Quarter	-6720	< 160	< 1.1	< 0.4

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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 -752	< 156	< 0.9	< 0.6
2nd Quarter	-2828	< 142	< 1.6	< 0.5
3rd Quarter	-4799	< 149	< 1.6	0.6 ± 0.4
4th Quarter	-6724	< 160	< 1.0	< 0.5
K-14b				
1st Quarter	KSW -753	< 156	< 0.6	< 0.5
2nd Quarter	-2829	172 ± 97	< 1.6	< 0.5
3rd Quarter	-4800	< 149	< 1.4	< 0.5
4th Quarter	-6725	< 160	< 1.3	< 0.6
K-1k				
1st Quarter	NS[a]	-	-	-
2nd Quarter	KSW -2825	< 136	< 1.6	< 0.6
3rd Quarter	-4796	< 149	< 1.9	< 0.6
4th Quarter	-6721	< 160	< 1.0	0.6 ± 0.3
Control				
K-9				
1st Quarter	KSW -750 (Raw)	< 156	< 0.6	< 0.5
	-751 (Tap)	< 156	< 0.7	< 0.5
2nd Quarter	KSW -2826 (Raw)	< 142	< 1.5	< 0.5
	-2827 (Tap)	< 142	< 2.0	< 0.7
3rd Quarter	KSW -4797 (Raw)	< 149	< 1.5	< 0.5
	-4798 (Tap)	< 149	< 1.7	< 0.6
4th Quarter	KSW -6722 (Raw)	< 160	< 1.3	< 0.6
	-6723 (Tap)	< 160	< 1.3	< 0.6

[a] 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	04-19-09		07-10-09	
Lab Code	KF- 2033		KF- 4076	
Type	Whitefish		Sucker	
Portion	Flesh	Bones	Flesh	Bones
Gross beta	2.73 ± 0.06	2.25 ± 0.55	2.28 ± 0.06	1.95 ± 0.71
Sr-89	NA[a]	< 0.071	NA[a]	< 0.129
Sr-90	NA	0.14 ± 0.030	NA	0.12 ± 0.039
K-40	3.36 ± 0.63	NA[a]	2.28 ± 0.43	NA[a]
Mn-54	< 0.022	NA	< 0.017	NA
Fe-59	< 0.077	NA	< 0.049	NA
Co-58	< 0.019	NA	< 0.026	NA
Co-60	< 0.017	NA	< 0.023	NA
Cs-134	< 0.027	NA	< 0.017	NA
Cs-137	< 0.030	NA	0.039 ± 0.022	NA

Collected	11-06-09	
Lab Code	KF- 6567	
Type	Sucker Walleye	
Portion	Flesh	Bones
Gross beta	3.83 ± 0.08	2.72 ± 1.05
Sr-89	NA[a]	< 0.095
Sr-90	NA	0.093 ± 0.030
K-40	2.87 ± 0.36	NA[a]
Mn-54	< 0.015	NA
Fe-59	< 0.041	NA
Co-58	< 0.019	NA
Co-60	< 0.007	NA
Cs-134	< 0.011	NA
Cs-137	< 0.015	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	06-01-09	06-01-09	06-01-09	06-01-09
Lab Code	KSL- 2640	KSL- 2641	KSL- 2642	KSL- 2644
Gross beta	3.40 ± 0.21	5.04 ± 0.09	4.00 ± 0.36	6.45 ± 0.12
Sr-89	< 0.071	< 0.012	< 0.051	< 0.015
Sr-90	< 0.029	< 0.005	< 0.020	< 0.005
Be-7	< 0.14	< 0.14	0.57 ± 0.10	< 0.19
K-40	1.36 ± 0.24	4.51 ± 0.38	1.84 ± 0.18	5.21 ± 0.49
Mn-54	< 0.012	< 0.011	< 0.007	< 0.014
Co-58	< 0.006	< 0.008	< 0.007	< 0.013
Co-60	< 0.012	< 0.010	< 0.007	< 0.011
Nb-95	< 0.010	< 0.012	< 0.009	< 0.018
Zr-95	< 0.021	< 0.017	< 0.009	< 0.016
Ru-103	< 0.012	< 0.013	< 0.006	< 0.018
Ru-106	< 0.092	< 0.096	< 0.066	< 0.161
Cs-134	< 0.011	< 0.008	< 0.008	< 0.014
Cs-137	< 0.013	< 0.015	< 0.008	< 0.017
Ce-141	< 0.030	< 0.021	< 0.018	< 0.029
Ce-144	< 0.107	< 0.085	< 0.043	< 0.138

Location	K-1e	K-1k	K-14
Date Collected	05-04-09	06-01-09	05-04-09
Lab Code	KSL- 2023	KSL- 2643	KSL- 2024
Gross beta	2.39 ± 0.18	5.02 ± 0.10	2.68 ± 0.21
Sr-89	< 0.026	< 0.012	< 0.028
Sr-90	< 0.015	< 0.005	< 0.017
Be-7	0.73 ± 0.16	< 0.17	0.80 ± 0.18
K-40	1.75 ± 0.22	4.61 ± 0.40	1.20 ± 0.21
Mn-54	< 0.008	< 0.011	< 0.007
Co-58	< 0.007	< 0.010	< 0.010
Co-60	< 0.006	< 0.010	< 0.008
Nb-95	< 0.011	< 0.014	< 0.013
Zr-95	< 0.020	< 0.018	< 0.019
Ru-103	< 0.014	< 0.016	< 0.011
Ru-106	< 0.088	< 0.063	< 0.123
Cs-134	< 0.009	< 0.008	< 0.009
Cs-137	< 0.011	< 0.014	< 0.014
Ce-141	< 0.023	< 0.018	< 0.027
Ce-144	< 0.085	< 0.094	< 0.093

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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	09-01-09	09-01-09	09-01-09	09-01-09
Lab Code	KSL- 4588	KSL- 4589	KSL- 4591	KSL- 4593
Gross beta	3.61 ± 0.42	4.36 ± 0.17	2.14 ± 0.33	6.42 ± 0.20
Sr-89	< 0.054	< 0.009	< 0.053	< 0.032
Sr-90	0.019 ± 0.010	< 0.004	< 0.019	< 0.017
Be-7	1.14 ± 0.20	1.25 ± 0.22	1.04 ± 0.18	1.03 ± 0.18
K-40	1.33 ± 0.16	2.96 ± 0.30	0.78 ± 0.15	3.72 ± 0.34
Mn-54	< 0.008	< 0.009	< 0.010	< 0.011
Co-58	< 0.007	< 0.007	< 0.010	< 0.011
Co-60	< 0.005	< 0.007	< 0.006	< 0.013
Nb-95	< 0.009	< 0.014	< 0.020	< 0.012
Zr-95	< 0.018	< 0.018	< 0.019	< 0.019
Ru-103	< 0.007	< 0.010	< 0.012	< 0.015
Ru-106	< 0.061	< 0.071	< 0.071	< 0.109
Cs-134	< 0.008	< 0.011	< 0.007	< 0.012
Cs-137	0.024 ± 0.009	< 0.014	< 0.010	< 0.014
Ce-141	< 0.016	< 0.026	< 0.043	< 0.024
Ce-144	< 0.052	< 0.070	< 0.067	< 0.099

Location	K-1e	K-1k	K-14
Date Collected	09-01-09	08-03-09	07-01-09
Lab Code	KSL- 4592	KSL- 4096	KSL- 3297
Gross beta	5.04 ± 0.54	5.69 ± 0.12	3.38 ± 0.23
Sr-89	< 0.059	< 0.010	< 0.020
Sr-90	< 0.019	< 0.004	< 0.011
Be-7	1.28 ± 0.16	< 0.13	1.15 ± 0.12
K-40	1.87 ± 0.19	4.72 ± 0.37	1.43 ± 0.18
Mn-54	< 0.005	< 0.010	< 0.007
Co-58	< 0.007	< 0.009	< 0.009
Co-60	< 0.005	< 0.006	< 0.007
Nb-95	< 0.017	< 0.011	< 0.009
Zr-95	< 0.015	< 0.014	< 0.009
Ru-103	< 0.011	< 0.011	< 0.009
Ru-106	< 0.038	< 0.072	< 0.068
Cs-134	< 0.004	< 0.010	< 0.008
Cs-137	0.026 ± 0.010	< 0.010	0.013 ± 0.007
Ce-141	< 0.029	< 0.023	< 0.021
Ce-144	< 0.035	< 0.056	< 0.070

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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	05-04-09	05-04-09	05-04-09	05-04-09	05-04-09
Lab Code	KBS- 2034	KBS- 2035	KBS- 2036	KBS- 2038	KBS- 2037
Gross beta	13.42 ± 2.07	8.14 ± 1.71	11.88 ± 1.63	9.65 ± 1.58	24.97 ± 2.24
Sr-89	< 0.054	< 0.036	< 0.034	< 0.035	< 0.14
Sr-90	< 0.021	< 0.013	< 0.014	< 0.014	< 0.056
K-40	6.38 ± 0.57	5.00 ± 0.36	6.27 ± 0.39	6.54 ± 0.54	10.32 ± 0.76
Co-58	< 0.019	< 0.005	< 0.008	< 0.022	< 0.019
Co-60	< 0.013	< 0.007	< 0.009	< 0.014	< 0.023
Cs-134	< 0.017	< 0.008	< 0.006	< 0.014	< 0.018
Cs-137	< 0.019	0.029 ± 0.013	0.017 ± 0.008	< 0.017	0.064 ± 0.025
Collection Date	11-02-09	11-02-09	11-02-09	11-02-09	11-02-09
Lab Code	KBS- 6118	KBS- 6119	KBS- 6120	KBS- 6122	KBS- 6121
Gross beta	13.15 ± 2.56	11.47 ± 2.28	10.52 ± 2.34	10.82 ± 2.33	14.53 ± 2.50
Sr-89	< 0.029	< 0.032	< 0.031	< 0.029	< 0.036
Sr-90	0.023 ± 0.010	< 0.016	< 0.017	< 0.015	0.021 ± 0.011
K-40	8.13 ± 0.64	8.67 ± 0.66	7.34 ± 0.44	7.06 ± 0.59	9.16 ± 0.64
Co-58	< 0.019	< 0.016	< 0.012	< 0.018	< 0.016
Co-60	< 0.018	< 0.018	< 0.008	< 0.014	< 0.013
Cs-134	< 0.014	< 0.013	< 0.005	< 0.015	< 0.015
Cs-137	< 0.020	< 0.025	0.025 ± 0.012	< 0.022	< 0.017

Dominion®

2009 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	CRT Review	CA	CRT Assignment Creation
by MADDEN, JOHN J	1/21/2009 12:45:18 Owner : MADDEN, JOHN J	by MADDEN, JOHN J	1/21/2009 15:31:35 Owner : SNIDER, TIMOTHY JAY	by SNIDER, TIMOTHY JAY	1/21/2009 17:43:50 Owner : FICTUM, HOLLY C	by OWENS, CYRENA JEAN	1/23/2009 11:32:21 Owner : FICTUM, HOLLY C

Complete	Assignments Pending
by OWENS, CYRENA JEAN	1/23/2009 11:33:58 Owner : FICTUM, HOLLY C

Section 1

Applicable to site:	KEWA
Record #:	CR320722
Revision Number:	0
Submitter:	MADDEN, JOHN J
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	8215
Submitter Pager Number:	8215
One-Line Description:	hole found in filter
Description:	K-7 sample at farm 2.6 miles SSW of plant had a hole in the filter paper
Discovery Date:	1/21/2009
Discovery Time:	9:55:00
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:	wrote CR
Additional C/A processes req'd?:	Other
Text Question 1:	**Provide details for any Additional C/A processes needed:**
Text Answer 1:	CA to RP to document in site annual environmental report.
C/As Initiated (REA, WR, ETC):	
Tag Hung:	(None)
Tag Number:	
Additional Contacts:	
Supervisor - CR Review:	SNIDER, TIMOTHY JAY
Question G:	**Is this CR an Operability/Reportability Issue Requiring O/R Review?**
Yes/No G:	No
Question H:	**Does this CR affect personnel safety?**
Yes/No H:	No
Question I:	**Does this CR affect plant safety?**
Yes/No I:	No
Question J:	**Does this CR involve plant equipment?**
Yes/No J:	No
Question K:	**Is this CR an environmental concern?**
Yes/No K:	No
Literal 2:	**Unit Conditions:**
Unit 1% Pwr:	
Unit 2% Pwr:	NA

Unit 3% Pwr:	NA
Unit 1 Mode:	(None)
Unit 2 Mode:	NA
Unit 3 Mode:	NA
OP-AA-102 Review Req'd?:	(None)
Is a TS SSC Affected?:	(None)
TS SSC Operability Assessment:	(None)
Text Question 2:	**Basis for operability:**
Text Answer 2:	
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:	(None)
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?:	(None)
LCO entered:	(None)
Applicable LCO:	
Non-TS SSC Functionality Assessment.:	(None)
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?:	(None)
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?:	(None)
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:	(None)
Reportable condition?:	(None)
Text Question 3:	**Reportability Comments:**
Text Answer 3:	
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	
Significance:	3
Deficiency Type:	Non-Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	CR 108736 and CR 109791 identified similar issues as noted here in Sept., 2008.
CR FLAGS:	zz - reviewed / none selected
CRT Report Section(s):	2
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	Sig 3. CA to RP to ensure this issue is documented in the 2009 Annual Environmental Monitoring Report. CA to CY to determine and document possible causes of degraded filters seen in the recent past. Initiate any needed corrective actions.
Comments:	1/21/2009 17:43:50 - SNIDER, TIMOTHY JAY: RP owner of this program needs to record this in the Site Annual Environmental Report.- Entered by [SNIDER, TIMOTHY JAY] from [CR] [Supervisor Review]
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)
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: CA126990: KEWA - Ensure this issue is documented in the 2009 Annual Environmental Monitoring Rep by **OWENS, CYRENA JEAN** (1/23/2009 11:32:42)

Principal to: CA126991: KEWA - Det and doc possible causes of degraded filters seen in the recent past. (Inactive) by **OWENS, CYRENA JEAN** (1/23/2009 11:33:43)

Change History

1/21/2009 15:31:35 by MADDEN, JOHN J
Submitter Phone Number Changed From '' To '8215'
Submitter Pager Number Changed From '' To '8215'
Associated w/ Equipment Location? Changed From (None) To No
System(s) Changed From (None) To N/A
Additional C/A processes req'd? Changed From (None) To N/A
Owner Changed From MADDEN, JOHN J To SNIDER, TIMOTHY JAY
Secondary Owner Changed From SNIDER, TIMOTHY JAY To AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHAW, CHAD N, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 1/21/2009 12:45:18 To 1/21/2009 15:31:35
Last State Change Date Changed From 1/21/2009 12:45:18 To 1/21/2009 15:31:35
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR320722: KEWA - hole found in filter

1/21/2009 17:43:50 by SNIDER, TIMOTHY JAY
Additional C/A processes req'd? Changed From N/A To Other
Text Answer 1 Changed From '' To 'CA to RP to document in site annual environmental report.'
Yes/No G Changed From Yes To No
Yes/No H Changed From Yes To No
Yes/No I Changed From Yes To No
Yes/No J Changed From Yes To No
Yes/No K Changed From Yes To No
Comments Changed From '' To '[Appended:] RP owner of this program needs to record this in the Site Annual Environmental Report.- Entered by [SNIDER, TIMOTHY JAY] from [CR] [Supervisor Review]'

Owner Changed From SNIDER, TIMOTHY JAY To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SHAW, CHAD N, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS To ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 1/21/2009 15:31:35 To 1/21/2009 17:43:50
Last Modifier Changed From MADDEN, JOHN J To SNIDER, TIMOTHY JAY
Last State Change Date Changed From 1/21/2009 15:31:35 To 1/21/2009 17:43:51
Last State Changer Changed From MADDEN, JOHN J To SNIDER, TIMOTHY JAY
State Changed From Supervisor Review To CRT Review Via Transition: Complete
NewCR Changed From Yes To No

1/22/2009 9:07:08 by ADAMS, RICHARD W
Significance Changed From (None) To 3
Deficiency Type Changed From (None) To Non-Equipment
Potential Repeat Changed From (None) To No
Previous Issues (PIs, CRs) Changed From " To 'CR 108736 and CR 109791 identified similar issues as noted here in Sept., 2008.'
CR FLAGS Changed From (None) To zz - reviewed / none selected
CRT Report Section(s) Changed From (None) To 1
CRT Comments Changed From " To 'Sig 3. CA to RP to ensure this issue is documented in the 2009 Annual Environmental Monitoring Report. CA to CY to determine and document possible causes of degraded filters seen in the recent past. Initiate any needed corrective actions.'
Last Modified Date Changed From 1/21/2009 17:43:50 To 1/22/2009 9:07:08
Last Modifier Changed From SNIDER, TIMOTHY JAY To ADAMS, RICHARD W

1/22/2009 9:07:24 by ADAMS, RICHARD W
Process Code Changed From (None) To UNK (Unknown)
Activity Codes Changed From (None) To UNK(Unknown)
Last Modified Date Changed From 1/22/2009 9:07:08 To 1/22/2009 9:07:24

1/22/2009 9:07:36 by ADAMS, RICHARD W
RP Hot Buttons Changed From (None) To Environmental Monitoring (REMP)
Last Modified Date Changed From 1/22/2009 9:07:24 To 1/22/2009 9:07:36

1/23/2009 11:32:18 by OWENS, CYRENA JEAN
CRT Report Section(s) Changed From 1 To 2
Last Modified Date Changed From 1/22/2009 9:07:36 To 1/23/2009 11:32:18
Last Modifier Changed From ADAMS, RICHARD W To OWENS, CYRENA JEAN

1/23/2009 11:32:21 by OWENS, CYRENA JEAN
Last Modified Date Changed From 1/23/2009 11:32:18 To 1/23/2009 11:32:21
Last State Change Date Changed From 1/21/2009 17:43:51 To 1/23/2009 11:32:21
Last State Changer Changed From SNIDER, TIMOTHY JAY To OWENS, CYRENA JEAN
State Changed From CRT Review To CRT Assignment Creation Via Transition: CA

1/23/2009 11:32:42 by OWENS, CYRENA JEAN
Last Modified Date Changed From 1/23/2009 11:32:21 To 1/23/2009 11:32:42
Attachment Added: CA126990: (None) - Ensure this issue is documented in the 2009 Annual Environmental Monitoring Rep

1/23/2009 11:32:59 by OWENS, CYRENA JEAN
Last Modified Date Changed From 1/23/2009 11:32:42 To 1/23/2009 11:32:59

1/23/2009 11:33:43 by OWENS, CYRENA JEAN
Last Modified Date Changed From 1/23/2009 11:32:59 To 1/23/2009 11:33:43
Attachment Added: CA126991: (None) - Det and doc possible causes of degraded filters seen in the recent past.

1/23/2009 11:33:58 by OWENS, CYRENA JEAN

Secondary Owner Changed From ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GAUGER, DAVID A, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, WALESH, DEBRA J, WHITE, DARYN A To AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, EVANS, WENDY L, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, GAUGER, DAVID A, HALE, JAMES M., HENRY, WILLIAM GENE, HESCHER,

DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 1/23/2009 11:33:43 To 1/23/2009 11:33:58
Last State Change Date Changed From 1/23/2009 11:32:21 To 1/23/2009 11:33:58
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

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State Change History

Submit	Draft	Submit	Supervisor Review	Complete	O/R Review	Complete	CRT Review
by BRANTMEIER, MICHELLE L	3/3/2009 15:12:54 Owner : BRANTMEIER, MICHELLE L	by BRANTMEIER, MICHELLE L	3/3/2009 15:18:22 Owner : SNIDER, TIMOTHY JAY	by SNIDER, TIMOTHY JAY	3/3/2009 16:03:05 Owner : FICTUM, HOLLY C	by TREPTOW, ETHAN A	3/3/2009 22:31:48 Owner : FICTUM, HOLLY C

CA	CRT Assignment Creation	Complete	Assignments Pending
by ERICSON, JANICE L	3/5/2009 11:33:11 Owner : FICTUM, HOLLY C	by ERICSON, JANICE L	3/5/2009 11:44:28 Owner : FICTUM, HOLLY C

Section 1

Applicable to site:	KEWA
Record #:	CR325344
Revision Number:	0
Submitter:	BRANTMEIER, MICHELLE L
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	920-388-8215
Submitter Pager Number:	000-000-0000
One-Line Description:	K-41 (EOF) Air Sampling System suspected leaking quick disconnect
Description:	K-41 (EOF) Air Sampling System leaking During Post Op check of filter cartridge a leak was detected in Air Sampler K-41 at the Emergency Off site Facility (EOF). During check, pressure did not drop to zero as expected. Pre Op check had passed. Issue may be the the quick disconnect is not sealing properly.
Discovery Date:	3/3/2009
Discovery Time:	11:20:00
Method of Discovery:	SELR (Self-revealing issue)
Literal 1:	**If this CR is associated with the BACC Program, please ensure that the CR Description contains sufficient information to ensure the ability to quickly locate the component, which will ensure ALARA.**
Associated with Boric Acid?:	No
Applicable to unit:	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:	Determined there were not any apparent issues with the filter cartridge that had just been installed.
Additional C/A processes req'd?:	WO - Work Order
Text Question 1:	**Provide details for any Additional C/A processes needed:**
Text Answer 1:	Work Order Needed for Evaluation of Air Sampler system
C/As Initiated (REA, WR, ETC):	
Tag Hung:	No
Tag Number:	NONE
Additional Contacts:	Robin Hawley
Supervisor - CR Review:	SNIDER, TIMOTHY JAY
Question G:	**Is this CR an Operability/Reportability Issue Requiring O/R Review?**
Yes/No G:	No
Question H:	**Does this CR affect personnel safety?**
Yes/No H:	No
Question I:	**Does this CR affect plant safety?**
Yes/No I:	No

Question J:	**Does this CR involve plant equipment?**
Yes/No J:	No
Question K:	**Is this CR an environmental concern?**
Yes/No K:	Yes
Literal 2:	**Unit Conditions:**
Unit 1% Pwr:	100
Unit 2% Pwr:	NA
Unit 3% Pwr:	NA
Unit 1 Mode:	1 - OPERATING
Unit 2 Mode:	NA
Unit 3 Mode:	NA
OP-AA-102 Review Req'd?:	Yes
Is a TS SSC Affected?:	No
TS SSC Operability Assessment:	N/A
Text Question 2:	**Basis for operability:**
Text Answer 2:	NON-FUNCTIONAL. K-41 Environmental Air Sampler is NON-FUNCTIONAL based the leak in the sample line. The Environmental Air Samplers are 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.
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:	N/A
Reportable condition?:	No
Text Question 3:	**Reportability Comments:**
Text Answer 3:	
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	I agree with the above assessment.
Significance:	3
Deficiency Type:	Non-Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	CR108736 for holes in filter K-41.
CR FLAGS:	Environmental Issue
CRT Report Section(s):	2
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	Ref. WO KW497231 created to repair K-41 (EOF) Air Sampling System suspected leaking quick disconnect. CA to RP to ensure Annual Environmental Monitoring Report notes that this

situation occured for the sampling period(s).

