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DOMINION ENERGY KEWAUNEE, INC.
KEWAUNEE POWER STATION
2012 ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

Enclosed is the 2012 Annual Radiological Environmental Operating Report for the Kewaunee Power Station (KPS). This report was prepared by Environmental Inc. and satisfies the requirements of KPS Technical Specification 5.6.1.

The results of the 2012 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. Richard Repshas at 920-388-8217.

Very truly yours,

Jeffrey T. Stafford
Director Safety and Licensing, Kewaunee Power Station

Commitments made by this letter: NONE

IE25
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2012 Annual Radiological Environmental Operating Report

Kewaunee Power Station

Dominion Energy Kewaunee, Inc.

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2012 Annual Radiological Environmental Operating Report

Kewaunee Power Station

Part I

Summary and Interpretation

Dominion Energy Kewaunee, Inc.

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ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

TO

DOMINION NUCLEAR

RADIOLOGICAL MONITORING PROGRAM FOR
THE KEWAUNEE POWER STATION
KEWAUNEE, WISCONSIN

PART I - SUMMARY AND INTERPRETATION

January 1 to December 31, 2012

Prepared and submitted by:

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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 2012.

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.

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2.0 SUMMARY

Results of sample analyses during the period January - December 2012 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.

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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 defines which are indicators and 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 47 mm diameter, 1μm porosity glass fiber filters, at a volumetric rate of approx. one cubic foot per minute. The filters are collected weekly from six locations (K-1f, K-2, K-8, K-31, K-41 and K-43), and dispatched by mail to Environmental, Inc. for radiometric analysis. The particulate filters are counted for gross beta activity, a minimum of three days after the date of collection, to allow for the decay of naturally-occurring short-lived radionuclides.

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

Airborne Iodine

Charcoal traps are located at locations K-1f, K-2, K-8, K-31, K-41 and K-43. The traps are changed weekly and analyzed for iodine-131 immediately after arrival at the laboratory.

Ambient Gamma Radiation – TLDs

Offsite ambient gamma radiation is monitored at the six air sampling locations (K-1f, K-2, K-8, K-31, K-41 and K-43), at three milk sampling locations (K-3, K-5, and K-39), and from five additional sites (K-15, located 9.25 miles northwest of the plant; K-17, located 4.25 miles west of the plant; K-25, located 1.9 miles southwest of the plant; K-27, located 1.5 miles northwest of the plant and K-30, located 1.0 miles north of the plant) by thermoluminescent dosimetry (TLD). Two TLD cards, each having four main readout areas containing $CaSO_4$:Dy phosphor, are placed at each location (eight TLDs at each location). One card is exchanged quarterly, the other card is exchanged annually and read only on an emergency basis.

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

Precipitation

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

3.1.2 The Terrestrial Program

Milk

Milk samples are collected from three herds grazing within three miles of the reactor site (K-34, K-38 and K-44); from four herds that graze between 3-7 miles of the reactor site (K-3, K-5, K-35, and K-39); and one from a dairy in Green Bay (K-42), 28.1 miles from the reactor site.

The samples are collected twice per month during the grazing period (May through October) and monthly for the rest of the year. The samples are analyzed for iodine-131, strontium-89 and strontium-90, calcium, stable potassium and gamma-emitting isotopes.

Well Water

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

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

Domestic Meat

Domestic meat is collected annually (if available) during the third quarter, from three locations in the vicinity of the plant (K-24, K-29, and K-32). 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 and K-32. Samples are analyzed for gross beta, strontium-89, strontium-90 and gamma-emitting isotopes.

Vegetables

Annually, during the third quarter, five varieties of vegetables are collected from location K-26. Samples may also be obtained from other local sources to supplement the program. In addition, two varieties of grain or leafy vegetables are collected annually from farmland owned by Dominion Energy Kewaunee (K-23a and K-23b) and rented to a private individual for growing crops. 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 meets. 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 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.