Comments: 3/3/2009 16:02:54 - SNIDER, TIMOTHY JAY:
EOF sampler K-41 is an environmental monitoring point. This air sample results will be suspect until the vacuum repair is made. Recommend generating a work order for repair. Sampler is located back side of EOF in Green Bay. - Notified Program owner in Health physics.- Entered by [SNIDER, TIMOTHY JAY] from [CR] [Supervisor Review]

Old Record #:

Section 2

Trend Review Complete?: No
Process Code: UNK (Unknown)
Activity Codes: UNK(Unknown)

Human Error Types: (None)
Org. & Mgmt Failure mode: (None)
Equipment Failure Modes: (None)
Secondary INPO criteria: (None)
Engineering Hot Buttons: (None)
RP Hot Buttons: Environmental Monitoring (REMP)
Process Related Failure: (None)
HU Failure modes: (None)
Primary INPO criteria: (None)
Operations Hot Buttons: (None)
Maintenance Hot Buttons: (None)
Chemistry Hot Buttons: (None)

EP Hot Buttons: (None)
Security Hot Buttons: (None)
O&P Hot Buttons: (None)
Supply Chain Hot Buttons: (None)
Other Hot Buttons: (None)
Training Hot Buttons: (None)
OR Hot Buttons: (None)
NSS Hot Buttons: (None)
Procedures Hot Buttons: (None)

Section 3

Work Order Number(s): KW100497231
Status Description: AWAITING ISSUE
Status Date: 3/4/2009 13:53:26
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: CA130373: KEWA - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period by **ERICSON, JANICE L** (3/5/2009 11:43:42)

Change History

3/3/2009 15:18:22 by BRANTMEIER, MICHELLE L
System(s) Changed From (None) To N/A
Owner Changed From BRANTMEIER, MICHELLE L To SNIDER, TIMOTHY JAY
Secondary Owner Changed From SNIDER, TIMOTHY JAY To AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 3/3/2009 15:12:54 To 3/3/2009 15:18:22
Last State Change Date Changed From 3/3/2009 15:12:54 To 3/3/2009 15:18:22
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR325344: KEWA - K-41 (EOF) Air Sampling System suspected leaking quick disconnect

3/3/2009 16:02:54 by SNIDER, TIMOTHY JAY
One-Line Description Changed From 'K-41 (EOF) Air Sampling System leaking' To 'K-41 (EOF) Air Sampling System suspected leaking quick disconnect'
Yes/No G Changed From Yes To No

Yes/No H Changed From Yes To No
Yes/No I Changed From Yes To No
Yes/No J Changed From Yes To No
Comments Changed From " To '[Appended:] EOF sampler K-41 is an environmental monitoring point. This air sample results will be suspect until the vacuum repair is made. Recommend generating a work order for repair. Sampler is located back side of EOF in Green Bay. - Notified Program [...]'
Last Modified Date Changed From 3/3/2009 15:18:22 To 3/3/2009 16:02:54
Last Modifier Changed From BRANTMEIER, MICHELLE L To SNIDER, TIMOTHY JAY

3/3/2009 16:03:05 by SNIDER, TIMOTHY JAY
Owner Changed From SNIDER, TIMOTHY JAY To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS To ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 3/3/2009 16:02:54 To 3/3/2009 16:03:05
Last State Change Date Changed From 3/3/2009 15:18:22 To 3/3/2009 16:03:05
Last State Changer Changed From BRANTMEIER, MICHELLE L To SNIDER, TIMOTHY JAY
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

3/3/2009 18:01:21 by AHRENS, GARY M
Unit 1% Pwr Changed From " To '100'
Unit 1 Mode Changed From (None) To 1 - OPERATING
OP-AA-102 Review Req'd? Changed From (None) To Yes
Is a TS SSC Affected? Changed From (None) To No
TS SSC Operability Assessment Changed From (None) To N/A
Text Answer 2 Changed From " To '[Appended:]NON-FUNCTIONAL. K-41 Environmental Air Sampler is NON-FUNCTIONAL based the leak in the sample line. The Environmental Air Samplers are required per Table 2.2.1-A, Radiological Environmental Monitoring Program. Per the Table 2.2.1-A if specime[...]'
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 N/A
Reportable condition? Changed From (None) To No
Last Modified Date Changed From 3/3/2009 16:03:05 To 3/3/2009 18:01:21
Last Modifier Changed From SNIDER, TIMOTHY JAY To AHRENS, GARY M

3/3/2009 22:31:48 by TREPTOW, ETHAN A
O/R Comments Changed From " To 'I agree with the above assessment.'
Last Modified Date Changed From 3/3/2009 18:01:21 To 3/3/2009 22:31:48
Last Modifier Changed From AHRENS, GARY M To TREPTOW, ETHAN A
Last State Change Date Changed From 3/3/2009 16:03:05 To 3/3/2009 22:31:48
Last State Changer Changed From SNIDER, TIMOTHY JAY To TREPTOW, ETHAN A
State Changed From O/R Review To CRT Review Via Transition: Complete

3/4/2009 6:58:31 by SMITH III, ROY E
CRT Report Section(s) Changed From (None) To 3
Last Modified Date Changed From 3/3/2009 22:31:48 To 3/4/2009 6:58:31
Last Modifier Changed From TREPTOW, ETHAN A To SMITH III, ROY E

3/4/2009 11:35:27 by SMITH III, ROY E
Tag Number Changed From " To 'NONE'
Last Modified Date Changed From 3/4/2009 6:58:31 To 3/4/2009 11:35:27
To Work Management Changed From " To 'Y'

3/4/2009 11:45:20 by SMITH III, ROY E
Significance Changed From (None) To 3
Deficiency Type Changed From (None) To Non-Equipment
Potential Repeat Changed From (None) To No
Previous Issues (PIs, CRs) Changed From " To 'CR108736 for holes in filter K-41.'
CR FLAGS Changed From (None) To Emergency Planning
CRT Comments Changed From " To 'Close to WO KW497 created to repair K-41 (EOF) Air Sampling System suspected leaking quick disconnect.'
Last Modified Date Changed From 3/4/2009 11:35:27 To 3/4/2009 11:45:20

3/4/2009 13:07:24 by SMITH III, ROY E
CRT Report Section(s) Changed From 3 To 1
CRT Comments Changed From 'Close to WO KW497 created to repair K-41 (EOF) Air Sampling System suspected leaking quick disconnect.' To 'Close to WO KW497231 created to repair K-41 (EOF) Air Sampling System suspected leaking quick disconnect.'
Last Modified Date Changed From 3/4/2009 11:45:20 To 3/4/2009 13:07:24

3/4/2009 16:01:49 by ADAMS, RICHARD W
CR FLAGS Changed From Emergency Planning To Environmental Issue
CRT Comments Changed From 'Close to WO KW497231 created to repair K-41 (EOF) Air Sampling System suspected leaking quick disconnect.' To 'WO KW497231 created to repair K-41 (EOF) Air Sampling System suspected leaking quick disconnect. CA to RP to ensure Annual Environmental Monitoring Report notes that this situation occured for the sampling period(s).'
Last Modified Date Changed From 3/4/2009 13:07:24 To 3/4/2009 16:01:49
Last Modifier Changed From SMITH III, ROY E To ADAMS, RICHARD W

3/4/2009 16:02:08 by ADAMS, RICHARD W
RP Hot Buttons Changed From (None) To Environmental Monitoring (REMP)
Last Modified Date Changed From 3/4/2009 16:01:49 To 3/4/2009 16:02:08

3/5/2009 7:05:44 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 3/4/2009 16:02:08 To 3/5/2009 7:05:44
Last Modifier Changed From ADAMS, RICHARD W To FICTUM, HOLLY C

3/5/2009 11:33:03 by ERICSON, JANICE L
CRT Report Section(s) Changed From 1 To 2
CRT Comments Changed From 'WO KW497231 created to repair K-41 (EOF) Air Sampling System suspected leaking quick disconnect. CA to RP to ensure Annual Environmental Monitoring Report notes that this situation occured for the sampling period(s).' To 'Ref. WO KW497231 created to repair K-41 (EOF) Air Sampling System suspected leaking quick disconnect. CA to RP to ensure Annual Environmental Monitoring Report notes that this situation occured for the sampling period(s).'
Last Modified Date Changed From 3/5/2009 7:05:44 To 3/5/2009 11:33:03
Last Modifier Changed From FICTUM, HOLLY C To ERICSON, JANICE L

3/5/2009 11:33:11 by ERICSON, JANICE L
Last Modified Date Changed From 3/5/2009 11:33:03 To 3/5/2009 11:33:11
Last State Change Date Changed From 3/3/2009 22:31:48 To 3/5/2009 11:33:11
Last State Changer Changed From TREPTOW, ETHAN A To ERICSON, JANICE L
State Changed From CRT Review To CRT Assignment Creation Via Transition: CA

3/5/2009 11:43:42 by ERICSON, JANICE L
Last Modified Date Changed From 3/5/2009 11:33:11 To 3/5/2009 11:43:42
Attachment Added: CA130373: (None) - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period

3/5/2009 11:44:28 by ERICSON, JANICE L
Secondary Owner Changed From ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, WALESH, DEBRA J, WHITE, DARYN A To AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HALE, JAMES M., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A
Last Modified Date Changed From 3/5/2009 11:43:42 To 3/5/2009 11:44:28
Last State Change Date Changed From 3/5/2009 11:33:11 To 3/5/2009 11:44:28
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

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State Change History

Subtask by ERICSON, JANICE L	**Draft** 3/5/2009 11:43:40 Owner : ERICSON, JANICE L	**Assign Department** by ERICSON, JANICE L	**Assigned** 3/5/2009 11:44:04 Owner : ADAMS, RICHARD W	**Assign Evaluator** by ADAMS, RICHARD W	**In Progress** 3/6/2009 8:06:26 Owner : MALY, AZIZ A	**Reassign Evaluator** by ADAMS, RICHARD W	**In Progress** 2/23/2010 11:23:46 Owner : ADAMS, RICHARD W
Return by ADAMS, RICHARD W	**Assigned** 3/29/2010 13:43:08 Owner : ADAMS, RICHARD W	**Assign Evaluator** by ADAMS, RICHARD W	**In Progress** 3/29/2010 13:43:25 Owner : ADAMS, RICHARD W				

Section 1

Record #:	CA130373
Revision Number:	0
One-Line Description:	Ensure Annual Env. Mon. Report notes this situation occured for sampl. period
Parent CR:	CR325344: KEWA - K-41 (EOF) Air Sampling System suspected leaking quick disconnect
CR One-Line Description:	K-41 (EOF) Air Sampling System suspected leaking quick disconnect
CR Description:	K-41 (EOF) Air Sampling System leaking During Post Op check of filter cartridge a leak was detected in Air Sampler K-41 at the Emergency Off site Facility (EOF). During check, pressure did not drop to zero as expected. Pre Op check had passed. Issue may be the the quick disconnect is not sealing properly.
CR Deficiency Type:	Non-Equipment
CR Discovery Date:	3/3/2009
CR Discovery Time:	11:20:00
CR Submitted Date:	3/3/2009 15:12:54
CR Applicable to site:	KEWA
CR Applicable to unit:	Unit 1
CR Initial Actions:	Determined there were not any apparent issues with the filter cartridge that had just been installed.
CR Significance:	3
CR Potential Repeat:	No
CR Previous Issues:	CR108736 for holes in filter K-41.
CR System(s):	N/A
CR Equipment Location:	(None)
CR CRT Comments:	Ref. WO KW497231 created to repair K-41 (EOF) Air Sampling System suspected leaking quick disconnect. CA to RP to ensure Annual Environmental Monitoring Report notes that this situation occured for the sampling period(s).
Is this CA req'd to Restore Full Qualification or Functionality?:	No
Detailed Assignment:	CA to RP to ensure Annual Environmental Monitoring Report notes that this situation occured for the sampling period(s).
CA Type:	LTCA - Long Term Corrective Action Other
Additional Review Required:	No
Additional Reviewer 1:	(None)
Additional Reviewer 2:	(None)
Additional Reviewer 3:	(None)
Additional Reviewer 4:	(None)
Additional Reviewer 5:	(None)

Assigned Department:	KEWA - Rad Protection
Assigned DCAC:	ADAMS, RICHARD W
(a)(1) Corrective Action?:	No
Due By Event:	No
Event Description:	(None)
Event Mode:	(None)
Event Date:	(None)
Action Priority:	N/A
Assigned Due Date:	5/31/2010
Assigned Evaluator:	ADAMS, RICHARD W
Assigned Supervisor:	OLSON, CHERYL L
Text Question 1:	**Response:**
Text Answer 1:	
Requested extension date:	
# of Extensions Approved:	0
Extension Comments:	
Follow on Assignments Req'd?:	(None)
Literal 1:	**NOTE: If Follow-on Assignments are required, you must gain concurrence from all Responsible Departments prior to proposing any actions that will be assigned to them.**
Literal 2:	**If Yes, describe any follow-on action(s) below, including Department to receive the action. Otherwise, enter N/A:**
Follow-on assignments:	
Manager Review Requested?:	No
Manager to Review:	(None)
Additional Review Comments:	
Plant Manager Comments:	
Management comments:	
Comments:	3/29/2010 13:43:08 - ADAMS, RICHARD W: Returning to change priority to NA.- Entered by [ADAMS, RICHARD W] from [CA] [In Progress]
Old Record #:	

Section 5

RM Attachment Links:

Subtasks

CR325344: KEWA - K-41 (EOF) Air Sampling System suspected leaking quick disconnect

[Current Item]

Notes

CR 327071 Issues to be added to the 2009 Annual Environmental Monitoring Report by **ADAMS, RICHARD W** (3/17/2009 7:59:42)
Ensure the issues noted in CR 327071 are noted in the the 2009 Annual Environmental Monitoring Report. These related to not being able to collect samples from 4 wells due to environmental conditions in and around the wells.

CR 342128 Issues to be added to the 2009 Annual Environmental Monitoring Report by **ADAMS, RICHARD W** (7/22/2009 15:16:35)
In addition to the issue noted in this original CA, ensure the annual Env. Mon. Report includes necessary information that the K-7 air sampler was found with no power on 7/21/2009.

CR 342776 Issues to be added to the 2009 Annual Environmental Monitoring Report by **ADAMS, RICHARD W** (7/28/2009 15:21:15)
In addition to the issue noted in this original CA, ensure the annual Env. Mon. Report includes necessary information that the K-7 air sampler was found with no power on 7/27/2009.

CA 137434 items need to be included in 2009 Report by **ADAMS, RICHARD W** (8/25/2009 15:02:59)
Review CA 137434 to ensure the 2009 Annual Environmental Report is updated, and noted as needed for the changes, for the headings as noted in the original CR.

CR 348011issue to be added to the 2009 AEMR by **ADAMS, RICHARD W** (9/14/2009 9:54:11)
In addition to the issue noted in this original CR, ensure the report includes the necessary information that K-7 was found not working.

CR 349152 - K-8 Air Sampler Found not running. Add to 2009 AEMR by **ADAMS, RICHARD W** (9/24/2009 9:10:32)
In addition to the issue noted in this original CR, ensure the report includes the necessary information that K-8 was found not working.

CR 350028 - K-7 Air Sampler Found not running. Add to 2009 AEMR by **ADAMS, RICHARD W** (9/30/2009 16:27:12)

CR352454- K-7 Environmental Air Sampler Found Off by **SMITH III, ROY E - power** (10/13/2009 22:31:19)
The total run time over the seven day period should have been apporximately 168 hours, but the accumulative meter hours for this sampler was only 10.7 hours.

CR 352454 issue to be added to the 2009 AEMR by **ADAMS, RICHARD W** (10/14/2009 6:25:36)
In addition to the issue noted in this original CR, ensure the report includes the necessary information that K-7 was found not working.

CR353663 K-7 Environmental Air Sampler Found Off by **SMITH III, ROY E - power** (10/21/2009 21:19:40)
The total run time over the seven day period should have been apporximately 168 hours, but the accumulative meter hours for this sampler was 142.4 hours.

Action From CA 138957 by **ADAMS, RICHARD W** (12/7/2009 14:50:11)
Per review of chagnes to RG 1.21. and 4.1, the annual Environmental Monitoring Report needs to address release of C-14. The 2009 report needs to include as addressed in CA 138597. This note will ensure that occurs.

CR367505 K-31 air sampler found not on. Add to 2010 AEMR. by **ERICSON, JANICE L** (2/3/2010 12:58:33)

Attachments

Subtask from: CR325344: KEWA - K-41 (EOF) Air Sampling System suspected leaking quick disconnect by **ERICSON, JANICE L** (3/5/2009 11:43:42)

Linked from: CR327071: KEWA - Groundwater monitoring wells mw-701,703,704 and ab-707 unable to be sampled (Inactive) by **ADAMS, RICHARD W** (3/17/2009 7:57:39)

Linked to: CR342128: KEWA - K-7 Environmental sample (air filter) electrical power off 1 hour per WPS (Inactive) by **ADAMS, RICHARD W** (7/22/2009 15:12:09)

Linked to: CR342776: KEWA - K-7 power found off (Inactive) by **ADAMS, RICHARD W** (7/28/2009 15:20:14)

Linked from: CA137434: KEWA - Work with Licensing to determine and document what, if any, reporting (Inactive) by **ADAMS, RICHARD W** (8/25/2009 15:00:32)

Linked from: CR348011: KEWA - Environmental Radiation Air Monitor found not running (Inactive) by **ADAMS, RICHARD W** (9/14/2009 9:49:24)

Linked from: CR349152: KEWA - Environmental air sampler not running (Inactive) by **ADAMS, RICHARD W** (9/24/2009 9:09:10)

Linked to: CR350028: KEWA - K-7 Environmental Air Sampler discovered not running. (Inactive) by **ADAMS, RICHARD W** (9/30/2009 16:26:29)

Linked to: CR352454: KEWA - K-7 Environmental Air Sampler Found Off (Inactive) by **ADAMS, RICHARD W** (10/14/2009 6:24:43)

Linked from: CA142447: KEWA - Review history of K-7 air sampler issues, evaluate loss of sample time for risks (Inactive) by **ADAMS, RICHARD W** (11/17/2009 11:01:37)

Linked from: CA138957: KEWA - Perform an evaluation of new revisions of Reg Guides 1.21 & 4.1 to det if chgs by **ADAMS, RICHARD W** (12/7/2009 14:43:56)

Change History

3/5/2009 11:43:42 by ERICSON, JANICE L
Last Modified Date Changed From 3/5/2009 11:43:40 To 3/5/2009 11:43:42

Attachment Added: CR325344: (None) - K-41 (EOF) Air Sampling System suspected leaking quick disconnect

3/5/2009 11:44:04 by ERICSON, JANICE L
Last Modified Date Changed From 3/5/2009 11:43:42 To 3/5/2009 11:44:04
State Changed From Draft To Assigned Via Transition: Assign Department
Owner Changed From ERICSON, JANICE L To ADAMS, RICHARD W
Secondary Owner Changed From ADAMS, RICHARD W, AHRENS, GARY M, BOUCHE, DANNY L, BOWER, RICHARD L, BRADLEY, DEBRA A, BRAENNE, RACHAELLE A, BUNKELMAN, TIMOTHY J, CHRISTMAN, SANDRA C, CIESLEWICZ, SCOTT M, ERICSON, JANICE L, ERTMAN, SALLY L, FITZWATER, DAVID I, GAUGER, BRAD R, GAUTHIER, SANDRA LEE, HESCHER, DOUGLAS J, HILLS, SHAWN D, HOUSE, ALEX J, IRION, ROBERT W, KARST JR, DAVID A, KIRKPATRICK, WILLIAM J, KUDICK, JESSICA L, LANGER JR, JAMES E, LUSTILA, MARQUES R, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MILLER, JEANNINE R, MORGAN, PATRICK M, MUELLER, MICHAEL D, NICOLAI, ROGER J, NUHLICEK, HEATHER LYNN, O'CONNER, THOMAS R, OLSOWY, TIMOTHY F, OWENS, CYRENA JEAN, OWENS, JOHN S, PAWLITZKY, TINA L., PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROBB, JONATHAN R, SMITH III, ROY E, SMITH, JACQUELINE K, SMOLINSKI, ANDREW T., SNIDER, TIMOTHY JAY, SNYDER, LEE, STERNITZKY, COLLEEN A, STODOLA, JOSEPH O, TREPTOW, ETHAN A, VANDERVEEN, JOY E, WALESH, DEBRA J, WALKNER, MARGARET M To ADAMS, RICHARD W, BERNSDORF, MIKE A, HALE, JAMES M., MUELLER, J ROBERT, OLSON, CHERYL L, SNIDER, TIMOTHY JAY
Last State Change Date Changed From 3/5/2009 11:43:40 To 3/5/2009 11:44:04

3/6/2009 8:06:26 by ADAMS, RICHARD W
Action Priority Changed From (None) To Per Schedule
Assigned Due Date Changed From Unassigned To 5/31/2010
Assigned Evaluator Changed From (None) To MALY, AZIZ A
Assigned Supervisor Changed From (None) To OLSON, CHERYL L
Last Modified Date Changed From 3/5/2009 11:44:04 To 3/6/2009 8:06:26
Last Modifier Changed From ERICSON, JANICE L To ADAMS, RICHARD W
Last State Changer Changed From ERICSON, JANICE L To ADAMS, RICHARD W
State Changed From Assigned To In Progress Via Transition: Assign Evaluator
Owner Changed From ADAMS, RICHARD W To MALY, AZIZ A
Secondary Owner Changed From ADAMS, RICHARD W, BERNSDORF, MIKE A, HALE, JAMES M., MUELLER, J ROBERT, OLSON, CHERYL L, SNIDER, TIMOTHY JAY To ADAMS, RICHARD W, ALLISON, DON NOEL, BERNSDORF, MIKE A, HALE, JAMES M., HOVIS, MICHAEL A., LEHMBECK, WILLIAM LEWIS, MUELLER, J ROBERT, OLSON, CHERYL L, PEROUTKA, MARK, SHANNON, DANIEL J., SNIDER, TIMOTHY JAY, STECKLER, BART R, WILSON, MICHAEL J
Last State Change Date Changed From 3/5/2009 11:44:04 To 3/6/2009 8:06:26

3/17/2009 7:57:40 by ADAMS, RICHARD W
Last Modified Date Changed From 3/6/2009 8:06:26 To 3/17/2009 7:57:40
Attachment Added: CR327071: KEWA - Groundwater monitoring wells mw-701,703,704 and ab-707 unable to be sampled

3/17/2009 7:59:42 by ADAMS, RICHARD W
Last Modified Date Changed From 3/17/2009 7:57:40 To 3/17/2009 7:59:42
Attachment Added: CR 327071 Issues to be added to the 2009 Annual Environmental Monitoring Report

7/22/2009 15:12:09 by ADAMS, RICHARD W
Last Modified Date Changed From 3/17/2009 7:59:42 To 7/22/2009 15:12:09
Attachment Added: CR342128: KEWA - K-7 Environmental sample (air filter) electrical power off 1 hour per WPS

7/22/2009 15:16:35 by ADAMS, RICHARD W
Last Modified Date Changed From 7/22/2009 15:12:09 To 7/22/2009 15:16:35
Attachment Added: CR 342128 Issues to be added to the 2009 Annual Environmental Monitoring Report

7/28/2009 15:20:14 by ADAMS, RICHARD W
Last Modified Date Changed From 7/22/2009 15:16:35 To 7/28/2009 15:20:14
Attachment Added: CR342776: KEWA - K-7 power found off

7/28/2009 15:21:15 by ADAMS, RICHARD W
Last Modified Date Changed From 7/28/2009 15:20:14 To 7/28/2009 15:21:15
Attachment Added: CR 342776 Issues to be added to the 2009 Annual Environmental Monitoring Report

8/25/2009 15:00:32 by ADAMS, RICHARD W
Last Modified Date Changed From 7/28/2009 15:21:15 To 8/25/2009 15:00:32
Attachment Added: CA137434: KEWA - Work with Licensing to determine and document what, if any, reporting

8/25/2009 15:02:59 by ADAMS, RICHARD W
Last Modified Date Changed From 8/25/2009 15:00:32 To 8/25/2009 15:02:59
Attachment Added: CA 137434 items need to be included in 2009 Report

9/14/2009 9:49:25 by ADAMS, RICHARD W
Last Modified Date Changed From 8/25/2009 15:02:59 To 9/14/2009 9:49:25
Attachment Added: CR348011: KEWA - Environmental Radiation Air Monitor found not running

9/14/2009 9:54:11 by ADAMS, RICHARD W
Last Modified Date Changed From 9/14/2009 9:49:25 To 9/14/2009 9:54:11
Attachment Added: CR 348011issue to be added to the 2009 AEMR

9/24/2009 9:09:10 by ADAMS, RICHARD W
Last Modified Date Changed From 9/14/2009 9:54:11 To 9/24/2009 9:09:10
Attachment Added: CR349152: KEWA - Environmental air sampler not running

9/24/2009 9:10:32 by ADAMS, RICHARD W
Last Modified Date Changed From 9/24/2009 9:09:10 To 9/24/2009 9:10:32
Attachment Added: CR 349152 - K-8 Air Sampler Found not running. Add to 2009 AEMR

9/30/2009 16:26:29 by ADAMS, RICHARD W
Last Modified Date Changed From 9/24/2009 9:10:32 To 9/30/2009 16:26:29
Attachment Added: CR350028: KEWA - K-7 Environmental Air Sampler discovered not running.

9/30/2009 16:27:12 by ADAMS, RICHARD W
Last Modified Date Changed From 9/30/2009 16:26:29 To 9/30/2009 16:27:12

Attachment Added: CR 350028 - K-7 Air Sampler Found not running. Add to 2009 AEMR

10/13/2009 22:31:19 by SMITH III, ROY E - power
Last Modified Date Changed From 9/30/2009 16:27:12 To 10/13/2009 22:31:19
Last Modifier Changed From ADAMS, RICHARD W To SMITH III, ROY E - power
Attachment Added: CR352454- K-7 Environmental Air Sampler Found Off

10/14/2009 6:24:43 by ADAMS, RICHARD W
Last Modified Date Changed From 10/13/2009 22:31:19 To 10/14/2009 6:24:43
Last Modifier Changed From SMITH III, ROY E - power To ADAMS, RICHARD W
Attachment Added: CR352454: KEWA - K-7 Environmental Air Sampler Found Off

10/14/2009 6:25:36 by ADAMS, RICHARD W
Last Modified Date Changed From 10/14/2009 6:24:43 To 10/14/2009 6:25:36
Attachment Added: CR 352454 issue to be added to the 2009 AEMR

10/21/2009 21:19:41 by SMITH III, ROY E - power
Last Modified Date Changed From 10/14/2009 6:25:36 To 10/21/2009 21:19:41
Last Modifier Changed From ADAMS, RICHARD W To SMITH III, ROY E - power
Attachment Added: CR353663 K-7 Environmental Air Sampler Found Off

11/17/2009 11:01:37 by ADAMS, RICHARD W
Last Modified Date Changed From 10/21/2009 21:19:41 To 11/17/2009 11:01:37
Last Modifier Changed From SMITH III, ROY E - power To ADAMS, RICHARD W
Attachment Added: CA142447: KEWA - Review history of K-7 air sampler issues, evaluate loss of sample time for risks

12/7/2009 14:43:57 by ADAMS, RICHARD W
Last Modified Date Changed From 11/17/2009 11:01:37 To 12/7/2009 14:43:57
Attachment Added: CA138957: KEWA - Perform an evaluation of new revisions of Reg Guides 1.21 & 4.1 to det if chgs

12/7/2009 14:50:11 by ADAMS, RICHARD W
Last Modified Date Changed From 12/7/2009 14:43:57 To 12/7/2009 14:50:11
Attachment Added: Action From CA 138957

1/13/2010 11:40:15 by BOWER, RICHARD L - power
CA Type Changed From Other To Other, LTCA - Long Term Corrective Action
Last Modified Date Changed From 12/7/2009 14:50:11 To 1/13/2010 11:40:15
Last Modifier Changed From ADAMS, RICHARD W To BOWER, RICHARD L - power
Secondary Owner Changed From ADAMS, RICHARD W, ALLISON, DON NOEL, BERNSDORF, MIKE A, HALE, JAMES M., HOVIS, MICHAEL A., LEHMBECK, WILLIAM LEWIS, MUELLER, J ROBERT, OLSON, CHERYL L, PEROUTKA, MARK, SHANNON, DANIEL J., SNIDER, TIMOTHY JAY, STECKLER, BART R, WILSON, MICHAEL J To ADAMS, RICHARD W, ALLISON, DON NOEL, BERNSDORF, MIKE A, HALE, JAMES M., HOVIS, MICHAEL A., LEHMBECK, WILLIAM LEWIS, OLSON, CHERYL L, PEROUTKA, MARK, SHANNON, DANIEL J., SNIDER, TIMOTHY JAY, STECKLER, BART R, WILSON, MICHAEL J

2/3/2010 12:58:33 by ERICSON, JANICE L
Last Modified Date Changed From 1/13/2010 11:40:15 To 2/3/2010 12:58:33
Last Modifier Changed From BOWER, RICHARD L - power To ERICSON, JANICE L
Attachment Added: CR367505 K-31 air sampler found not on. Add to 2010 AEMR.

2/17/2010 7:46:17 by ADAMS, RICHARD W
Last Modified Date Changed From 2/3/2010 12:58:33 To 2/17/2010 7:46:17
Last Modifier Changed From ERICSON, JANICE L To ADAMS, RICHARD W
Attachment Added: CR369046: KEWA - K-7 Air Sampler-Unexpected Run Hours Found during Air Filter Collection

2/17/2010 7:47:23 by ADAMS, RICHARD W
Last Modified Date Changed From 2/17/2010 7:46:17 To 2/17/2010 7:47:23
Attachment Deleted: CR369046: KEWA - K-7 Air Sampler-Unexpected Run Hours Found during Air Filter Collection

2/23/2010 11:23:46 by ADAMS, RICHARD W
Assigned Evaluator Changed From MALY, AZIZ A To ADAMS, RICHARD W
Last Modified Date Changed From 2/17/2010 7:47:23 To 2/23/2010 11:23:46
Owner Changed From MALY, AZIZ A To ADAMS, RICHARD W

3/29/2010 13:43:08 by ADAMS, RICHARD W
Comments Changed From " To '[Appended:] Returning to change priority to NA.- Entered by [ADAMS, RICHARD W] from [CA] [In Progress]'
Last Modified Date Changed From 2/23/2010 11:23:46 To 3/29/2010 13:43:08
State Changed From In Progress To Assigned Via Transition: Return
Secondary Owner Changed From ADAMS, RICHARD W, ALLISON, DON NOEL, BERNSDORF, MIKE A, HALE, JAMES M., HOVIS, MICHAEL A., LEHMBECK, WILLIAM LEWIS, OLSON, CHERYL L, PEROUTKA, MARK, SHANNON, DANIEL J., SNIDER, TIMOTHY JAY, STECKLER, BART R, WILSON, MICHAEL J To ADAMS, RICHARD W, BERNSDORF, MIKE A, CHRISTENSEN, ALAN R, EGDORF, JOHN R, HALE, JAMES M., OLSON, CHERYL L, SNIDER, TIMOTHY JAY
Last State Change Date Changed From 3/6/2009 8:06:26 To 3/29/2010 13:43:08

3/29/2010 13:43:22 by ADAMS, RICHARD W
Action Priority Changed From Per Schedule To N/A
Last Modified Date Changed From 3/29/2010 13:43:08 To 3/29/2010 13:43:22

3/29/2010 13:43:25 by ADAMS, RICHARD W
Last Modified Date Changed From 3/29/2010 13:43:22 To 3/29/2010 13:43:25
State Changed From Assigned To In Progress Via Transition: Assign Evaluator
Secondary Owner Changed From ADAMS, RICHARD W, BERNSDORF, MIKE A, CHRISTENSEN, ALAN R, EGDORF, JOHN R, HALE, JAMES M., OLSON, CHERYL L, SNIDER, TIMOTHY JAY To ADAMS, RICHARD W, ALLISON, DON NOEL, BERNSDORF, MIKE A, CHRISTENSEN, ALAN R, EGDORF, JOHN R, HALE, JAMES M., HOVIS, MICHAEL A., LEHMBECK, WILLIAM LEWIS, OLSON, CHERYL L, PEROUTKA, MARK, SHANNON, DANIEL J., SNIDER, TIMOTHY JAY, STECKLER, BART R, WILSON, MICHAEL J
Last State Change Date Changed From 3/29/2010 13:43:08 To 3/29/2010 13:43:25

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State Change History

Submit by SIMON, PAUL A	**Draft** 7/21/2009 12:27:35 Owner : SIMON, PAUL A	**Submit** by SIMON, PAUL A	**Supervisor Review** 7/21/2009 12:29:09 Owner : SNIDER, TIMOTHY JAY	**Complete** by SNIDER, TIMOTHY JAY	**O/R Review** 7/21/2009 12:44:09 Owner : FICTUM, HOLLY C	**Complete** by DYKSTRA, DALE E	**CRT Review** 7/21/2009 17:15:03 Owner : FICTUM, HOLLY C
Complete by WALESH, DEBRA J	**Trend Review** 7/23/2009 12:59:23 Owner : FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 7/24/2009 13:05:46 Owner : (None)	**Transfer** by RECORDS MGMT	**Transferred** 7/24/2009 17:09:30 Owner : (None)	**Print** by RECORDS MGMT	**Printed** 7/27/2009 9:46:21 Owner : (None)
Validate by RECORDS MGMT	**Validated** 7/27/2009 9:46:30 Owner : (None)						

Section 1

Applicable to site:	KEWA
Record #:	CR342128
Revision Number:	0
Submitter:	SIMON, PAUL A
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	8214
Submitter Pager Number:	7666
One-Line Description:	K-7 Environmental sample (air filter) electrical power off 1 hour per WPS
Description:	K-7 Environmental sample (air filter) electrical power off ~1 hour per WPS . Power was found off to sampler upon arrival to farm to change air filter . Wisconsin public service personal were asked when power was turned off and when it will be turned back on . Off at 1030 we changed samples at 1100 power to be back on at 1130 . so at time of sample change it was off and unable to verify flow . The totalizer will not be affected .
Discovery Date:	7/21/2009
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):	N/A
Equipment Location Display:	**Equipment Location - Critical Component - PRA Flag - Quality Classification - Component Description**
Equipment Location Links:	
Initial Actions:	notified supervisor upon return to plant.
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:	SNIDER, TIMOTHY JAY
Question G:	**Is this CR an Operability/Reportability Issue Requiring O/R Review?**
Yes/No G:	Yes
Question H:	**Does this CR affect personnel safety?**
Yes/No H:	No

Question I:	**Does this CR affect plant safety?**
Yes/No I:	No
Question J:	**Does this CR involve plant equipment?**
Yes/No J:	No
Question K:	**Is this CR an environmental concern?**
Yes/No K:	Yes
Literal 2:	**Unit Conditions:**
Unit 1% Pwr:	100
Unit 2% Pwr:	NA
Unit 3% Pwr:	NA
Unit 1 Mode:	1 - OPERATING
Unit 2 Mode:	NA
Unit 3 Mode:	NA
OP-AA-102 Review Req'd?:	Yes
Is a TS SSC Affected?:	No
TS SSC Operability Assessment:	N/A
Text Question 2:	**Basis for operability:**
Text Answer 2:	NON-FUNCTIONAL. K-7 Environmental Air Sampler was NON-FUNCTIONAL at the time of discovery. The K-7 Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Program. Per the Table 2.2.1-A if specimens are unobtainable due to sampling equipment malfunction, reasonable efforts shall be made to correct the problem prior to the next sample period. In this case the K-7 air sampler was monitoring for 1 hour short of the required run. Based on the information given, K-7 air sampler became non-functional for 1 hour and has since been returned to a FUNCTIONAL state. REMM Table 2.2.1-A requirements remained satisfied.
Question L:	**Is an Operability Assessment req'd for an SSC, which is Functional for its TRM function, to demonstrate operability for its TS function?**
Yes / No L:	No
Literal 4:	**The basis for establishing IOD can be documented in the "Basis for Operability" field. An IOD assignment does not necessarily need to be created.**
Is an IOD Assignment Required?:	No
LCO entered:	No
Applicable LCO:	
Non-TS SSC Functionality Assessment.:	Non-Functional
Literal 5:	**NOTE: If a RAS is to be assigned to determine the answer to the next question, select "TBD" (to be determined) for the answer to the next question.**
Does it impact a TS SSC?:	No
Literal 6:	**The basis for establishing Non-TS SSC Functionality may be documented in the "Basis for Operability" field. A RAS assignment does not necessarily need to be created in these instances.**
Is a RAS Assignment Needed?:	No
Literal 7:	**If this Condition Report is addressing an SSC, document the qualification status of the SSC in the following field. Otherwise select N/A. NOTE: An SSC can be Operable or Functional and still not be Fully Qualified.**
SSC Qualification Status:	N/A
Reportable condition?:	No
Text Question 3:	**Reportability Comments:**
Text Answer 3:	
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	
Significance:	3
Deficiency Type:	Equipment & Non-Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	CR13785, 101593, 92318, 116348, 325344.
CR FLAGS:	Emergency Planning

CRT Report Section(s):	2
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	Close to open CA 130373, which is a placeholder for all Environmental Monitoring program minor issues that need to be recorded in the annual Environmental Monitoring report. This CR is linked to that CA.
Comments:	7/21/2009 12:44:01 - SNIDER, TIMOTHY JAY: This CR is applicable to the Annual Site Environmental Report (SER). This CR should be included in the 2009 Annual SER and actions assigned to RP program owner. No impact to sample analysis since totalizer records total flow through filter.- Entered by [SNIDER, TIMOTHY JAY] 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:**	(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)
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: 7/24/2009 14:05:46 **CR Printed Date:** 7/27/2009 9:46:21
CR Validated Date: 7/27/2009 9:46:30 **CR Who Validated:** RECORDS MGMT
RM Attachment Links:

Attachments

Linked from: CA130373: KEWA - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period by **ADAMS, RICHARD W** (7/22/2009 15:12:09)

Change History

7/21/2009 12:29:09 by SIMON, PAUL A
Associated w/ Equipment Location? Changed From (None) To No
Initial Actions Changed From " To 'none'
Additional C/A processes req'd? Changed From (None) To N/A
Owner Changed From SIMON, PAUL A To SNIDER, TIMOTHY JAY
Secondary Owner Changed From SNIDER, TIMOTHY JAY To AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 7/21/2009 12:27:35 To 7/21/2009 12:29:09
Last State Change Date Changed From 7/21/2009 12:27:35 To 7/21/2009 12:29:09
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR342128: KEWA - K-7 Environmental sample (air filter) electrical power off 1 hour per WPS (Inactive)

7/21/2009 12:44:01 by SNIDER, TIMOTHY JAY
Description Changed From 'K-7 Environmental sample (air filter) electrical power off 1 hour per WPS . Power was found off to sampler upon arrival to farm to change air filter . Wisconsin public service personal were ask when power was turned off and when it will be turned ba[...]' To 'K-7 Environmental sample (air filter) electrical power off ~1 hour per WPS . Power was found off to sampler upon arrival to farm to change air filter . Wisconsin public service personal were ask when power was turned off and when it will be turned [...]'
Initial Actions Changed From 'none' To 'notified supervisor upon return to plant.'
Yes/No H Changed From Yes To No
Yes/No I Changed From Yes To No
Yes/No J Changed From Yes To No
Comments Changed From '' To '[Appended:] This CR is applicable to the Annual Site Environmental Report (SER). This CR should be included in the 2009 Annual SER and actions assigned to RP program owner. No impact to sample analysis since totalizer records total flow through filter.- En[...]'
Last Modified Date Changed From 7/21/2009 12:29:09 To 7/21/2009 12:44:01
Last Modifier Changed From SIMON, PAUL A To SNIDER, TIMOTHY JAY

7/21/2009 12:44:09 by SNIDER, TIMOTHY JAY
Owner Changed From SNIDER, TIMOTHY JAY To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS To ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 7/21/2009 12:44:01 To 7/21/2009 12:44:09
Last State Change Date Changed From 7/21/2009 12:29:09 To 7/21/2009 12:44:09
Last State Changer Changed From SIMON, PAUL A To SNIDER, TIMOTHY JAY
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