Aquatic Slime

Periphyton (slime) or aquatic vegetation 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 2012 as described in the preceding sections, with the following exceptions:

Air Particulates / Air Iodine

A partial air particulate / air iodine sample (246 m^3) was collected at location K-1f, for the week ending 02/06/12. A faulty circuit breaker resulted in reduced run-time of 7.2 hours. (CR 461563)

A partial air particulate / air iodine sample (269 m^3) was collected at location K-1f, for the week ending 02/13/12. A faulty circuit breaker resulted in reduced run-time of 19.0 hours. (CR 462084)

A partial air particulate / air iodine sample (343 m^3) was collected at location K-1f, for the week ending 03/06/12. A faulty circuit breaker resulted in reduced run-time of 2.1 hours. (CR 464794)

A partial air particulate / air iodine sample (290 m^3) was collected at location K-1f, for the week ending 03/13/12. A faulty circuit breaker resulted in reduced run-time of 6.6 hours.

A partial air particulate / air iodine sample (250 m^3) was collected at location K-1f, for the week ending 03/27/12. A faulty circuit breaker resulted in reduced run-time of 29.7 hours. (CR 468050)

Milk

Milk samples collected August 14, 2012 from locations K-3, K-5 and K-35 were lost in-transit.

Domestic Meat

There was no poultry available from location K-29 in 2012.

Surface Water

Surface water from location K-1k was not sampled in January, 2012. The pond was frozen.

3.1.5 Program Modifications

Milk sampling at the Schleis farm (K-44) began in June, 2012. The location was added to the program in September, 2012.

Rev. 19, 09/06/2012, of the Radiological Environmental Monitoring Manual (REMM) updates Tables 2.21-A, 2.21-B and 2.21-C to include the new milk sampling location. A copy of the REMM is included with the Annual Radioactive Effluent Release Report.

3.2 RESULTS AND DISCUSSION

Results for the reporting period January to December, 2012 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.

Results of all measurements made in 2012 are not included in this section, although references to these results will be made in the discussion. A complete tabulation of results is provided in Part II of the 2012 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 2012. The Fukushima Daiichi nuclear accident occurred on March 11, 2011. The last reported atmospheric nuclear 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 0.029 pCi/m^3 at indicator locations and 0.030 pCi/m^3 at the control locations, slightly higher than means observed from 2001 (and prior to) through 2010, but almost identical to means calculated for 2011. There is no indication of a plant effect, the average readings were evenly distributed between indicator and control locations. New sampler pumps were installed in the third quarter of 2010. The increase in beta activity may be due to a change in the calculated volume. Results are tabulated below.

Year	Average (Indicators)	Average (Controls)
	Concentration (pCi/m^3)	
2001	0.024	0.023
2002	0.023	0.023
2003	0.022	0.022
2004	0.019	0.020
2005	0.023	0.023
2006	0.021	0.021
2007	0.022	0.021
2008	0.022	0.022
2009	0.023	0.023
2010	0.023	0.022
2011	0.029	0.029
2012	0.029	0.030

Average annual gross beta concentrations in airborne particulates.

Airborne Particulates (continued)

Variation in the gross beta activity throughout the year is not unusual. Typically, higher beta averages occur during the months of January and December, and the first and fourth quarters, as noted in data from 2001 through 2012.

Gamma spectroscopic analysis of quarterly composites of air particulate filters yielded similar results for indicator and control locations. Beryllium-7, produced continuously in the upper atmosphere by cosmic radiation, was detected in all samples, with an average activity of 0.071 pCi/m^3. All other gamma-emitting isotopes were below their respective LLD limits.

Airborne Iodine

Bi-monthly levels of airborne iodine-131 were below the lower limit of detection (LLD) of 0.030 pCi/m^3 at all locations. There was no indication of a plant effect 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 (16.1 mR/91 days), in close agreement with the control locations (15.3 mR/91 days). The readings are similar to the averages obtained from 2001 (and prior to) through 2011.

For eight TLDs monitoring the Independent Spent Fuel Storage Installation, (K-1L through K-1S), measurements averaged 13.2 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 19.3 mR/91 days, measured at indicator location K-5.

Year	Average (Indicators)	Average (Controls)
	Dose rate (mR/91 days)	
2001	18.6	18.3
2002	16.1	15.1
2003	14.1	13.7
2004	14.8	14.0
2005	15.7	14.3
2006	16.4	15.0
2007	16.2	15.2
2008	15.6	14.2
2009	15.2	13.9
2010	15.2	14.3
2011	15.0	14.5
2012	16.1	15.3

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

Precipitation

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

3.2.3 The Terrestrial Environment

Milk

Of 131 samples tested for iodine-131 in milk, all measured below an LLD level of 0.5 pCi/L.