7/21/2009 12:57:55 by AHRENS, GARY M
Unit 1% Pwr Changed From '' To '100'
Unit 1 Mode Changed From (None) To 1 - OPERATING
OP-AA-102 Review Req'd? Changed From (None) To Yes
Is a TS SSC Affected? Changed From (None) To No
TS SSC Operability Assessment Changed From (None) To N/A
Text Answer 2 Changed From '' To '[Appended:]NON-FUNCTIONAL. K-7 Environmental Air Sampler was NON-FUNCTIONAL at the time of discovery. The K-7 Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Program. Per the Table 2.2.1-A if specimens are u[...]'
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 N/A
Reportable condition? Changed From (None) To No
Last Modified Date Changed From 7/21/2009 12:44:09 To 7/21/2009 12:57:55
Last Modifier Changed From SNIDER, TIMOTHY JAY To AHRENS, GARY M

7/21/2009 17:15:03 by DYKSTRA, DALE E
Last Modified Date Changed From 7/21/2009 12:57:55 To 7/21/2009 17:15:03
Last Modifier Changed From AHRENS, GARY M To DYKSTRA, DALE E
Last State Change Date Changed From 7/21/2009 12:44:09 To 7/21/2009 17:15:03
Last State Changer Changed From SNIDER, TIMOTHY JAY To DYKSTRA, DALE E
State Changed From O/R Review To CRT Review Via Transition: Complete

7/22/2009 5:45:04 by LANGER JR, JAMES E - power
Description Changed From 'K-7 Environmental sample (air filter) electrical power off ~1 hour per WPS . Power was found off to sampler upon arrival to farm to change air filter . Wisconsin public service personal were ask when power was turned off and when it will be turned [...]' To 'K-7 Environmental sample (air filter) electrical power off ~1 hour per WPS . Power was found off to sampler upon arrival to farm to change air filter . Wisconsin public service personal were asked when power was turned off and when it will be turne[...]'
Last Modified Date Changed From 7/21/2009 17:15:03 To 7/22/2009 5:45:04
Last Modifier Changed From DYKSTRA, DALE E To LANGER JR, JAMES E - power

7/22/2009 5:48:15 by SMITH III, ROY E
CRT Report Section(s) Changed From (None) To 3
Last Modified Date Changed From 7/22/2009 5:45:04 To 7/22/2009 5:48:15
Last Modifier Changed From LANGER JR, JAMES E - power To SMITH III, ROY E

7/22/2009 10:38:20 by SMITH III, ROY E

Significance Changed From (None) To 3
Deficiency Type Changed From (None) To Equipment
Potential Repeat Changed From (None) To No
Previous Issues (PIs, CRs) Changed From '' To 'CR13785, 101593, 92318, 116348.'
CR FLAGS Changed From (None) To Emergency Planning
CRT Comments Changed From '' To 'CA to RP to include this CR342128 in the 2009 Annual SER.'
Last Modified Date Changed From 7/22/2009 5:48:15 To 7/22/2009 10:38:20

7/22/2009 10:38:41 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 7/22/2009 10:38:20 To 7/22/2009 10:38:41

7/22/2009 11:26:31 by LANGER JR, JAMES E
CRT Report Section(s) Changed From 3 To 1
Last Modified Date Changed From 7/22/2009 10:38:41 To 7/22/2009 11:26:31
Last Modifier Changed From SMITH III, ROY E To LANGER JR, JAMES E

7/22/2009 15:12:10 by ADAMS, RICHARD W
Last Modified Date Changed From 7/22/2009 11:26:31 To 7/22/2009 15:12:10
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

7/22/2009 15:15:06 by ADAMS, RICHARD W
Previous Issues (PIs, CRs) Changed From 'CR13785, 101593, 92318, 116348.' To 'CR13785, 101593, 92318, 116348, 325344.'
CRT Comments Changed From 'CA to RP to include this CR342128 in the 2009 Annual SER.' To 'Close to open CA 130373, which is a placeholder for all Environmental Monitoring program minor issues that need to be recorded in the annual Environmental Monitoring report. This CR is linked to that CA.'
Last Modified Date Changed From 7/22/2009 15:12:10 To 7/22/2009 15:15:06

7/23/2009 6:39:05 by FICTUM, HOLLY C - power
Deficiency Type Changed From Equipment To Equipment & Non-Equipment
Process Code Changed From UNK (Unknown) To EVC (Environmental Controls)
Activity Codes Changed From UNK(Unknown) To SAA(Sampling)
Last Modified Date Changed From 7/22/2009 15:15:06 To 7/23/2009 6:39:05
Last Modifier Changed From ADAMS, RICHARD W To FICTUM, HOLLY C - power

7/23/2009 10:00:38 by ADAMS, RICHARD W
RP Hot Buttons Changed From (None) To Environmental Monitoring (REMP)
Last Modified Date Changed From 7/23/2009 6:39:05 To 7/23/2009 10:00:38
Last Modifier Changed From FICTUM, HOLLY C - power To ADAMS, RICHARD W

7/23/2009 12:59:06 by WALESH, DEBRA J
Tag Number Changed From '' To 'NA'
CRT Report Section(s) Changed From 1 To 2
Last Modified Date Changed From 7/23/2009 10:00:38 To 7/23/2009 12:59:06
Last Modifier Changed From ADAMS, RICHARD W To WALESH, DEBRA J

7/23/2009 12:59:23 by WALESH, DEBRA J
Secondary Owner Changed From ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WHITE, DARYN A, WINKS III, GEORGE F To AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 7/23/2009 12:59:06 To 7/23/2009 12:59:23
Last State Change Date Changed From 7/21/2009 17:15:03 To 7/23/2009 12:59:23
Last State Changer Changed From DYKSTRA, DALE E To WALESH, DEBRA J
State Changed From CRT Review To Trend Review Via Transition: Complete

7/24/2009 13:05:46 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 7/24/2009 14:05:46
RM Attachment Links Changed From '' To '<table width=100% border=1 cellspacing=2 cellpadding=2></table>'
Owner Changed From FICTUM, HOLLY C To (None)

Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T,

STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 7/23/2009 12:59:23 To 7/24/2009 13:05:46
Last Modifier Changed From WALESH, DEBRA J To FICTUM, HOLLY C
Close Date Changed From Unassigned To 7/24/2009 13:05:46
Last State Change Date Changed From 7/23/2009 12:59:23 To 7/24/2009 13:05:46
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

7/24/2009 17:09:30 by RECORDS MGMT
Last Modified Date Changed From 7/24/2009 13:05:46 To 7/24/2009 17:09:30
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 7/24/2009 13:05:46 To 7/24/2009 17:09:30
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

7/27/2009 9:46:21 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 7/27/2009 9:46:21
Last Modified Date Changed From 7/24/2009 17:09:30 To 7/27/2009 9:46:21
Last State Change Date Changed From 7/24/2009 17:09:30 To 7/27/2009 9:46:21
State Changed From Transferred To Printed Via Transition: Print

7/27/2009 9:46:30 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 7/27/2009 9:46:30
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)
Last Modified Date Changed From 7/27/2009 9:46:21 To 7/27/2009 9:46:30
Last State Change Date Changed From 7/27/2009 9:46:21 To 7/27/2009 9:46:30
State Changed From Printed To Validated Via Transition: Validate

State Change History

Submit by CATLETT, KENNETH R	**Draft** 7/27/2009 13:35:37 Owner: CATLETT, KENNETH R	**Submit** by CATLETT, KENNETH R	**Supervisor Review** 7/27/2009 13:36:44 Owner: SNIDER, TIMOTHY JAY	**Complete** by SNIDER, TIMOTHY JAY	**O/R Review** 7/27/2009 13:44:34 Owner: FICTUM, HOLLY C	**Complete** by GOOLSBEY, MARK W	**CRT Review** 7/27/2009 16:14:06 Owner: FICTUM, HOLLY C
CA by ERICSON, JANICE L	**CRT Assignment Creation** 7/30/2009 10:39:56 Owner: FICTUM, HOLLY C	**Complete** by ERICSON, JANICE L	**Assignments Pending** 7/30/2009 10:40:49 Owner: FICTUM, HOLLY C	**Assignments Complete** by ADAMS, RICHARD W	**Trend Review** 11/17/2009 11:02:19 Owner: FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 11/30/2009 10:23:43 Owner: (None)
Transfer by RECORDS MGMT	**Transferred** 11/30/2009 18:05:44 Owner: (None)	**Print** by RECORDS MGMT	**Printed** 2/11/2010 15:05:41 Owner: (None)	**Validate** by RECORDS MGMT	**Validated** 2/11/2010 15:05:51 Owner: (None)		

Section 1

Applicable to site:	KEWA
Record #:	CR342776
Revision Number:	0
Submitter:	CATLETT, KENNETH R
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	8215
Submitter Pager Number:	7354
One-Line Description:	K-7 power found off
Description:	On 7-27-09 at 0851 the environmental air sampler at site K-7 was found off on upon arrival at the site. There was no flow recorded for the week. The GFIC plug was reset and the sampler began running. The sampler was found off the previous week and was captured by CR342128.
Discovery Date:	7/27/2009
Discovery Time:	8:51:00
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:	reset GFIC
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:	SNIDER, TIMOTHY JAY
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?:	Yes
Is a TS SSC Affected?:	No
TS SSC Operability Assessment:	N/A
Text Question 2:	**Basis for operability:**
Text Answer 2:	NON-FUNCTIONAL. K-7 Environmental Air Sampler was NON-FUNCTIONAL at the time of discovery. The K-7 Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Program. Per the Table 2.2.1-A if specimens are unobtainable due to sampling equipment malfunction, reasonable efforts shall be made to correct the problem prior to the next sample period. In this case the K-7 air sampler was reset and has since been returned to a FUNCTIONAL state. REMM Table 2.2.1-A requirements remained satisfied. I agree with the operability assessment made by Mr. Smolinski.
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:	N/A
Reportable condition?:	No
Text Question 3:	**Reportability Comments:**
Text Answer 3:	This is not reportable per 10 CFR 50.72 or 73. This discrepancy will be noted in the routine annual report.
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	
Significance:	3
Deficiency Type:	Equipment & Non-Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	CR13785, 101593, 92318, 116348, 325344.

CR342128- K-7 Environmental sample (air filter) electrical power off 1 hour per WPS.
Ref open CA 130373, which is a placeholder for all Environmental Monitoring program minor issues that need to be recorded in the annual Environmental Monitoring report.

CR FLAGS: Environmental Issue
CRT Report Section(s): 2
License Renewal Flags: (None)
Affected Department: UNDETERMINED
CRT Comments: The GFCI plug was reset and the sampler began running. Link made to and note added in CA 130373 to include this incident in the 2009 Annual Env. Monitoring Report.

CA to RP to review history of K-7 air sampler issues, evaluate loss of sample time for risks of meeting needed mission time requirements and possible back-ups for this sample. Document this evaluation and make recommendations as needed for any changes to the sampler operation.

BRING BACK per 7/29/09 CRT, RP for actions needed (CCA??).
As screened above.

Comments: 7/27/2009 13:44:26 - SNIDER, TIMOTHY JAY:
This CR is applicable to the Annual Site Environmental Report (SER). This CR should be included in the 2009 Annual SER and actions assigned to RP program owner. No impact to sample analysis since totalizer records total flow through filter. This is the second week this sample was found to have electrical issues.- Entered by [SNIDER, TIMOTHY JAY] 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:**	(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)
Other Hot Buttons:	(None)		

Section 3

Work Order Number(s):
Status Description:
Status Date:
Actual Finish Date:
Work Performed Description:

Section 5

CR Completed Date: 11/30/2009 11:23:43 **CR Printed Date:** 2/11/2010 15:05:41
CR Validated Date: 2/11/2010 15:05:51 **CR Who Validated:** RECORDS MGMT
RM Attachment Links:

Subtasks

Show Subtasks
Expand All

Attachments

Linked from: CA130373: KEWA - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period by **ADAMS, RICHARD W** (7/28/2009 15:20:14)

Principal to: CA142447: KEWA - Review history of K-7 air sampler issues, evaluate loss of sample time for risks (Inactive)

by **ERICSON, JANICE L** (7/30/2009 10:40:26)

Change History

7/27/2009 13:36:44 by CATLETT, KENNETH R
Associated w/ Equipment Location? Changed From (None) To No
Owner Changed From CATLETT, KENNETH R To SNIDER, TIMOTHY JAY
Secondary Owner Changed From SNIDER, TIMOTHY JAY To AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 7/27/2009 13:35:37 To 7/27/2009 13:36:44
Last State Change Date Changed From 7/27/2009 13:35:37 To 7/27/2009 13:36:44
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR342776: KEWA - K-7 power found off (Inactive)

7/27/2009 13:44:26 by SNIDER, TIMOTHY JAY
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:] This CR is applicable to the Annual Site Environmental Report (SER). This CR should be included in the 2009 Annual SER and actions assigned to RP program owner. No impact to sample analysis since totalizer records total flow through filter. Thi[...]'
Last Modified Date Changed From 7/27/2009 13:36:44 To 7/27/2009 13:44:26
Last Modifier Changed From CATLETT, KENNETH R To SNIDER, TIMOTHY JAY

7/27/2009 13:44:34 by SNIDER, TIMOTHY JAY
Owner Changed From SNIDER, TIMOTHY JAY To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS To ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 7/27/2009 13:44:26 To 7/27/2009 13:44:34
Last State Change Date Changed From 7/27/2009 13:36:44 To 7/27/2009 13:44:34
Last State Changer Changed From CATLETT, KENNETH R To SNIDER, TIMOTHY JAY
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

7/27/2009 13:57:11 by SMOLINSKI, ANDREW T.
Unit 1% Pwr Changed From " To '100'
Unit 1 Mode Changed From (None) To 1 - OPERATING
OP-AA-102 Review Req'd? Changed From (None) To Yes
Is a TS SSC Affected? Changed From (None) To No
TS SSC Operability Assessment Changed From (None) To N/A
Text Answer 2 Changed From " To '[Appended:]NON-FUNCTIONAL. K-7 Environmental Air Sampler was NON-FUNCTIONAL at the time of discovery. The K-7 Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Program. Per the Table 2.2.1-A if specimens are u[...]'
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 7/27/2009 13:44:34 To 7/27/2009 13:57:11
Last Modifier Changed From SNIDER, TIMOTHY JAY To SMOLINSKI, ANDREW T.

7/27/2009 14:00:56 by SMOLINSKI, ANDREW T.

Text Answer 3 Changed From '' To 'This is not reportable per 10 CFR 50.72 or 73. This descrepancy will be noted in the routine annual report.'
Last Modified Date Changed From 7/27/2009 13:57:11 To 7/27/2009 14:00:56

7/27/2009 16:14:06 by GOOLSBEY, MARK W
Text Answer 2 Changed From '[Original Text]' To '[Appended:] I agree with the operability assessment made by Mr. Smolinski.'
Non-TS SSC Functionality Assessment. Changed From N/A To Non-Functional
Does it impact a TS SSC? Changed From N/A To No
Text Answer 3 Changed From 'This is not reportable per 10 CFR 50.72 or 73. This descrepancy will be noted in the routine annual report.' To 'This is not reportable per 10 CFR 50.72 or 73. This discrepancy will be noted in the routine annual report.'
Last Modified Date Changed From 7/27/2009 14:00:56 To 7/27/2009 16:14:06
Last Modifier Changed From SMOLINSKI, ANDREW T. To GOOLSBEY, MARK W
Last State Change Date Changed From 7/27/2009 13:44:34 To 7/27/2009 16:14:06
Last State Changer Changed From SNIDER, TIMOTHY JAY To GOOLSBEY, MARK W
State Changed From O/R Review To CRT Review Via Transition: Complete

7/28/2009 5:50:12 by SMITH III, ROY E
Process Code Changed From (None) To EVC (Environmental Controls)
Activity Codes Changed From (None) To SAA(Sampling)
Last Modified Date Changed From 7/27/2009 16:14:06 To 7/28/2009 5:50:12
Last Modifier Changed From GOOLSBEY, MARK W To SMITH III, ROY E

7/28/2009 5:55:17 by SMITH III, ROY E
Significance Changed From (None) To 3
Deficiency Type Changed From (None) To Equipment & Non-Equipment
Potential Repeat Changed From (None) To No
Previous Issues (PIs, CRs) Changed From '' To '[Appended:]CR13785, 101593, 92318, 116348, 325344. CR342128- K-7 Environmental sample (air filter) electrical power off 1 hour per WPS. Ref open CA 130373, which is a placeholder for all Environmental Monitoring program minor issues that need to be rec[...]'
CR FLAGS Changed From (None) To Emergency Planning
CRT Report Section(s) Changed From (None) To 3
Affected Department Changed From (None) To UNDETERMINED
CRT Comments Changed From '' To 'The GFIC plug was reset and the sampler began running. Close to action taken.'
Last Modified Date Changed From 7/28/2009 5:50:12 To 7/28/2009 5:55:17

7/28/2009 9:55:03 by SMITH III, ROY E
CRT Report Section(s) Changed From 3 To 1
Last Modified Date Changed From 7/28/2009 5:55:17 To 7/28/2009 9:55:03

7/28/2009 15:20:14 by ADAMS, RICHARD W
Last Modified Date Changed From 7/28/2009 9:55:03 To 7/28/2009 15:20:14
Last Modifier Changed From SMITH III, ROY E To ADAMS, RICHARD W
Attachment Added: CA130373: KEWA - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period

7/28/2009 15:26:12 by ADAMS, RICHARD W
CR FLAGS Changed From Emergency Planning To Environmental Issue
CRT Comments Changed From 'The GFIC plug was reset and the sampler began running. Close to action taken.' To 'The GFIC plug was reset and the sampler began running. Link made to and note added in CA 130373 to include this incident in the 2009 Annual Env. Monitoring Report. Close to action taken.'
Last Modified Date Changed From 7/28/2009 15:20:14 To 7/28/2009 15:26:12

7/28/2009 15:27:00 by ADAMS, RICHARD W
Process Code Changed From EVC (Environmental Controls) To UNK (Unknown)
Activity Codes Changed From SAA(Sampling) To UNK(Unknown)
Last Modified Date Changed From 7/28/2009 15:26:12 To 7/28/2009 15:27:00

7/28/2009 15:29:09 by ADAMS, RICHARD W
RP Hot Buttons Changed From (None) To Environmental Monitoring (REMP)
Last Modified Date Changed From 7/28/2009 15:27:00 To 7/28/2009 15:29:09

7/29/2009 9:14:09 by FICTUM, HOLLY C
Process Code Changed From UNK (Unknown) To EVC (Environmental Controls)
Activity Codes Changed From UNK(Unknown) To SAA(Sampling)
Last Modified Date Changed From 7/28/2009 15:29:09 To 7/29/2009 9:14:09
Last Modifier Changed From ADAMS, RICHARD W To FICTUM, HOLLY C

7/29/2009 9:47:02 by ERICSON, JANICE L
CRT Comments Changed From 'The GFIC plug was reset and the sampler began running. Link made to and note added in CA 130373 to include this incident in the 2009 Annual Env. Monitoring Report. Close to action taken.' To 'The GFIC plug was reset and the sampler began running. Link made to and note added in CA 130373 to include this incident in the 2009 Annual Env. Monitoring Report. Close to action taken. BRING BACK per 7/29/09 CRT, RP for actions needed (CCA??).'
Last Modified Date Changed From 7/29/2009 9:14:09 To 7/29/2009 9:47:02
Last Modifier Changed From FICTUM, HOLLY C To ERICSON, JANICE L

7/30/2009 8:10:01 by ADAMS, RICHARD W
CRT Comments Changed From 'The GFIC plug was reset and the sampler began running. Link made to and note added in CA 130373 to include this incident in the 2009 Annual Env. Monitoring Report. Close to action taken. BRING BACK per 7/29/09 CRT, RP for actions needed (CCA??).' To '[...]The GFCI plug was reset and the sampler began running. Link made to and note added in CA 130373 to include this incident in the 2009 Annual Env. Monitoring Report. CA to RP to review history of K-7 air sampler issues, evaluate loss of sample [more diffs...]'
Last Modified Date Changed From 7/29/2009 9:47:02 To 7/30/2009 8:10:01
Last Modifier Changed From ERICSON, JANICE L To ADAMS, RICHARD W

7/30/2009 10:39:07 by ERICSON, JANICE L
CRT Report Section(s) Changed From 1 To 2
CRT Comments Changed From '[Original Text]' To '[Appended:] As screened above.'
Last Modified Date Changed From 7/30/2009 8:10:01 To 7/30/2009 10:39:07

Last Modifier Changed From ADAMS, RICHARD W To ERICSON, JANICE L

7/30/2009 10:39:56 by ERICSON, JANICE L
Last Modified Date Changed From 7/30/2009 10:39:07 To 7/30/2009 10:39:56
Last State Change Date Changed From 7/27/2009 16:14:06 To 7/30/2009 10:39:56
Last State Changer Changed From GOOLSBEY, MARK W To ERICSON, JANICE L
State Changed From CRT Review To CRT Assignment Creation Via Transition: CA

7/30/2009 10:40:27 by ERICSON, JANICE L
Last Modified Date Changed From 7/30/2009 10:39:56 To 7/30/2009 10:40:27
Attachment Added: CA142447: (None) - Review history of K-7 air sampler issues, evaluate loss of sample time for risks

7/30/2009 10:40:49 by ERICSON, JANICE L
Secondary Owner Changed From ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WHITE, DARYN A, WINKS III, GEORGE F To AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 7/30/2009 10:40:27 To 7/30/2009 10:40:49
Last State Change Date Changed From 7/30/2009 10:39:56 To 7/30/2009 10:40:49
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

11/17/2009 11:02:19 by ADAMS, RICHARD W
Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HALE, JAMES M., HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 7/30/2009 10:40:49 To 11/17/2009 11:02:19
Last Modifier Changed From ERICSON, JANICE L To ADAMS, RICHARD W
Last State Change Date Changed From 7/30/2009 10:40:49 To 11/17/2009 11:02:19
Last State Changer Changed From ERICSON, JANICE L To ADAMS, RICHARD W
State Changed From Assignments Pending To Trend Review Via Transition: Assignments Complete

11/30/2009 10:23:04 by FICTUM, HOLLY C
OR Hot Buttons Changed From (None) To CRT Bring Back
Last Modified Date Changed From 11/17/2009 11:02:19 To 11/30/2009 10:23:04
Last Modifier Changed From ADAMS, RICHARD W To FICTUM, HOLLY C

11/30/2009 10:23:43 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 11/30/2009 11:23:43
RM Attachment Links Changed From " To '<table width=100% border=1 cellspacing=2 cellpadding=2></table>'
Owner Changed From FICTUM, HOLLY C To (None)
Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HALE, JAMES M., HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L

Last Modified Date Changed From 11/30/2009 10:23:04 To 11/30/2009 10:23:43
Close Date Changed From Unassigned To 11/30/2009 10:23:43
Last State Change Date Changed From 11/17/2009 11:02:19 To 11/30/2009 10:23:43
Last State Changer Changed From ADAMS, RICHARD W To FICTUM, HOLLY C
Active/Inactive Changed From Active To Inactive
State Changed From Trend Review To All Assignments Complete Via Transition: Trend Review Complete

11/30/2009 18:05:44 by RECORDS MGMT
Last Modified Date Changed From 11/30/2009 10:23:43 To 11/30/2009 18:05:44
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 11/30/2009 10:23:43 To 11/30/2009 18:05:44
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

2/11/2010 15:05:41 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 2/11/2010 15:05:41
Last Modified Date Changed From 11/30/2009 18:05:44 To 2/11/2010 15:05:41
Last State Change Date Changed From 11/30/2009 18:05:44 To 2/11/2010 15:05:41
State Changed From Transferred To Printed Via Transition: Print

2/11/2010 15:05:51 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 2/11/2010 15:05:51
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)
Last Modified Date Changed From 2/11/2010 15:05:41 To 2/11/2010 15:05:51
Last State Change Date Changed From 2/11/2010 15:05:41 To 2/11/2010 15:05:51
State Changed From Printed To Validated Via Transition: Validate

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State Change History

Submit by MUELLER, EARL R	**Draft** 9/11/2009 13:38:07 Owner : MUELLER, EARL R	**Submit** by MUELLER, EARL R	**Supervisor Review** 9/11/2009 13:39:06 Owner : SIMMONS, LLOYD H	**Complete** by CIESLEWICZ, SCOTT M	**O/R Review** 9/11/2009 15:50:08 Owner : FICTUM, HOLLY C	**Complete** by TREPTOW, ETHAN A	**CRT Review** 9/11/2009 19:09:21 Owner : FICTUM, HOLLY C
To O/R by FITZWATER, DAVID I	**O/R Review** 9/14/2009 9:32:09 Owner : FICTUM, HOLLY C	**Complete** by MCMAHON, BRADLY J	**CRT Review** 9/14/2009 23:16:08 Owner : FICTUM, HOLLY C	**Complete** by ERICSON, JANICE L	**Trend Review** 9/16/2009 10:22:47 Owner : FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 9/23/2009 2:33:39 Owner : (None)
Transfer by RECORDS MGMT	**Transferred** 9/23/2009 17:27:12 Owner : (None)	**Print** by RECORDS MGMT	**Printed** 9/23/2009 22:03:15 Owner : (None)	**Validate** by RECORDS MGMT	**Validated** 9/23/2009 22:03:25 Owner : (None)		

Section 1

Applicable to site:	KEWA
Record #:	CR348011
Revision Number:	0
Submitter:	MUELLER, EARL R
Submitter Dept.:	KEWA - Maintenance
Submitter Phone Number:	7577
Submitter Pager Number:	7577
One-Line Description:	Environmental Radiation Air Monitor found not running
Description:	Doing the replacement of Air monitor AS-2 at location K-7, work order KW100424291 procedure PMP-63-01 para 4.0, it was found on but not running (0 air flow). Power was still on but the monitor was not running. Notified Supervisor and continued with replacing with a rebuilt monitor AS-6 at supervisor direction. Returned AS-2 to the shop to be rebuilt and inspected.
Discovery Date:	9/11/2009
Discovery Time:	12:15:00
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:	Contacted Supervisor
Additional C/A processes req'd?:	N/A
Text Question 1:	**Provide details for any Additional C/A processes needed:**
Text Answer 1:	
C/As Initiated (REA, WR, ETC):	
Tag Hung:	No
Tag Number:	NA
Additional Contacts:	
Supervisor - CR Review:	SIMMONS, LLOYD H
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?:	Yes
Is a TS SSC Affected?:	No
TS SSC Operability Assessment:	N/A
Text Question 2:	**Basis for operability:**
Text Answer 2:	NON-FUNCTIONAL. K-7 Environmental Air Sampler was NON-FUNCTIONAL at the time of discovery. The K-7 Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Program. Per the Table 2.2.1-A if specimens are unobtainable due to sampling equipment malfunction, reasonable efforts shall be made to correct the problem prior to the next sample period. In this case the K-7 air sampler replaced with the rebuilt spare. Based on the information given, K-7 air sampler became non-functional and has since been returned to a FUNCTIONAL state. REMM Table 2.2.1-A requirements remained satisfied.
Question L:	**Is an Operability Assessment req'd for an SSC, which is Functional for its TRM function, to demonstrate operability for its TS function?**
Yes / No L:	No
Literal 4:	**The basis for establishing IOD can be documented in the "Basis for Operability" field. An IOD assignment does not necessarily need to be created.**
Is an IOD Assignment Required?:	No
LCO entered:	No
Applicable LCO:	
Non-TS SSC Functionality Assessment.:	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?:	Yes
Text Question 3:	**Reportability Comments:**
Text Answer 3:	cumulative time that the monitor was non-functional is reported in the Annual Environmental Monitoring Report
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	
Significance:	3
Deficiency Type:	Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	There have been several recent events with K-7 having had loss of power.
CR FLAGS:	Self-Revealing Event

CRT Report Section(s): 2
License Renewal Flags: (None)
Affected Department: (None)
CRT Comments: Environmental Radiation Air Monitor AS-2 at location K-7 was replaced per PM WO KW100424291. The monitor removed from service will be rebuilt per the PM.

This CR is linked to CA 130373 (CR 325344) to ensure the Annual Environmental Monitoring Report notes, as necessary, that the sample pump was not working during this time period.

This CR is also linked to CA 142447 to review K-7 performance for possible resolution of sampler not running.

Need to review for functionality call.

Close to actions taken.

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:**	Operability Quality
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)
Other Hot Buttons:	(None)		

Section 3

Work Order Number(s): KW100577867
Status Description: AWAITING CLOSE OUT
Status Date: 9/16/2009 6:35:16
Actual Finish Date: 9/16/2009 6:35:15
Work Performed Description:

Section 5

CR Completed Date: 9/23/2009 3:33:39 **CR Printed Date:** 9/23/2009 22:03:15
CR Validated Date: 9/23/2009 22:03:25 **CR Who Validated:** RECORDS MGMT
RM Attachment Links:

Attachments

Linked to: CA130373: KEWA - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period by **ADAMS, RICHARD W** (9/14/2009 9:49:24)

Linked to: CA142447: KEWA - Review history of K-7 air sampler issues, evaluate loss of sample time for risks (Inactive) by **ADAMS, RICHARD W** (9/14/2009 9:49:53)

Change History

9/11/2009 13:39:06 by MUELLER, EARL R
Associated w/ Equipment Location? Changed From (None) To No
Owner Changed From MUELLER, EARL R To SIMMONS, LLOYD H

Secondary Owner Changed From SIMMONS, LLOYD H To AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R,

PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 9/11/2009 13:38:07 To 9/11/2009 13:39:06
Last State Change Date Changed From 9/11/2009 13:38:07 To 9/11/2009 13:39:06
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR348011: KEWA - Environmental Radiation Air Monitor found not running (Inactive)

9/11/2009 15:50:08 by CIESLEWICZ, SCOTT M
Yes/No H Changed From Yes To No
Yes/No I Changed From Yes To No
Yes/No J Changed From Yes To No
Yes/No K Changed From Yes To No
Owner Changed From SIMMONS, LLOYD H To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS To ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 9/11/2009 13:39:06 To 9/11/2009 15:50:08
Last Modifier Changed From MUELLER, EARL R To CIESLEWICZ, SCOTT M
Last State Change Date Changed From 9/11/2009 13:39:06 To 9/11/2009 15:50:08
Last State Changer Changed From MUELLER, EARL R To CIESLEWICZ, SCOTT M
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

9/11/2009 15:50:56 by CIESLEWICZ, SCOTT M
Unit 1% Pwr Changed From " To '100'
Unit 1 Mode Changed From (None) To 1 - OPERATING
OP-AA-102 Review Req'd? Changed From (None) To No
Is a TS SSC Affected? Changed From (None) To No
TS SSC Operability Assessment Changed From (None) To N/A
Yes / No L Changed From (None) To No
Is an IOD Assignment Required? Changed From (None) To No
LCO entered Changed From (None) To No
Non-TS SSC Functionality Assessment. Changed From (None) To N/A
Does it impact a TS SSC? Changed From (None) To N/A
Is a RAS Assignment Needed? Changed From (None) To No
SSC Qualification Status Changed From (None) To N/A
Reportable condition? Changed From (None) To No
Text Answer 3 Changed From " To 'NA'
Last Modified Date Changed From 9/11/2009 15:50:08 To 9/11/2009 15:50:56

9/11/2009 19:09:21 by TREPTOW, ETHAN A
Last Modified Date Changed From 9/11/2009 15:50:56 To 9/11/2009 19:09:21
Last Modifier Changed From CIESLEWICZ, SCOTT M To TREPTOW, ETHAN A
Last State Change Date Changed From 9/11/2009 15:50:08 To 9/11/2009 19:09:21
Last State Changer Changed From CIESLEWICZ, SCOTT M To TREPTOW, ETHAN A
State Changed From O/R Review To CRT Review Via Transition: Complete

9/12/2009 4:56:11 by PRIBEK, BARBARA A
Significance Changed From (None) To 3
Last Modified Date Changed From 9/11/2009 19:09:21 To 9/12/2009 4:56:11
Last Modifier Changed From TREPTOW, ETHAN A To PRIBEK, BARBARA A

9/14/2009 6:37:16 by PRIBEK, BARBARA A
Deficiency Type Changed From (None) To Equipment
Potential Repeat Changed From (None) To No
Previous Issues (PIs, CRs) Changed From " To 'No history based on WO search by "AS-2".'
CR FLAGS Changed From (None) To Self-Revealing Event
CRT Comments Changed From " To 'Environmental Radiation Air Monitor AS-2 at location K-7 was replaced per PM WO KW100424291. The monitor removed from service will be rebuilt per the PM. Close to actions taken.'
Last Modified Date Changed From 9/12/2009 4:56:11 To 9/14/2009 6:37:16

9/14/2009 6:37:29 by PRIBEK, BARBARA A
Process Code Changed From (None) To UNK (Unknown)
Activity Codes Changed From (None) To UNK(Unknown)
Last Modified Date Changed From 9/14/2009 6:37:16 To 9/14/2009 6:37:29

9/14/2009 8:24:09 by ADAMS, RICHARD W
Previous Issues (PIs, CRs) Changed From 'No history based on WO search by "AS-2".' To 'There have been several recent events with K-7 having had loss of power.'
CRT Report Section(s) Changed From (None) To 1
CRT Comments Changed From 'Environmental Radiation Air Monitor AS-2 at location K-7 was replaced per PM WO KW100424291. The monitor removed from service will be rebuilt per the PM. Close to actions taken.' To '[...] This CR is linked to CA 130373 (CR 325344) to ensure the Annual Environmental Monitoring Report notes, as necessary, that the sample pump was not working during this time period. This CR is also linked to CA 142447 to review K-7 performance[more diffs...]'
Last Modified Date Changed From 9/14/2009 6:37:29 To 9/14/2009 8:24:09
Last Modifier Changed From PRIBEK, BARBARA A To ADAMS, RICHARD W

9/14/2009 9:31:29 by FITZWATER, DAVID I
Operations Hot Buttons Changed From (None) To Operability Quality
Last Modified Date Changed From 9/14/2009 8:24:09 To 9/14/2009 9:31:29
Last Modifier Changed From ADAMS, RICHARD W To FITZWATER, DAVID I

9/14/2009 9:32:09 by FITZWATER, DAVID I
CRT Comments Changed From '[Original Text]' To '[Appended:] Need to review for functionality call.'
Last Modified Date Changed From 9/14/2009 9:31:29 To 9/14/2009 9:32:09
Last State Change Date Changed From 9/11/2009 19:09:21 To 9/14/2009 9:32:09
Last State Changer Changed From TREPTOW, ETHAN A To FITZWATER, DAVID I
State Changed From CRT Review To O/R Review Via Transition: To O/R

9/14/2009 9:34:24 by ADAMS, RICHARD W
Tag Number Changed From '' To 'NA'
Last Modified Date Changed From 9/14/2009 9:32:09 To 9/14/2009 9:34:24
Last Modifier Changed From FITZWATER, DAVID I To ADAMS, RICHARD W
To Work Management Changed From '' To 'Y'

9/14/2009 9:41:15 by GAUGER, BRAD R
OP-AA-102 Review Req'd? Changed From No To Yes
Text Answer 2 Changed From '' To '[Appended:]NON-FUNCTIONAL. K-7 Environmental Air Sampler was NON-FUNCTIONAL at the time of discovery. The K-7 Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Program. Per the Table 2.2.1-A if specimens are u[...]'
Non-TS SSC Functionality Assessment. Changed From N/A To Non-Functional
Does it impact a TS SSC? Changed From N/A To No
SSC Qualification Status Changed From N/A To (None)
Reportable condition? Changed From No To Yes
Text Answer 3 Changed From 'NA' To 'cumulative time that the monitor was non-functional is reported in the Annual Environmental Monitoring Report'
Last Modified Date Changed From 9/14/2009 9:34:24 To 9/14/2009 9:41:15
Last Modifier Changed From ADAMS, RICHARD W To GAUGER, BRAD R

9/14/2009 9:49:24 by ADAMS, RICHARD W
Last Modified Date Changed From 9/14/2009 9:41:15 To 9/14/2009 9:49:24
Last Modifier Changed From GAUGER, BRAD R To ADAMS, RICHARD W
Attachment Added: CA130373: KEWA - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period

9/14/2009 9:49:53 by ADAMS, RICHARD W
Last Modified Date Changed From 9/14/2009 9:49:24 To 9/14/2009 9:49:53
Attachment Added: CA142447: KEWA - Review history of K-7 air sampler issues, evaluate loss of sample time for risks

9/14/2009 23:16:08 by MCMAHON, BRADLY J
SSC Qualification Status Changed From (None) To Not Fully Qualified
Last Modified Date Changed From 9/14/2009 9:49:53 To 9/14/2009 23:16:08
Last Modifier Changed From ADAMS, RICHARD W To MCMAHON, BRADLY J
Last State Change Date Changed From 9/14/2009 9:32:09 To 9/14/2009 23:16:08
Last State Changer Changed From FITZWATER, DAVID I To MCMAHON, BRADLY J
State Changed From O/R Review To CRT Review Via Transition: Complete

9/16/2009 10:22:44 by ERICSON, JANICE L
CRT Report Section(s) Changed From 1 To 2
CRT Comments Changed From '[Original Text]' To '[Appended:] Close to actions taken.'
Secondary Owner Changed From ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WHITE, DARYN A, WINKS III, GEORGE F To ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 9/14/2009 23:16:08 To 9/16/2009 10:22:44
Last Modifier Changed From MCMAHON, BRADLY J To ERICSON, JANICE L

9/16/2009 10:22:47 by ERICSON, JANICE L
Secondary Owner Changed From ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, 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, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 9/16/2009 10:22:44 To 9/16/2009 10:22:47
Last State Change Date Changed From 9/14/2009 23:16:08 To 9/16/2009 10:22:47
Last State Changer Changed From MCMAHON, BRADLY J To ERICSON, JANICE L
State Changed From CRT Review To Trend Review Via Transition: Complete

9/23/2009 2:33:39 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 9/23/2009 3:33:39
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, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 9/16/2009 10:22:47 To 9/23/2009 2:33:39
Last Modifier Changed From ERICSON, JANICE L To FICTUM, HOLLY C
Close Date Changed From Unassigned To 9/23/2009 2:33:39
Last State Change Date Changed From 9/16/2009 10:22:47 To 9/23/2009 2:33:39
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

9/23/2009 17:27:12 by RECORDS MGMT
Last Modified Date Changed From 9/23/2009 2:33:39 To 9/23/2009 17:27:12
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 9/23/2009 2:33:39 To 9/23/2009 17:27:12
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

9/23/2009 22:03:15 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 9/23/2009 22:03:15
Last Modified Date Changed From 9/23/2009 17:27:12 To 9/23/2009 22:03:15
Last State Change Date Changed From 9/23/2009 17:27:12 To 9/23/2009 22:03:15
State Changed From Transferred To Printed Via Transition: Print

9/23/2009 22:03:25 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 9/23/2009 22:03:25
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)
Last Modified Date Changed From 9/23/2009 22:03:15 To 9/23/2009 22:03:25
Last State Change Date Changed From 9/23/2009 22:03:15 To 9/23/2009 22:03:25
State Changed From Printed To Validated Via Transition: Validate

State Change History

Submit by CATLETT, KENNETH R	**Draft** 9/22/2009 17:01:56 Owner: CATLETT, KENNETH R	**Submit** by CATLETT, KENNETH R	**Supervisor Review** 9/22/2009 17:03:17 Owner: THORPE, RANDAL	**O/R Review** by AUTO ESCALATE	**O/R Review** 9/22/2009 23:10:14 Owner: FICTUM, HOLLY C	**Complete** by IRLBECK, DAVID E	**CRT Review** 9/23/2009 16:33:46 Owner: FICTUM, HOLLY C
CA by OWENS, CYRENA JEAN	**CRT Assignment Creation** 9/24/2009 9:48:16 Owner: FICTUM, HOLLY C	**Complete** by OWENS, CYRENA JEAN	**Assignments Pending** 9/24/2009 9:49:04 Owner: FICTUM, HOLLY C	**Assignments Complete** by WALESH, DEBRA J - power	**Trend Review** 9/26/2009 18:03:11 Owner: FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 9/27/2009 4:43:30 Owner: (None)
Transfer by RECORDS MGMT	**Transferred** 9/27/2009 17:01:01 Owner: (None)	**Print** by RECORDS MGMT	**Printed** 9/28/2009 10:05:16 Owner: (None)	**Validate** by RECORDS MGMT	**Validated** 9/28/2009 10:05:26 Owner: (None)		

Section 1

Applicable to site:	KEWA
Record #:	CR349152
Revision Number:	0
Submitter:	CATLETT, KENNETH R
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	8215
Submitter Pager Number:	n/a
One-Line Description:	Environmental air sampler not running
Description:	Environmental air sampler K-8 was found off during weekly filter changes. The switch was cycled and several other plugs were tried without the sampler starting. It was noted that WPS was working in several locations around this sample point.
Discovery Date:	9/22/2009
Discovery Time:	0:15:29
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:	Tested switch and other plugs. Contacted supervision when I returned to the plant.
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:	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-8 Environmental Air Sampler was NON-FUNCTIONAL at the time of discovery. The K-8 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.
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:	This CR should be included in the 2009 Annual SER for non-functional air sampler.
Can IOD be established?:	(None)
Literal 3:	If this CR is associated with any system leakage, provide answers to the following:
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	I agree with the above assessment
Significance:	3
Deficiency Type:	Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	-CR332502 [4/27/9] K-8 Env. Air Sampler noisy created WO KW100522390, status 35 awaiting issue. -CR345943 [8/24/9] K-8 Env. Air Sampler complaint from local residence - too loud.
CR FLAGS:	Emergency Planning
CRT Report Section(s):	2

License Renewal Flags: (None)
Affected Department: (None)
CRT Comments: Ref existing WO KW100522390 regarding K-8 making noise.

This CR is linked to CA 130373 which is the place holder for documenting all issues with environmental sampling for 2009 in the Annual Environmental Monitoring Report.

CA to O&P to rescreen WO KW100522390 to include non-functional status.