Strontium-89 concentrations measured below an LLD level of 1.5 pCi/L in all samples. Measurable levels of strontium-90 above an LLD level of 0.9 pCi/L were detected in twenty-one of the ninety-one samples tested. Mean values were identical for indicator and control locations (1.0 pCi/L) and are similar to or less than averages seen from 1990 through 2011.

For gamma emitting isotopes, concentrations measured below the required limits of 15 pCi/L for barium-lanthanum-140 and 10 pCi/L for cesium-134 and cesium-137. Potassium-40 results were almost identical at both the indicator and control locations (1386 and 1393 pCi/L, respectively), and are comparable to levels observed from 1990 through 2011.

Detection of strontium, iodine and potassium activity is consistent with findings of the National Center for Radiological Health (1968). Most radiocontaminants in cattlefeed do not find their way into milk, exceptions are radioisotopes of potassium, cesium, strontium, barium, and iodine. Due to chemical similarities between strontium and calcium, and cesium and potassium, organisms tend to deposit strontium-89 and strontium-90 in bone and cesium-137 in the soft tissue and muscle Consequently, ratios of strontium-90 activity to the weight of calcium in milk and cesium-137 activity to the weight of potassium in milk were monitored in order to detect potential environmental accumulation of these radionuclides. Measured concentrations of calcium and stable potassium are in agreement with previously determined values of 1.20 and 1.60 g/L, respectively.

There was no indication of any effect due to the operation of the Kewaunee Power Station.

Well Water

One of eight samples for gross alpha analysis, from on-site well K-1h, measured above an LLD of 3.1 pCi/L, at 4.8 pCi/L. Gross beta activity above a detection limit of 3.3 pCi/L, was measured in three of the twenty indicator samples tested. Concentrations ranged from 3.6 to 4.9 pCi/L, and averaged 4.2 pCi/L. No gross beta activity above LLD was detected in the control samples.

Levels of strontium-89 and strontium-90 were measured for the on-site well (K-1g). The concentrations measured below LLD values 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 151 pCi/L. Gamma-emitting isotopes measured below respective LLDs.

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

Domestic Meat

In domestic meat samples, gross alpha concentrations measured below LLD for both locations. Gross beta concentration measured 3.81 pCi/g and 2.92 pCi/g for indicator and control locations, respectively. Gamma-spectroscopic analyses showed that most beta activity was due to naturally occurring potassium-40 (2.65 pCi/g and 2.05 pCi/g respectively). All other gamma-emitting isotopes measured below detection limits.

Eggs

In egg samples tested, the gross beta concentrations averaged 1.52 pCi/g at the indicator location and 1.47 pCi/g for the control location, similar to observed concentrations of naturally-occurring potassium-40 (1.32 and 1.37 pCi/g respectively). Other gamma-emitting isotopes were below their respective LLDs.

Levels of strontium-89 measured less than 0.010 pCi/g in all samples. A low level of strontium-90 was detected in five of eight samples tested, with an average concentration of 0.006 pCi/g measured for both indicator and control samples.

Vegetables and Grain

In vegetables, gross beta concentrations averaged 3.81 pCi/g at two indicator locations and 3.15 pCi/g for the control location K-26, due primarily to potassium-40 and beryllium-7 activity. All other gamma emitting isotopes measured below detection levels. No strontium-89 was detected above 0.015 pCi/g. Strontium-90 was found in two indicator samples tested, with an average concentration of 0.017 pCi /g and one control sample at a concentration of 0.003 pCi/g.

In two samples of clover collected from location K-23, gross beta concentration averaged 5.41 pCi/g, due primarily to activity from potassium-40 and beryllium-7. Strontium-89 measured below the LLD level of 0.013 pCi/g. Strontium-90 activity was detected at an average concentration of 0.010 pCi /g.

Grass and Cattle Feed

In grass, mean gross beta concentrations measured 9.39 and 10.74 pCi/g at indicator and control locations, respectively, In all cases the activity was predominantly due to naturally occurring potassium-40 and beryllium-7. Other gamma-emitting isotopes were below respective LLDs. Strontium-89 measured below 0.014 pCi/g, strontium-90 activity was detected from one indicator and one control sample at concentrations of 0.014 and 0.018 pCi/g, respectively.