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)
Other Hot Buttons:	(None)		

Section 3

Work Order Number(s):
Status Description:
Status Date:
Actual Finish Date:
Work Performed Description:

Section 5

CR Completed Date: 9/27/2009 5:43:30 **CR Printed Date:** 9/28/2009 10:05:16
CR Validated Date: 9/28/2009 10:05:26 **CR Who Validated:** RECORDS MGMT
RM Attachment Links:

Subtasks

Show Subtasks
Expand All

Attachments

Linked to: CA130373: KEWA - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period by **ADAMS, RICHARD W** (9/24/2009 9:09:10)

Principal to: CA146920: KEWA - Rescreen WO KW100522390 to include non-functional status. (Inactive) by **OWENS, CYRENA JEAN** (9/24/2009 9:48:40)

Change History

9/22/2009 17:03:17 by CATLETT, KENNETH R
Additional C/A processes req'd? Changed From (None) To N/A
Owner Changed From CATLETT, KENNETH R To THORPE, RANDAL
Secondary Owner Changed From THORPE, RANDAL To AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 9/22/2009 17:01:56 To 9/22/2009 17:03:17
Last State Change Date Changed From 9/22/2009 17:01:56 To 9/22/2009 17:03:17

State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR349152: KEWA - Environmental air sampler not running (Inactive)

9/22/2009 23:10:14 by AUTO ESCALATE
Owner Changed From THORPE, RANDAL To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS To ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 9/22/2009 17:03:17 To 9/22/2009 23:10:14
Last Modifier Changed From CATLETT, KENNETH R To AUTO ESCALATE
Last State Change Date Changed From 9/22/2009 17:03:17 To 9/22/2009 23:10:14
Last State Changer Changed From CATLETT, KENNETH R To AUTO ESCALATE
State Changed From Supervisor Review To O/R Review Via Transition: O/R Review
NewCR Changed From Yes To No

9/23/2009 0:31:24 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 '[Appended:]NON-FUNCTIONAL. K-8 Environmental Air Sampler was NON-FUNCTIONAL at the time of discovery. The K-8 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 u[...]'
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 'This CR should be included in the 2009 Annual SER for non-functional air sampler.'
Last Modified Date Changed From 9/22/2009 23:10:14 To 9/23/2009 0:31:24
Last Modifier Changed From AUTO ESCALATE To GAUGER, BRAD R

9/23/2009 16:33:46 by IRLBECK, DAVID E
O/R Comments Changed From " To 'I agree with the above assessment'
Last Modified Date Changed From 9/23/2009 0:31:24 To 9/23/2009 16:33:46
Last Modifier Changed From GAUGER, BRAD R To IRLBECK, DAVID E
Last State Change Date Changed From 9/22/2009 23:10:14 To 9/23/2009 16:33:46
Last State Changer Changed From AUTO ESCALATE To IRLBECK, DAVID E
State Changed From O/R Review To CRT Review Via Transition: Complete

9/23/2009 21:10:14 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 9/23/2009 16:33:46 To 9/23/2009 21:10:14
Last Modifier Changed From IRLBECK, DAVID E To SMITH III, ROY E

9/23/2009 21:21:02 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 '-CR332502 [4/27/9] K-8 Env. Air Sampler noisy created WO KW100522390, status 35 awaiting issue. -CR345943 [8/24/9] K-8 Env. Air Sampler complaint from local residence - too loud.'
CR FLAGS Changed From (None) To Emergency Planning
CRT Comments Changed From " To '+Close to existing WO KW100522390 regarding K-8 making noise. --or-- New WO needed, CA needed??'
Last Modified Date Changed From 9/23/2009 21:10:14 To 9/23/2009 21:21:02

9/24/2009 9:08:55 by ADAMS, RICHARD W
CRT Comments Changed From '+Close to existing WO KW100522390 regarding K-8 making noise. --or-- New WO needed, CA needed??' To '+Close to existing WO KW100522390 regarding K-8 making noise. This CR is linked to CA 130373 which is the place holder for documenting all issues with environmental sampling for 2009 in the Annual Environmental Monitoring Report.'
Last Modified Date Changed From 9/23/2009 21:21:02 To 9/24/2009 9:08:55
Last Modifier Changed From SMITH III, ROY E To ADAMS, RICHARD W

9/24/2009 9:09:10 by ADAMS, RICHARD W
Last Modified Date Changed From 9/24/2009 9:08:55 To 9/24/2009 9:09:10
Attachment Added: CA130373: KEWA - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period

9/24/2009 9:48:12 by OWENS, CYRENA JEAN
CRT Report Section(s) Changed From (None) To 2
CRT Comments Changed From '+Close to existing WO KW100522390 regarding K-8 making noise. This CR is linked to CA 130373 which is the place holder for documenting all issues with environmental sampling for 2009 in the Annual Environmental Monitoring Report.' To '[...]Ref existing WO KW100522390 regarding K-8 making noise. This CR is linked to CA 130373 which is the place holder for documenting all issues with environmental sampling for 2009 in the Annual Environmental Monitoring Report. CA to O&P to [more diffs...]'
Last Modified Date Changed From 9/24/2009 9:09:10 To 9/24/2009 9:48:12
Last Modifier Changed From ADAMS, RICHARD W To OWENS, CYRENA JEAN

9/24/2009 9:48:16 by OWENS, CYRENA JEAN
Last Modified Date Changed From 9/24/2009 9:48:12 To 9/24/2009 9:48:16
Last State Change Date Changed From 9/23/2009 16:33:46 To 9/24/2009 9:48:16
Last State Changer Changed From IRLBECK, DAVID E To OWENS, CYRENA JEAN
State Changed From CRT Review To CRT Assignment Creation Via Transition: CA

9/24/2009 9:48:40 by OWENS, CYRENA JEAN
Last Modified Date Changed From 9/24/2009 9:48:16 To 9/24/2009 9:48:40
Attachment Added: CA146920: (None) - Rescreen WO KW100522390 to include non-functional status.

9/24/2009 9:49:04 by OWENS, CYRENA JEAN
Secondary Owner Changed From ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, 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, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 9/24/2009 9:48:40 To 9/24/2009 9:49:04
Last State Change Date Changed From 9/24/2009 9:48:16 To 9/24/2009 9:49:04
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

9/26/2009 18:03:11 by WALESH, DEBRA J - power
Last Modified Date Changed From 9/24/2009 9:49:04 To 9/26/2009 18:03:11
Last Modifier Changed From OWENS, CYRENA JEAN To WALESH, DEBRA J - power
Last State Change Date Changed From 9/24/2009 9:49:04 To 9/26/2009 18:03:11
Last State Changer Changed From OWENS, CYRENA JEAN To WALESH, DEBRA J - power
State Changed From Assignments Pending To Trend Review Via Transition: Assignments Complete

9/27/2009 4:43:30 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 9/27/2009 5:43:30
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, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 9/26/2009 18:03:11 To 9/27/2009 4:43:30
Last Modifier Changed From WALESH, DEBRA J - power To FICTUM, HOLLY C
Close Date Changed From Unassigned To 9/27/2009 4:43:30
Last State Change Date Changed From 9/26/2009 18:03:11 To 9/27/2009 4:43:30
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

9/27/2009 17:01:01 by RECORDS MGMT
Last Modified Date Changed From 9/27/2009 4:43:30 To 9/27/2009 17:01:01
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 9/27/2009 4:43:30 To 9/27/2009 17:01:01
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT

State Changed From All Assignments Complete To Transferred Via Transition: Transfer

9/28/2009 10:05:16 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 9/28/2009 10:05:16
Last Modified Date Changed From 9/27/2009 17:01:01 To 9/28/2009 10:05:16
Last State Change Date Changed From 9/27/2009 17:01:01 To 9/28/2009 10:05:16
State Changed From Transferred To Printed Via Transition: Print

9/28/2009 10:05:26 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 9/28/2009 10:05:26
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)
Last Modified Date Changed From 9/28/2009 10:05:16 To 9/28/2009 10:05:26
Last State Change Date Changed From 9/28/2009 10:05:16 To 9/28/2009 10:05:26
State Changed From Printed To Validated Via Transition: Validate

State Change History

Submit by HANNA, SCOTT E	**Draft** 9/29/2009 13:41:51 Owner : HANNA, SCOTT E	**Submit** by HANNA, SCOTT E	**Supervisor Review** 9/29/2009 13:42:46 Owner : FAILEY, MICHAEL P	**Complete** by FAILEY, MICHAEL P	**O/R Review** 9/29/2009 14:38:00 Owner : FICTUM, HOLLY C	**Complete** by GOOLSBEY, MARK W	**CRT Review** 9/29/2009 15:10:16 Owner : FICTUM, HOLLY C
Complete by OWENS, CYRENA JEAN	**Trend Review** 10/1/2009 11:37:37 Owner : FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 10/2/2009 19:06:23 Owner : (None)	**Transfer** by RECORDS MGMT	**Transferred** 10/3/2009 17:04:22 Owner : (None)	**Print** by RECORDS MGMT	**Printed** 10/4/2009 9:37:35 Owner : (None)
Validate by RECORDS MGMT	**Validated** 10/4/2009 9:37:44 Owner : (None)						

Section 1

Applicable to site:	KEWA
Record #:	CR350028
Revision Number:	0
Submitter:	HANNA, SCOTT E
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	7343
Submitter Pager Number:	704-0366
One-Line Description:	K-7 Environmental Air Sampler discovered not running.
Description:	During Sample collection of Environmental Air Samples for SP-63-164, The K-7 Air Sampler was not running. The Ground Fault 'pig tail' was tripped. The Air sampler hour meter indicated 3.7 hours of run time before the trip. Normal weekly run would be approximately 168 hours. Some of the Environmental Air samplers have ground fault interuptor 'pig tails',some have ground fault receptacles, and some have no ground fault circuits at all. Environmental air Samplers on ground fault circuits have been found tripped repeatedly in the past. One of the air samplers supplied by ground Fault 'pigtail' is inaccessilble if tripped, to verify or reset (K-31). K-31 is powered from inside the substation fence which is controlled by WPS. Environmental Air Sampler: K-1f , Met. Tower - not observed K-2, WPS Ops Kewaunee - Ground fault receptacle with cover. K-7, Zimmerman Farm - ground fault pigtail (found tripped) K-8, St. Mary's church,Tisch mills - Ground fault receptacle with cover available,but not used due to repeated trips. Ground fault circuit not currently being used. K-31, WPS substation - Ground Fault pigtail installed, but not accessible. K-41, EOF Green Bay - No Ground fault circuit State Air Sampler - No Ground fault circuit.
Discovery Date:	9/29/2009
Discovery Time:	8:45:00
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:	K-7 ground fault pigtail was reset, new filter installed and supervision notified. Questioned whether continuous environmental air monitoring equipment should be powered from ground fault circuits, with a history of spurious trips.
Additional C/A processes req'd?:	Other
Text Question 1:	**Provide details for any Additional C/A processes needed:**
Text Answer 1:	Determine if ground fault cicuits are required on environmental air samplers. If ground fault circuits are required, install proper ground fault circuits. If ground fault circuits are not required, remove the temporary ground fault pigtails to prevent spurious trips of environmental air monitoring equipment.
C/As Initiated (REA, WR, ETC):	
Tag Hung:	No
Tag Number:	n/a
Additional Contacts:	
Supervisor - CR Review:	FAILEY, MICHAEL P
Question G:	**Is this CR an Operability/Reportability Issue Requiring O/R Review?**
Yes/No G:	Yes
Question H:	**Does this CR affect personnel safety?**
Yes/No H:	Yes
Question I:	**Does this CR affect plant safety?**
Yes/No I:	Yes
Question J:	**Does this CR involve plant equipment?**
Yes/No J:	Yes
Question K:	**Is this CR an environmental concern?**
Yes/No K:	Yes
Literal 2:	**Unit Conditions:**
Unit 1% Pwr:	0
Unit 2% Pwr:	NA
Unit 3% Pwr:	NA
Unit 1 Mode:	7 - REFUELING
Unit 2 Mode:	NA
Unit 3 Mode:	NA
OP-AA-102 Review Req'd?:	Yes
Is a TS SSC Affected?:	No
TS SSC Operability Assessment:	N/A
Text Question 2:	**Basis for operability:**
Text Answer 2:	NON-FUNCTIONAL. K-7 Environmental Air Sampler was non-functional at the time of discovery. The K-7 Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Program. Per the Table 2.2.1-A if specimens are unobtainable due to sampling equipment malfunction, reasonable efforts shall be made to correct the problem prior to the next sample period. K-7 has since been returned to a FUNCTIONAL state. REMM Table 2.2.1-A requirements remained satisfied.
Question L:	**Is an Operability Assessment req'd for an SSC, which is Functional for its TRM function, to demonstrate operability for its TS function?**
Yes / No L:	No
Literal 4:	**The basis for establishing IOD can be documented in the "Basis for Operability" field. An IOD assignment does not necessarily need to be created.**
Is an IOD Assignment Required?:	No
LCO entered:	No
Applicable LCO:	
Non-TS SSC Functionality Assessment.:	Non-Functional
Literal 5:	**NOTE: If a RAS is to be assigned to determine the answer to the next question, select "TBD" (to be determined) for the answer to the next question.**
Does it impact a TS SSC?:	No
Literal 6:	**The basis for establishing Non-TS SSC Functionality may be documented in the "Basis for Operability" field. A RAS assignment does not necessarily need to be created in these instances.**

Is a RAS Assignment Needed?:	No
Literal 7:	**If this Condition Report is addressing an SSC, document the qualification status of the SSC in the following field. Otherwise select N/A. NOTE: An SSC can be Operable or Functional and still not be Fully Qualified.**
SSC Qualification Status:	N/A
Reportable condition?:	No
Text Question 3:	**Reportability Comments:**
Text Answer 3:	
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	I agree with the operability assessment made by Mr. Smolinski.
Significance:	3
Deficiency Type:	Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	There have been several recent events with K-7 having had loss of power.
CR FLAGS:	Self-Revealing Event
CRT Report Section(s):	2
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	Initial action: K-7 ground fault pigtail was reset, new filter installed and supervision notified. Ref CA 130373 (CR 325344) to ensure the Annual Environmental Monitoring Report notes, as necessary, that the sample pump was not working during this time period. Link and note added to CA 130373 to ensure this CR is addressed in the annual report. Ref CA 142447 to review K-7 performance for possible resolution of sampler not running. +Close to action taken.
Comments:	9/29/2009 14:38:00 - FAILEY, MICHAEL P : Reportedly, ground fault "pigtails" where not used prior to 2007.- Entered by [FAILEY, MICHAEL P] from [CR] [Supervisor Review]
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:	EFN (Fails to stay energized)	**Primary INPO criteria:**	(None)
Secondary INPO criteria:	(None)	**Operations Hot Buttons:**	(None)
Engineering Hot Buttons:	(None)	**Maintenance Hot Buttons:**	(None)
RP Hot Buttons:	(None)	**Chemistry Hot Buttons:**	(None)
EP Hot Buttons:	(None)	**Training Hot Buttons:**	(None)
Security Hot Buttons:	(None)	**OR Hot Buttons:**	(None)
O&P Hot Buttons:	(None)	**NSS Hot Buttons:**	(None)
Supply Chain Hot Buttons:	(None)	**Procedures 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: 10/2/2009 20:06:23 **CR Printed Date:** 10/4/2009 9:37:35

CR Validated Date: 10/4/2009 9:37:44 **CR Who Validated:** RECORDS MGMT
RM Attachment Links:

Attachments

Linked from: CA130373: KEWA - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period by **ADAMS, RICHARD W** (9/30/2009 16:26:29)

Change History

9/29/2009 13:42:46 by HANNA, SCOTT E
Owner Changed From HANNA, SCOTT E To FAILEY, MICHAEL P
Secondary Owner Changed From FAILEY, MICHAEL P To AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 9/29/2009 13:41:51 To 9/29/2009 13:42:46
Last State Change Date Changed From 9/29/2009 13:41:51 To 9/29/2009 13:42:46
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR350028: KEWA - K-7 Environmental Air Sampler discovered not running. (Inactive)

9/29/2009 14:38:00 by FAILEY, MICHAEL P
Comments Changed From " To '[Appended:] Reportedly, ground fault "pigtails" where not used prior to 2007.- Entered by [FAILEY, MICHAEL P] from [CR] [Supervisor Review]'
Owner Changed From FAILEY, MICHAEL P To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CORBIN, WILLIAM D, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, FIELD JR, JOHN R, GAUGER, BRAD R, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, RUTTAR, JOSEPH A, SCACE, STEPHEN E, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS To ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 9/29/2009 13:42:46 To 9/29/2009 14:38:00
Last Modifier Changed From HANNA, SCOTT E To FAILEY, MICHAEL P
Last State Change Date Changed From 9/29/2009 13:42:46 To 9/29/2009 14:38:00
Last State Changer Changed From HANNA, SCOTT E To FAILEY, MICHAEL P
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

9/29/2009 14:41:54 by KARST JR, DAVID A
Tag Number Changed From " To 'n/a'
Unit 1% Pwr Changed From " To '0'
Unit 1 Mode Changed From (None) To 7 - REFUELING
OP-AA-102 Review Req'd? Changed From (None) To No
Is a TS SSC Affected? Changed From (None) To No
TS SSC Operability Assessment Changed From (None) To N/A
Text Answer 2 Changed From " To 'N/A.'
Yes / No L Changed From (None) To No
Is an IOD Assignment Required? Changed From (None) To No
LCO entered Changed From (None) To No
Non-TS SSC Functionality Assessment. Changed From (None) To N/A
Does it impact a TS SSC? Changed From (None) To N/A
Is a RAS Assignment Needed? Changed From (None) To No
SSC Qualification Status Changed From (None) To N/A
Reportable condition? Changed From (None) To No
Last Modified Date Changed From 9/29/2009 14:38:00 To 9/29/2009 14:41:54
Last Modifier Changed From FAILEY, MICHAEL P To KARST JR, DAVID A

9/29/2009 14:52:38 by SMOLINSKI, ANDREW T.
OP-AA-102 Review Req'd? Changed From No To Yes

Text Answer 2 Changed From 'N/A.' To '[...]NON-FUNCTIONAL. K-7 Environmental Air Sampler was non-functional at the time of discovery. The K-7 Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Program. Per the

Table 2.2.1-A if specimens are[more diffs...]'
Non-TS SSC Functionality Assessment. Changed From N/A To Non-Functional
Last Modified Date Changed From 9/29/2009 14:41:54 To 9/29/2009 14:52:38
Last Modifier Changed From KARST JR, DAVID A To SMOLINSKI, ANDREW T.

9/29/2009 15:10:16 by GOOLSBEY, MARK W
Does it impact a TS SSC? Changed From N/A To No
O/R Comments Changed From '' To 'I agree with the operability assessment made by Mr. Smolinski.'
Last Modified Date Changed From 9/29/2009 14:52:38 To 9/29/2009 15:10:16
Last Modifier Changed From SMOLINSKI, ANDREW T. To GOOLSBEY, MARK W
Last State Change Date Changed From 9/29/2009 14:38:00 To 9/29/2009 15:10:16
Last State Changer Changed From FAILEY, MICHAEL P To GOOLSBEY, MARK W
State Changed From O/R Review To CRT Review Via Transition: Complete

9/29/2009 22:04:12 by SMITH III, ROY E
Process Code Changed From (None) To UNK (Unknown)
Activity Codes Changed From (None) To UNK(Unknown)
Equipment Failure Modes Changed From (None) To EFN (Fails to stay energized)
Last Modified Date Changed From 9/29/2009 15:10:16 To 9/29/2009 22:04:12
Last Modifier Changed From GOOLSBEY, MARK W To SMITH III, ROY E

9/29/2009 22:07:27 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 'There have been several recent events with K-7 having had loss of power.'
CR FLAGS Changed From (None) To Self-Revealing Event
CRT Report Section(s) Changed From (None) To 1
CRT Comments Changed From '' To '[Appended:]Initial action: K-7 ground fault pigtail was reset, new filter installed and supervision notified. Ref CA 130373 (CR 325344) to ensure the Annual Environmental Monitoring Report notes, as necessary, that the sample pump was not working during[...]'
Last Modified Date Changed From 9/29/2009 22:04:12 To 9/29/2009 22:07:27

9/30/2009 16:26:30 by ADAMS, RICHARD W
Last Modified Date Changed From 9/29/2009 22:07:27 To 9/30/2009 16:26:30
Last Modifier Changed From SMITH III, ROY E To ADAMS, RICHARD W
Attachment Added: CA130373: KEWA - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period

9/30/2009 16:28:26 by ADAMS, RICHARD W
CRT Comments Changed From '[...]ensure the Annual Environmental Monitoring Report notes, as necessary, that the sample pump was not working during this time period. Ref CA 142447 to review K-7 performance for possible resolution of sampler not running. +Close to action taken.' To '[...]pump was not working during this time period. Link and note added to CA 130373 to ensure this CR is addressed in the annual report. Ref CA 142447 to review K-7 performance for possible resolution of sampler not running. +Close to action taken.'
Last Modified Date Changed From 9/30/2009 16:26:30 To 9/30/2009 16:28:26

10/1/2009 11:37:33 by OWENS, CYRENA JEAN
CRT Report Section(s) Changed From 1 To 2
Secondary Owner Changed From ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILLICH, JACK C, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FIELD JR, JOHN R, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WHITE, DARYN A, WINKS III, GEORGE F To ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, 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, HELING, DEBRA A., HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 9/30/2009 16:28:26 To 10/1/2009 11:37:33
Last Modifier Changed From ADAMS, RICHARD W To OWENS, CYRENA JEAN

10/1/2009 11:37:37 by OWENS, CYRENA JEAN
Secondary Owner Changed From ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, 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, HELING, DEBRA A., HENRY, WILLIAM GENE, HOOK, THOMAS G, HOUSE, ALEX J, IRLBECK, DAVID E, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, 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, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C,

LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 10/1/2009 11:37:33 To 10/1/2009 11:37:37
Last State Change Date Changed From 9/29/2009 15:10:16 To 10/1/2009 11:37:37
Last State Changer Changed From GOOLSBEY, MARK W To OWENS, CYRENA JEAN
State Changed From CRT Review To Trend Review Via Transition: Complete

10/2/2009 19:06:23 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 10/2/2009 20:06:23
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, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOOK, THOMAS G, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RUTTAR, JOSEPH A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 10/1/2009 11:37:37 To 10/2/2009 19:06:23
Last Modifier Changed From OWENS, CYRENA JEAN To FICTUM, HOLLY C
Close Date Changed From Unassigned To 10/2/2009 19:06:23
Last State Change Date Changed From 10/1/2009 11:37:37 To 10/2/2009 19:06:23
Last State Changer Changed From OWENS, CYRENA JEAN To FICTUM, HOLLY C
Active/Inactive Changed From Active To Inactive
State Changed From Trend Review To All Assignments Complete Via Transition: Trend Review Complete

10/3/2009 17:04:22 by RECORDS MGMT
Last Modified Date Changed From 10/2/2009 19:06:23 To 10/3/2009 17:04:22
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 10/2/2009 19:06:23 To 10/3/2009 17:04:22
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

10/4/2009 9:37:35 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 10/4/2009 9:37:35
Last Modified Date Changed From 10/3/2009 17:04:22 To 10/4/2009 9:37:35
Last State Change Date Changed From 10/3/2009 17:04:22 To 10/4/2009 9:37:35
State Changed From Transferred To Printed Via Transition: Print

10/4/2009 9:37:44 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 10/4/2009 9:37:44
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)
Last Modified Date Changed From 10/4/2009 9:37:35 To 10/4/2009 9:37:44
Last State Change Date Changed From 10/4/2009 9:37:35 To 10/4/2009 9:37:44
State Changed From Printed To Validated Via Transition: Validate

State Change History

Submit by BAUSCH, WESLEY W	**Draft** 10/13/2009 15:50:21 Owner : BAUSCH, WESLEY W	**Submit** by BAUSCH, WESLEY W	**Supervisor Review** 10/13/2009 15:51:08 Owner : THORPE, RANDAL	**Complete** by PROKASH, ALVIN I	**O/R Review** 10/13/2009 17:11:19 Owner : FICTUM, HOLLY C	**Complete** by MCMAHON, BRADLY J	**CRT Review** 10/13/2009 20:08:03 Owner : FICTUM, HOLLY C
Complete by OWENS, CYRENA JEAN	**Trend Review** 10/15/2009 9:34:07 Owner : FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 10/17/2009 0:55:10 Owner : (None)	**Transfer** by RECORDS MGMT	**Transferred** 10/17/2009 17:03:57 Owner : (None)	**Print** by RECORDS MGMT	**Printed** 10/18/2009 9:32:51 Owner : (None)
Validate by RECORDS MGMT	**Validated** 10/18/2009 9:33:00 Owner : (None)						

Section 1

Applicable to site:	KEWA
Record #:	CR352454
Revision Number:	0
Submitter:	BAUSCH, WESLEY W
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	7745
Submitter Pager Number:	8214
One-Line Description:	K-7 Environmental Air Sampler Found Off
Description:	Upon arrival at the K-7 Environmental Air Sampler location to complete air sampler check and filter change per SP-63-164, the K-7 Environmental Air Sampler was found off. The total run time over the seven day period should have been apporximately 168 hours, but the accumulative meter hours for this sampler was only 10.7 hours. It is believed the GFCI (Ground Fault Circuit Interupter) which the sampler is plugged in to was tripped. The GFCI was reset and the meter began to run as normal.
Discovery Date:	10/13/2009
Discovery Time:	13:50:00
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:	The acting chemistry supervisor and chemist were contacted and this CR was generated.
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:	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:	0
Unit 2% Pwr:	NA
Unit 3% Pwr:	NA
Unit 1 Mode:	7 - REFUELING
Unit 2 Mode:	NA
Unit 3 Mode:	NA
OP-AA-102 Review Req'd?:	No
Is a TS SSC Affected?:	No
TS SSC Operability Assessment:	N/A
Text Question 2:	Basis for operability:
Text Answer 2:	NON-FUNCTIONAL. K-7 Environmental Air Sampler was non-functional at the time of discovery. The K-7 Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Program. Per the Table 2.2.1-A if specimens are unobtainable due to sampling equipment malfunction, reasonable efforts shall be made to correct the problem prior to the next sample period. K-7 has since been returned to a FUNCTIONAL state. REMM Table 2.2.1-A requirements remained satisfied.
Question L:	Is an Operability Assessment req'd for an SSC, which is Functional for its TRM function, to demonstrate operability for its TS function?
Yes / No L:	No
Literal 4:	The basis for establishing IOD can be documented in the "Basis for Operability" field. An IOD assignment does not necessarily need to be created.
Is an IOD Assignment Required?:	No
LCO entered:	No
Applicable LCO:	
Non-TS SSC Functionality Assessment.:	N/A
Literal 5:	NOTE: If a RAS is to be assigned to determine the answer to the next question, select "TBD" (to be determined) for the answer to the next question.
Does it impact a TS SSC?:	N/A
Literal 6:	The basis for establishing Non-TS SSC Functionality may be documented in the "Basis for Operability" field. A RAS assignment does not necessarily need to be created in these instances.
Is a RAS Assignment Needed?:	No
Literal 7:	If this Condition Report is addressing an SSC, document the qualification status of the SSC in the following field. Otherwise select N/A. NOTE: An SSC can be Operable or Functional and still not be Fully Qualified.
SSC Qualification Status:	N/A
Reportable condition?:	No
Text Question 3:	Reportability Comments:
Text Answer 3:	None
Can IOD be established?:	(None)
Literal 3:	If this CR is associated with any system leakage, provide answers to the following:
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	
Significance:	3
Deficiency Type:	Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	There have been several recent events with K-7 having had loss of power.

CR FLAGS: Self-Revealing Event
CRT Report Section(s): 2
License Renewal Flags: (None)
Affected Department: (None)
CRT Comments: The GFCI was reset and the meter began to run as normal.

Ref CA 130373 (CR 325344) to ensure the Annual Environmental Monitoring Report notes, as necessary, that the sample pump was not working during this time period. Link and note added to CA 130373 to ensure this CR is addressed in the annual report.

Ref CA 142447 to review K-7 performance for possible resolution of sampler not running.

+Close to action taken.

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:	EFN (Fails to stay energized)	**Primary INPO criteria:**	(None)
Secondary INPO criteria:	(None)	**Operations Hot Buttons:**	(None)
Engineering Hot Buttons:	(None)	**Maintenance Hot Buttons:**	(None)
RP Hot Buttons:	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)
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: 10/17/2009 1:55:10 **CR Printed Date:** 10/18/2009 9:32:51
CR Validated Date: 10/18/2009 9:33:00 **CR Who Validated:** RECORDS MGMT
RM Attachment Links:

Attachments

Linked from: CA130373: KEWA - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period by **ADAMS, RICHARD W** (10/14/2009 6:24:43)

Change History

10/13/2009 15:51:08 by BAUSCH, WESLEY W
Associated w/ Equipment Location? Changed From (None) To No
Owner Changed From BAUSCH, WESLEY W To THORPE, RANDAL
Secondary Owner Changed From THORPE, RANDAL To AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BROWN, MELISSA ELLEN, 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, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, SCACE, STEPHEN E, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 10/13/2009 15:50:21 To 10/13/2009 15:51:08
Last State Change Date Changed From 10/13/2009 15:50:21 To 10/13/2009 15:51:08

State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR352454: KEWA - K-7 Environmental Air Sampler Found Off (Inactive)

10/13/2009 17:11:19 by PROKASH, ALVIN I
Owner Changed From THORPE, RANDAL To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BROWN, MELISSA ELLEN, 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, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, SCACE, STEPHEN E, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS To ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, 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, 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, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 10/13/2009 15:51:08 To 10/13/2009 17:11:19
Last Modifier Changed From BAUSCH, WESLEY W To PROKASH, ALVIN I
Last State Change Date Changed From 10/13/2009 15:51:08 To 10/13/2009 17:11:20
Last State Changer Changed From BAUSCH, WESLEY W To PROKASH, ALVIN I
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

10/13/2009 17:12:08 by PROKASH, ALVIN I
Tag Number Changed From '' To 'NA'
Unit 1% Pwr Changed From '' To '0'
Unit 1 Mode Changed From (None) To 7 - REFUELING
OP-AA-102 Review Req'd? Changed From (None) To 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 '[Appended:]NON-FUNCTIONAL. K-7 Environmental Air Sampler was non-functional at the time of discovery. The K-7 Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Program. Per the Table 2.2.1-A if specimens are[...]'
Yes / No L Changed From (None) To No
Is an IOD Assignment Required? Changed From (None) To No
LCO entered Changed From (None) To No
Non-TS SSC Functionality Assessment. Changed From (None) To N/A
Does it impact a TS SSC? Changed From (None) To N/A
Is a RAS Assignment Needed? Changed From (None) To No
SSC Qualification Status Changed From (None) To N/A
Reportable condition? Changed From (None) To No
Text Answer 3 Changed From '' To 'None'
Last Modified Date Changed From 10/13/2009 17:11:19 To 10/13/2009 17:12:08

10/13/2009 20:08:03 by MCMAHON, BRADLY J
Last Modified Date Changed From 10/13/2009 17:12:08 To 10/13/2009 20:08:03
Last Modifier Changed From PROKASH, ALVIN I To MCMAHON, BRADLY J
Last State Change Date Changed From 10/13/2009 17:11:20 To 10/13/2009 20:08:03
Last State Changer Changed From PROKASH, ALVIN I To MCMAHON, BRADLY J
State Changed From O/R Review To CRT Review Via Transition: Complete

10/13/2009 22:26:45 by SMITH III, ROY E
Process Code Changed From (None) To UNK (Unknown)
Activity Codes Changed From (None) To UNK(Unknown)
Equipment Failure Modes Changed From (None) To EFN (Fails to stay energized)
Last Modified Date Changed From 10/13/2009 20:08:03 To 10/13/2009 22:26:45
Last Modifier Changed From MCMAHON, BRADLY J To SMITH III, ROY E

10/13/2009 22:31:35 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 'There have been several recent events with K-7 having had loss of power.'
CR FLAGS Changed From (None) To Self-Revealing Event
CRT Comments Changed From '' To '[Appended:]The GFCI was reset and the meter began to run as normal. Ref CA 130373 (CR 325344) to ensure the Annual Environmental Monitoring Report notes, as necessary, that the sample pump was not working during this time period. Link and note added t[...]'
Last Modified Date Changed From 10/13/2009 22:26:45 To 10/13/2009 22:31:35

10/14/2009 6:24:44 by ADAMS, RICHARD W
Last Modified Date Changed From 10/13/2009 22:31:35 To 10/14/2009 6:24:44
Last Modifier Changed From SMITH III, ROY E To ADAMS, RICHARD W
Attachment Added: CA130373: KEWA - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period

10/14/2009 6:26:23 by ADAMS, RICHARD W
CRT Report Section(s) Changed From (None) To 1

Last Modified Date Changed From 10/14/2009 6:24:44 To 10/14/2009 6:26:23

10/14/2009 6:26:41 by ADAMS, RICHARD W
RP Hot Buttons Changed From (None) To Environmental Monitoring (REMP)
Last Modified Date Changed From 10/14/2009 6:26:23 To 10/14/2009 6:26:41

10/15/2009 9:34:04 by OWENS, CYRENA JEAN
CRT Report Section(s) Changed From 1 To 2
Last Modified Date Changed From 10/14/2009 6:26:41 To 10/15/2009 9:34:04
Last Modifier Changed From ADAMS, RICHARD W To OWENS, CYRENA JEAN

10/15/2009 9:34:07 by OWENS, CYRENA JEAN
Secondary Owner Changed From ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, 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, 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, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HALE, JAMES M., HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 10/15/2009 9:34:04 To 10/15/2009 9:34:07
Last State Change Date Changed From 10/13/2009 20:08:03 To 10/15/2009 9:34:07
Last State Changer Changed From MCMAHON, BRADLY J To OWENS, CYRENA JEAN
State Changed From CRT Review To Trend Review Via Transition: Complete

10/17/2009 0:55:10 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 10/17/2009 1:55:10
RM Attachment Links Changed From '' To '<table width=100% border=1 cellspacing=2 cellpadding=2></table>'
Owner Changed From FICTUM, HOLLY C To (None)
Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HALE, JAMES M., HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 10/15/2009 9:34:07 To 10/17/2009 0:55:10
Last Modifier Changed From OWENS, CYRENA JEAN To FICTUM, HOLLY C
Close Date Changed From Unassigned To 10/17/2009 0:55:10
Last State Change Date Changed From 10/15/2009 9:34:07 To 10/17/2009 0:55:10
Last State Changer Changed From OWENS, CYRENA JEAN To FICTUM, HOLLY C
Active/Inactive Changed From Active To Inactive
State Changed From Trend Review To All Assignments Complete Via Transition: Trend Review Complete

10/17/2009 17:03:57 by RECORDS MGMT
Last Modified Date Changed From 10/17/2009 0:55:10 To 10/17/2009 17:03:57
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 10/17/2009 0:55:10 To 10/17/2009 17:03:57
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

10/18/2009 9:32:51 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 10/18/2009 9:32:51
Last Modified Date Changed From 10/17/2009 17:03:57 To 10/18/2009 9:32:51
Last State Change Date Changed From 10/17/2009 17:03:57 To 10/18/2009 9:32:51
State Changed From Transferred To Printed Via Transition: Print

10/18/2009 9:33:00 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 10/18/2009 9:33:00
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)
Last Modified Date Changed From 10/18/2009 9:32:51 To 10/18/2009 9:33:00
Last State Change Date Changed From 10/18/2009 9:32:51 To 10/18/2009 9:33:00
State Changed From Printed To Validated Via Transition: Validate

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State Change History

Submit by BAUSCH, WESLEY W	**Draft** 10/20/2009 14:14:17 Owner : BAUSCH, WESLEY W	**Submit** by BAUSCH, WESLEY W	**Supervisor Review** 10/20/2009 14:14:55 Owner : FAILEY, MICHAEL P	**Complete** by KARST JR, DAVID A	**O/R Review** 10/20/2009 14:49:55 Owner : FICTUM, HOLLY C	**Complete** by IRLBECK, DAVID E	**CRT Review** 10/21/2009 9:48:43 Owner : FICTUM, HOLLY C
Complete by BOWER, RICHARD L	**Trend Review** 10/22/2009 11:45:20 Owner : FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 10/22/2009 22:57:53 Owner : (None)	**Transfer** by RECORDS MGMT	**Transferred** 10/23/2009 17:36:05 Owner : (None)	**Print** by RECORDS MGMT	**Printed** 10/24/2009 9:47:31 Owner : (None)
Validate by RECORDS MGMT	**Validated** 10/24/2009 9:47:40 Owner : (None)						

Section 1

Applicable to site:	KEWA
Record #:	CR353663
Revision Number:	0
Submitter:	BAUSCH, WESLEY W
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	7745
Submitter Pager Number:	8214
One-Line Description:	K-7 Environmental Air Sampler Found Off
Description:	Upon arrival at the K-7 Environmental Air Sampler location to complete air sampler check and filter change per SP-63-164, the K-7 Environmental Air Sampler was found off. The total run time over the seven day period should have been apporximately 168 hours, but the accumulative meter hours for this sampler was 142.4 hours. It is believed the GFCI (Ground Fault Circuit Interupter) which the sampler is plugged in to was tripped. The GFCI was reset and the meter began to run as normal. This was the second occurence in a row for this location.
Discovery Date:	10/20/2009
Discovery Time:	9:58:00
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:	Reset the GFCI on location; notified Chemistry Supervision; wrote CR
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:	n/a
Additional Contacts:	
Supervisor - CR Review:	FAILEY, MICHAEL P
Question G:	**Is this CR an Operability/Reportability Issue Requiring O/R Review?**
Yes/No G:	Yes

Question H:	**Does this CR affect personnel safety?**
Yes/No H:	Yes
Question I:	**Does this CR affect plant safety?**
Yes/No I:	Yes
Question J:	**Does this CR involve plant equipment?**
Yes/No J:	Yes
Question K:	**Is this CR an environmental concern?**
Yes/No K:	Yes
Literal 2:	**Unit Conditions:**
Unit 1% Pwr:	0
Unit 2% Pwr:	NA
Unit 3% Pwr:	NA
Unit 1 Mode:	4 - > 350 DEG INTERMEDIATE SD
Unit 2 Mode:	NA
Unit 3 Mode:	NA
OP-AA-102 Review Req'd?:	Yes
Is a TS SSC Affected?:	No
TS SSC Operability Assessment:	N/A
Text Question 2:	**Basis for operability:**
Text Answer 2:	NON-FUNCTIONAL. K-7 Environmental Air Sampler was non-functional at the time of discovery. The K-7 Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Program. Per the Table 2.2.1-A if specimens are unobtainable due to sampling equipment malfunction, reasonable efforts shall be made to correct the problem prior to the next sample period. K-7 has since been returned to a FUNCTIONAL state. REMM Table 2.2.1-A requirements remained satisfied.
Question L:	**Is an Operability Assessment req'd for an SSC, which is Functional for its TRM function, to demonstrate operability for its TS function?**
Yes / No L:	No
Literal 4:	**The basis for establishing IOD can be documented in the "Basis for Operability" field. An IOD assignment does not necessarily need to be created.**
Is an IOD Assignment Required?:	No
LCO entered:	No
Applicable LCO:	
Non-TS SSC Functionality Assessment.:	Non-Functional
Literal 5:	**NOTE: If a RAS is to be assigned to determine the answer to the next question, select "TBD" (to be determined) for the answer to the next question.**
Does it impact a TS SSC?:	No
Literal 6:	**The basis for establishing Non-TS SSC Functionality may be documented in the "Basis for Operability" field. A RAS assignment does not necessarily need to be created in these instances.**
Is a RAS Assignment Needed?:	No
Literal 7:	**If this Condition Report is addressing an SSC, document the qualification status of the SSC in the following field. Otherwise select N/A. NOTE: An SSC can be Operable or Functional and still not be Fully Qualified.**
SSC Qualification Status:	N/A
Reportable condition?:	No
Text Question 3:	**Reportability Comments:**
Text Answer 3:	
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	I agree with the above assessment
Significance:	3
Deficiency Type:	Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	There have been several recent events with K-7 having had loss of power.

CR FLAGS: Self-Revealing Event
CRT Report Section(s): (None)
License Renewal Flags: (None)
Affected Department: (None)
CRT Comments: The GFCI was reset and the meter began to run as normal.

Ref CA 130373 (CR 325344) to ensure the Annual Environmental Monitoring Report notes, as necessary, that the sample pump was not working during this time period. Link and note added to CA 130373 to ensure this CR is addressed in the annual report.

Ref CA 142447 to review K-7 performance for possible resolution of sampler not running.

+Close to action taken.

Comments:
Old Record #:

Section 2

Trend Review Complete?: No
Process Code: UNK (Unknown)
Activity Codes: UNK(Unknown)

Human Error Types: (None)
Org. & Mgmt Failure mode: (None)
Equipment Failure Modes: EFN (Fails to stay energized)
Secondary INPO criteria: (None)
Engineering Hot Buttons: (None)
RP Hot Buttons: Environmental Monitoring (REMP)
Process Related Failure: (None)
HU Failure modes: (None)
Primary INPO criteria: (None)
Operations Hot Buttons: EAL
Maintenance Hot Buttons: (None)
Chemistry Hot Buttons: (None)

EP Hot Buttons: (None)
Security Hot Buttons: (None)
O&P Hot Buttons: (None)
Supply Chain Hot Buttons: (None)
Other Hot Buttons: (None)
Training Hot Buttons: (None)
OR Hot Buttons: (None)
NSS Hot Buttons: (None)
Procedures Hot Buttons: (None)

Section 3

Work Order Number(s):
Status Description:
Status Date:
Actual Finish Date:
Work Performed Description:

Section 5

CR Completed Date: 10/22/2009 23:57:54 **CR Printed Date:** 10/24/2009 9:47:31
CR Validated Date: 10/24/2009 9:47:40 **CR Who Validated:** RECORDS MGMT
RM Attachment Links:

Change History

10/20/2009 14:14:55 by BAUSCH, WESLEY W
Associated w/ Equipment Location? Changed From (None) To No
Owner Changed From BAUSCH, WESLEY W To FAILEY, MICHAEL P
Secondary Owner Changed From FAILEY, MICHAEL P To AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R, BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BROWN, MELISSA ELLEN, 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, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, SCACE, STEPHEN E, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS
Last Modified Date Changed From 10/20/2009 14:14:17 To 10/20/2009 14:14:55
Last State Change Date Changed From 10/20/2009 14:14:17 To 10/20/2009 14:14:55
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR353663: KEWA - K-7 Environmental Air Sampler Found Off (Inactive)

10/20/2009 14:49:55 by KARST JR, DAVID A
Owner Changed From FAILEY, MICHAEL P To FICTUM, HOLLY C

Secondary Owner Changed From AITKEN, PAUL C, ALLEN, ROBERT C, ANDERSON, PAMELA J, BARNETTE, KENNETH R,

BERKEY, BONITA M, BERTSCHE, BRYAN JOHN, BLAKE JR, HARRY H, BLASIOLI, PAUL A, BROWN, MELISSA ELLEN, 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, GUM, CLARENCE L, HENRY, ERNEST R, HENRY, WILLIAM GENE, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAWRENCE, DOUGLAS C, LOFTEN, BRUCE J, MARCHESE, PETER A, MATHEWS, BRIAN M, MCMAHON, BRADLY J, O'CONNER, THOMAS R, PHELPS, PAUL A, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, ROTH, JAMES R, SCACE, STEPHEN E, SIERACKI, DIANE J, SMOLINSKI, ANDREW T., SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WALLEN, CLIFFORD S, WILSON, MICHAEL J, WOOD, STEPHEN M, ZEPNICK, BRIAN THOMAS To ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, 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, 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, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 10/20/2009 14:14:55 To 10/20/2009 14:49:55
Last Modifier Changed From BAUSCH, WESLEY W To KARST JR, DAVID A
Last State Change Date Changed From 10/20/2009 14:14:55 To 10/20/2009 14:49:55
Last State Changer Changed From BAUSCH, WESLEY W To KARST JR, DAVID A
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

10/20/2009 14:50:51 by KARST JR, DAVID A
Tag Number Changed From " To 'n/a'
Unit 1% Pwr Changed From " To '0'
Unit 1 Mode Changed From (None) To 4 - > 350 DEG INTERMEDIATE SD
OP-AA-102 Review Req'd? Changed From (None) To Yes
Is a TS SSC Affected? Changed From (None) To No
TS SSC Operability Assessment Changed From (None) To N/A
Text Answer 2 Changed From " To '[Appended:]NON-FUNCTIONAL. K-7 Environmental Air Sampler was non-functional at the time of discovery. The K-7 Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Program. Per the Table 2.2.1-A if specimens are[...]'
Yes / No L Changed From (None) To No
Is an IOD Assignment Required? Changed From (None) To No
LCO entered Changed From (None) To No
Non-TS SSC Functionality Assessment. Changed From (None) To 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 N/A
Reportable condition? Changed From (None) To No
Last Modified Date Changed From 10/20/2009 14:49:55 To 10/20/2009 14:50:51

10/21/2009 9:48:43 by IRLBECK, DAVID E
O/R Comments Changed From " To 'I agree with the above assessment'
Last Modified Date Changed From 10/20/2009 14:50:51 To 10/21/2009 9:48:43
Last Modifier Changed From KARST JR, DAVID A To IRLBECK, DAVID E
Last State Change Date Changed From 10/20/2009 14:49:55 To 10/21/2009 9:48:43
Last State Changer Changed From KARST JR, DAVID A To IRLBECK, DAVID E
State Changed From O/R Review To CRT Review Via Transition: Complete

10/21/2009 21:11:11 by SMITH III, ROY E
Process Code Changed From (None) To UNK (Unknown)
Activity Codes Changed From (None) To UNK(Unknown)
Equipment Failure Modes Changed From (None) To EFN (Fails to stay energized)
RP Hot Buttons Changed From (None) To Environmental Monitoring (REMP)
Last Modified Date Changed From 10/21/2009 9:48:43 To 10/21/2009 21:11:11
Last Modifier Changed From IRLBECK, DAVID E To SMITH III, ROY E

10/21/2009 21:20:01 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 'There have been several recent events with K-7 having had loss of power.'
CR FLAGS Changed From (None) To Self-Revealing Event
CRT Comments Changed From " To '[Appended:]The GFCI was reset and the meter began to run as normal. Ref CA 130373 (CR 325344) to ensure the Annual Environmental Monitoring Report notes, as necessary, that the sample pump was not working during this time period. Link and note added t[...]'
Last Modified Date Changed From 10/21/2009 21:11:11 To 10/21/2009 21:20:01

10/22/2009 10:27:06 by BRADLEY, DEBRA A
Operations Hot Buttons Changed From (None) To EAL
Last Modified Date Changed From 10/21/2009 21:20:01 To 10/22/2009 10:27:06
Last Modifier Changed From SMITH III, ROY E To BRADLEY, DEBRA A

10/22/2009 11:45:20 by BOWER, RICHARD L

Secondary Owner Changed From ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, 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, 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, LAING, DANIEL

E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, MASARIK, DAVID L, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, PROKASH, ALVIN I, SHIELDS, DAVID F, SMOLINSKI, ANDREW T., STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HALE, JAMES M., HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F
Last Modified Date Changed From 10/22/2009 10:27:06 To 10/22/2009 11:45:20
Last Modifier Changed From BRADLEY, DEBRA A To BOWER, RICHARD L
Last State Change Date Changed From 10/21/2009 9:48:43 To 10/22/2009 11:45:20
Last State Changer Changed From IRLBECK, DAVID E To BOWER, RICHARD L
State Changed From CRT Review To Trend Review Via Transition: Complete

10/22/2009 22:57:53 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 10/22/2009 23:57:54
RM Attachment Links Changed From '' To '<table width=100% border=1 cellspacing=2 cellpadding=2></table>'
Owner Changed From FICTUM, HOLLY C To (None)
Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, EDWARDS, CHARLES K, EVANS, WENDY L, FASENMYER, TED IRA, FICTUM, HOLLY C, FIELD JR, JOHN R, FITZWATER, DAVID I, HALE, JAMES M., HELING, DEBRA A., HENRY, WILLIAM GENE, HESCHER, DOUGLAS J, HOUSE, ALEX J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LAING, DANIEL E., LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, LOFTEN, BRUCE J, LONG, CRAIG D, MASARIK, DAVID L, MATHEWS, BRIAN M, MCMAHON, DARRYL D, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, SHIELDS, DAVID F, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STERNITZKY, COLLEEN A, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIAL JR, JACKIE J, VORPAHL, DWIGHT J., WALESH, DEBRA J, WHITE, DARYN A, WINKS III, GEORGE F To KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 10/22/2009 11:45:20 To 10/22/2009 22:57:53
Last Modifier Changed From BOWER, RICHARD L To FICTUM, HOLLY C
Close Date Changed From Unassigned To 10/22/2009 22:57:53
Last State Change Date Changed From 10/22/2009 11:45:20 To 10/22/2009 22:57:54
Last State Changer Changed From BOWER, RICHARD 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

10/23/2009 17:36:05 by RECORDS MGMT
Last Modified Date Changed From 10/22/2009 22:57:53 To 10/23/2009 17:36:05
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 10/22/2009 22:57:54 To 10/23/2009 17:36:05
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

10/24/2009 9:47:31 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 10/24/2009 9:47:31
Last Modified Date Changed From 10/23/2009 17:36:05 To 10/24/2009 9:47:31
Last State Change Date Changed From 10/23/2009 17:36:05 To 10/24/2009 9:47:31
State Changed From Transferred To Printed Via Transition: Print

10/24/2009 9:47:40 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 10/24/2009 9:47:40
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)
Last Modified Date Changed From 10/24/2009 9:47:31 To 10/24/2009 9:47:40
Last State Change Date Changed From 10/24/2009 9:47:31 To 10/24/2009 9:47:40
State Changed From Printed To Validated Via Transition: Validate

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State Change History

Submit by HICKMANN, MICHAEL A	**Draft** 2/2/2010 14:58:43 Owner : HICKMANN, MICHAEL A	**Submit** by HICKMANN, MICHAEL A	**Supervisor Review** 2/2/2010 14:59:52 Owner : THORPE, RANDAL	**O/R Review** by AUTO ESCALATE	**O/R Review** 2/2/2010 21:00:15 Owner : FICTUM, HOLLY C	**Complete** by TREPTOW, ETHAN A	**CRT Review** 2/2/2010 22:26:13 Owner : FICTUM, HOLLY C
CA by ERICSON, JANICE L	**CRT Assignment Creation** 2/3/2010 10:24:08 Owner : FICTUM, HOLLY C	**Complete** by ERICSON, JANICE L	**Assignments Pending** 2/3/2010 10:29:28 Owner : FICTUM, HOLLY C	**Assignments Complete** by ADAMS, RICHARD W	**Trend Review** 2/5/2010 10:21:46 Owner : FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 2/8/2010 10:40:21 Owner : (None)
Transfer by RECORDS MGMT	**Transferred** 2/8/2010 18:22:19 Owner : (None)	**Print** by RECORDS MGMT	**Printed** 2/9/2010 9:08:36 Owner : (None)	**Validate** by RECORDS MGMT	**Validated** 2/9/2010 9:08:46 Owner : (None)		

Section 1

Applicable to site:	KEWA
Record #:	CR367505
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 not on
Description:	K-31 air sampler located at East Krok Substation on Krok Road was found not on during normal SP-63-164 sample collection. Filter was changed, power switch was checked and the unit was plugged in, but outlet inside of WPS fence so could not tell if GFI tripped. Informed Lead Person of found condition and asked him to inform supervision of condition.
Discovery Date:	2/2/2010
Discovery Time:	0:16:50
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:	Check power switch and cord, change filter and record data, inform lead person who would in turn inform supervision, 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:	Meter hours were recorded in the as found condition, the pre and post op check was not performed due to unit being off and air flow not recorded for same reason. Consideration should be made if checking these items should be completed once unit returned to service. No tag will be hung due to location and that it is the only plant equipment in that area.
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:	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:	N/A
Non-TS SSC Functionality Assessment.:	Non-Functional
Literal 5:	**NOTE: If a RAS is to be assigned to determine the answer to the next question, select "TBD" (to be determined) for the answer to the next question.**
Does it impact a TS SSC?:	No
Literal 6:	**The basis for establishing Non-TS SSC Functionality may be documented in the "Basis for Operability" field. A RAS assignment does not necessarily need to be created in these instances.**
Is a RAS Assignment Needed?:	No
Literal 7:	**If this Condition Report is addressing an SSC, document the qualification status of the SSC in the following field. Otherwise select N/A. NOTE: An SSC can be Operable or Functional and still not be Fully Qualified.**
SSC Qualification Status:	N/A
Reportable condition?:	No
Text Question 3:	**Reportability Comments:**
Text Answer 3:	N/A
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leakage Category:	(None)
Leakage Severity:	(None)
O/R Comments:	
Significance:	3
Deficiency Type:	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].
-CR103840 [7/08] K-31 air station pump timer was inoperable for nine consecutive weeks (repaired April 3, 2007) and ref CAP 41210 had been written for the issue of air sampler totalizer problems.
-No other history for "Environmental Air Sampler ", "K-31", "K31".

CR FLAGS: Emergency Planning
CRT Report Section(s): 2
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.

-Initiator Recommendations states, the pre and post op check was not performed due to unit being off and air flow not recorded for same reason. Consideration should be made if checking these items should be completed once unit returned to service.

+CA to Chemistry to contact WPS to gain access to/resolve issue with K-31.

+Ref. CA130373 - Ensure Annual Env. Mon. Report notes this situation occured for sampl. period.

Comments:
Old Record #:

Section 2

Trend Review Complete?: No
Process Code: UNK (Unknown)
Activity Codes: UNK(Unknown)

Human Error Types: (None)
Org. & Mgmt Failure mode: (None)
Equipment Failure Modes: EFN (Fails to stay energized)
Process Related Failure: (None)
HU Failure modes: (None)
Primary INPO criteria: (None)

Secondary INPO criteria: (None)
Engineering Hot Buttons: (None)
RP Hot Buttons: (None)
EP Hot Buttons: (None)
Security Hot Buttons: (None)
O&P Hot Buttons: (None)
Supply Chain Hot Buttons: (None)
Other Hot Buttons: (None)
Operations Hot Buttons: (None)
Maintenance Hot Buttons: (None)
Chemistry Hot Buttons: (None)
Training Hot Buttons: (None)
OR Hot Buttons: (None)
NSS Hot Buttons: (None)
Procedures Hot Buttons: (None)

Section 3

Work Order Number(s):
Status Description:
Status Date:
Actual Finish Date:
Work Performed Description:

Section 5

CR Completed Date: 2/8/2010 11:40:21 **CR Printed Date:** 2/9/2010 9:08:36
CR Validated Date: 2/9/2010 9:08:46 **CR Who Validated:** RECORDS MGMT
RM Attachment Links:

Subtasks

Show Subtasks
Expand All

Attachments

Principal to: CA159425: KEWA - Contact WPS to gain access to/resolve issue with K-31 (Inactive) by **ERICSON, JANICE L** (2/3/2010 10:28:44)

Change History

2/2/2010 14:59:52 by HICKMANN, MICHAEL A
Associated w/ Equipment Location? Changed From (None) To No

Additional C/A processes req'd? Changed From (None) To WO - Work Order
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, BROWN, MELISSA ELLEN, 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, 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 2/2/2010 14:58:43 To 2/2/2010 14:59:52
Last State Change Date Changed From 2/2/2010 14:58:43 To 2/2/2010 14:59:52
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR367505: KEWA - K-31 air sampler found not on (Inactive)

2/2/2010 21:00:15 by AUTO ESCALATE
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, BROWN, MELISSA ELLEN, 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, 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, BROWN, MELISSA ELLEN, 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, 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 2/2/2010 14:59:52 To 2/2/2010 21:00:15
Last Modifier Changed From HICKMANN, MICHAEL A To AUTO ESCALATE
Last State Change Date Changed From 2/2/2010 14:59:52 To 2/2/2010 21:00:15
Last State Changer Changed From HICKMANN, MICHAEL A To AUTO ESCALATE
State Changed From Supervisor Review To O/R Review Via Transition: O/R Review
NewCR Changed From Yes To No

2/2/2010 21:18:58 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:]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
Applicable LCO Changed From " To 'N/A'
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 N/A
Reportable condition? Changed From (None) To No
Text Answer 3 Changed From " To 'N/A'
Last Modified Date Changed From 2/2/2010 21:00:15 To 2/2/2010 21:18:58
Last Modifier Changed From AUTO ESCALATE To NEUSER, CRAIG J

2/2/2010 22:26:13 by TREPTOW, ETHAN A
Last Modified Date Changed From 2/2/2010 21:18:58 To 2/2/2010 22:26:13
Last Modifier Changed From NEUSER, CRAIG J To TREPTOW, ETHAN A
Last State Change Date Changed From 2/2/2010 21:00:15 To 2/2/2010 22:26:13
Last State Changer Changed From AUTO ESCALATE To TREPTOW, ETHAN A
State Changed From O/R Review To CRT Review Via Transition: Complete

2/3/2010 7:28:58 by LANGER JR, JAMES 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 '[Appended:]-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]. -CR103840 [7/08] K-31 air station pump timer was inoperable for nine co[...]'
CR FLAGS Changed From (None) To Emergency Planning

CRT Comments Changed From '' To '-Ref to /WO KW100633894 [status 20-schdl'd 7/10]. -Initiate New WO to restore power/repair K-31 air sampler found not on ?'
Last Modified Date Changed From 2/2/2010 22:26:13 To 2/3/2010 7:28:58
Last Modifier Changed From TREPTOW, ETHAN A To LANGER JR, JAMES E

2/3/2010 7:32:09 by LANGER JR, JAMES E
Previous Issues (PIs, CRs) Changed From '-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]. -CR103840 [7/08] K-31 air station pump timer was inoperable for nine consecu[...]' To '-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]. -CR103840 [7/08] K-31 air station pump timer was inoperable for nine consecut[...]'
CRT Comments Changed From '-Ref to /WO KW100633894 [status 20-schdl'd 7/10]. -Initiate New WO to restore power/repair K-31 air sampler found not on ?' To '-Ref to WO KW100633894 [status 20-schdl'd 7/10] to Install the new Offsite Air Sampling Systems. -Initiate New WO to restore power/repair K-31 air sampler found not on ?'
Last Modified Date Changed From 2/3/2010 7:28:58 To 2/3/2010 7:32:09

2/3/2010 7:37:17 by LANGER JR, JAMES E
CRT Comments Changed From '[Original Text]' To '[Appended:] -Initiator Recommendations states, the pre and post op check was not performed due to unit being off and air flow not recorded for same reason. Consideration should be made if checking these items should be completed once unit returned to s[...]'
Last Modified Date Changed From 2/3/2010 7:32:09 To 2/3/2010 7:37:17

2/3/2010 7:45:57 by LANGER JR, JAMES E
Previous Issues (PIs, CRs) Changed From '[Original Text]' To '[Appended:] -No other history for "Environmental Air Sampler ", "K-31", "K31".'
Last Modified Date Changed From 2/3/2010 7:37:17 To 2/3/2010 7:45:57

2/3/2010 8:58:47 by FICTUM, HOLLY C
Process Code Changed From (None) To UNK (Unknown)
Activity Codes Changed From (None) To UNK(Unknown)
Equipment Failure Modes Changed From (None) To EFN (Fails to stay energized)
Last Modified Date Changed From 2/3/2010 7:45:57 To 2/3/2010 8:58:47
Last Modifier Changed From LANGER JR, JAMES E To FICTUM, HOLLY C

2/3/2010 10:24:03 by ERICSON, JANICE L
CRT Report Section(s) Changed From (None) To 2
CRT Comments Changed From '[...]e New WO to restore power/repair K-31 air sampler found not on ? -Initiator Recommendations states, the pre and post op check was not performed due to unit being off and air flow not recorded for same reason. Consideration should be made if [more diffs...]' To '[...]or Recommendations states, the pre and post op check was not performed due to unit being off and air flow not recorded for same reason. Consideration should be made if checking these items should be completed once unit returned to service. [more diffs...]'
Last Modified Date Changed From 2/3/2010 8:58:47 To 2/3/2010 10:24:03
Last Modifier Changed From FICTUM, HOLLY C To ERICSON, JANICE L

2/3/2010 10:24:08 by ERICSON, JANICE L
Last Modified Date Changed From 2/3/2010 10:24:03 To 2/3/2010 10:24:08
Last State Change Date Changed From 2/2/2010 22:26:13 To 2/3/2010 10:24:08
Last State Changer Changed From TREPTOW, ETHAN A To ERICSON, JANICE L
State Changed From CRT Review To CRT Assignment Creation Via Transition: CA

2/3/2010 10:27:47 by ERICSON, JANICE L
Last Modified Date Changed From 2/3/2010 10:24:08 To 2/3/2010 10:27:47

2/3/2010 10:28:44 by ERICSON, JANICE L
Last Modified Date Changed From 2/3/2010 10:27:47 To 2/3/2010 10:28:44
Attachment Added: CA159425: (None) - Contact WPS to gain access to/resolve issue with K-31

2/3/2010 10:29:28 by ERICSON, JANICE L
Secondary Owner Changed From ALLEN, ROBERT C, ANDERSON, PAMELA J, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRINKMAN, CHARLES A, BROWN, DAN, BROWN, MELISSA ELLEN, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, 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, 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, BROWN, MELISSA ELLEN, 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, 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 2/3/2010 10:28:44 To 2/3/2010 10:29:28
Last State Change Date Changed From 2/3/2010 10:24:08 To 2/3/2010 10:29:28
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

2/5/2010 10:21:46 by ADAMS, RICHARD W

Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, 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, 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, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, 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 2/3/2010 10:29:28 To 2/5/2010 10:21:46
Last Modifier Changed From ERICSON, JANICE L To ADAMS, RICHARD W
Last State Change Date Changed From 2/3/2010 10:29:28 To 2/5/2010 10:21:46
Last State Changer Changed From ERICSON, JANICE L To ADAMS, RICHARD W
State Changed From Assignments Pending To Trend Review Via Transition: Assignments Complete

2/8/2010 10:40:21 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 2/8/2010 11:40:21
RM Attachment Links Changed From '' To '<table width=100% border=1 cellspacing=2 cellpadding=2></table>'
Owner Changed From FICTUM, HOLLY C To (None)
Secondary Owner Changed From AHRENS, GARY M, ALLEN, ROBERT C, ANDERSON, PAMELA J, ASBEL, DENNIS C, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BROWN, MELISSA ELLEN, CAMPBELL, DWIGHT D, CASTIGLIA, BRAD K, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, 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 KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 2/5/2010 10:21:46 To 2/8/2010 10:40:21
Last Modifier Changed From ADAMS, RICHARD W To FICTUM, HOLLY C
Close Date Changed From Unassigned To 2/8/2010 10:40:21
Last State Change Date Changed From 2/5/2010 10:21:46 To 2/8/2010 10:40:21
Last State Changer Changed From ADAMS, RICHARD W To FICTUM, HOLLY C
Active/Inactive Changed From Active To Inactive
State Changed From Trend Review To All Assignments Complete Via Transition: Trend Review Complete

2/8/2010 18:22:19 by RECORDS MGMT
Last Modified Date Changed From 2/8/2010 10:40:21 To 2/8/2010 18:22:19
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 2/8/2010 10:40:21 To 2/8/2010 18:22:19
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

2/9/2010 9:08:36 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 2/9/2010 9:08:36
Last Modified Date Changed From 2/8/2010 18:22:19 To 2/9/2010 9:08:36
Last State Change Date Changed From 2/8/2010 18:22:19 To 2/9/2010 9:08:36
State Changed From Transferred To Printed Via Transition: Print

2/9/2010 9:08:46 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 2/9/2010 9:08:46
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, LACROSSE, TARA LYNN, LEANNA, LORI L, LEROY, SARAH A, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, SCHULTZ, SANDRA J, Teamtrackuser, WHITE, DARYN A, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)
Last Modified Date Changed From 2/9/2010 9:08:36 To 2/9/2010 9:08:46
Last State Change Date Changed From 2/9/2010 9:08:36 To 2/9/2010 9:08:46
State Changed From Printed To Validated Via Transition: Validate