In cattlefeed, gross beta concentrations were similar for indicator and control locations (11.82 pCi/g and 11.01 pCi/g, respectively), and reflected potassium-40 / beryllium-7 levels observed (8.72 and 9.21 pCi/g, respectively. No strontium-89 activity was detected. Strontium-90 was found in six of twelve samples tested and averaged 0.027 and 0.013 pCi/g, for the indicator and control locations, respectively.

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

Soil

Gross alpha concentrations in soil averaged 7.71 pCi/g dry at five indicator locations and 5.87 pCi/g dry at the two control locations. Mean gross beta levels measured at indicator and control locations averaged 27.99 and 25.40 pCi/g, respectively, primarily due to potassium-40 activity. Strontium-89 was below an LLD level of 0.10 pCi/g dry in all samples. A low level of strontium-90 activity was detected in four of the fourteen indicator and control locations, with respective means of 0.041 pCi/g and 0.039 pCi/g. The traces of radiostrontium in the environment can still be attributed to nuclear testing from previous decades.

Soil (continued)

Cesium-137 was detected in twelve of fourteen soil samples, similar at both indicator and control locations (0.10 and 0.13 pCi/g, respectively). Potassium-40 was detected in all samples and averaged 18.50 and 17.53 pCi/g for indicator and control locations, respectively. All other gamma-emitting isotopes were below respective LLD's. The levels of detected activities are similar to those observed from 1990 through 2011. The data suggests no evidence of a plant effect.

3.2.4 The Aquatic Environment

Surface Water

Gross beta activity in surface water measured higher at the indicator locations (6.1 pCi/L) than at the control locations (1.4 pCi/L). A similar pattern of activity has been observed since 1978. In 2012, the highest activities measured were sampled from the K-1a creek. The average activity was 12.3 pCi/L, with a range of 4.5 to 37.7 pCi/L, due primarily to potassium-40 activity. The potassium-40 concentrations averaged 10.5 pCi/L and ranged from 5.0 to 31.5 pCi/L.

Year	Average (Indicators)	Average (Controls)
	Gross Beta (pCi/L)	
2001	5.9	2.2
2002	5.7	2.2
2003	7.3	2.4
2004	6.2	2.3
2005	5.2	1.7
2006	5.5	1.8
2007	5.7	1.8
2008	4.7	1.5
2009	4.7	1.5
2010	4.7	1.4
2011	5.0	1.5
2012	6.1	1.4

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

These differences in activity 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 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 pre-operational studies conducted prior to 1974 supports this assessment.

In nine of the twenty-eight indicator samples tested, (quarterly composites of monthly samples), low levels of tritium were measured above an LLD level of 151 pCi/L, with an average concentration of 307 pCi/L. Measurements ranged from 176 to 734 pCi/L. All other samples tested below LLD.

No strontium-89 or strontium-90 activity was detected. Concentrations were below an LLD of 1.3 and 0.8 pCi/L, respectively, for all thirty-five indicator and control samples tested.

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

Fish

In fish, gross beta concentrations averaged 2.19 pCi/g in muscle and 4.05 pCi/g in bone fractions. In muscle, the gross beta concentration was primarily due to potassium-40 activity.

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

The strontium-89 concentration in the bone was below the LLD of 0.40 pCi/g. Strontium-90 was detected in all samples and averaged 0.18 pCi/g.

Periphyton (Slime) or Aquatic Vegetation

In periphyton (slime) and aquatic vegetation samples, mean gross beta concentrations for indicator and control locations measured 4.78 and 5.24 pCi/g, respectively, due primarily to combined potassium-40 and beryllium-7 activity (4.12 and 4.68 pCi/g, respectively).

In one sample tested, from the K-1e creek, trace cobalt-58 and cobalt-60 activities were detected at levels of 0.015 and 0.012 pCi/L, respectively. Cesium-137 was measured in six of twelve indicator samples, at a level of 0.022 pCi/g. All other gamma-emitting isotopes, with the exception of naturally-occurring beryllium-7 and potassium-40, were below their respective LLDs.

No strontium-89 activity was detected. Strontium-90 was found in two of the twelve indicator samples and averaged 0.12 pCi/g.

Bottom Sediments

In bottom sediment samples, the mean gross beta concentrations measured 9.17pCi/g at the indicator locations versus 17.51 pCi/g at the control location.

Cs-134 measured below the LLD level of 0.018 pCi/g for all samples tested. A low level of cesium-137 was observed in one indicator sample and measured 0.022 pCi/g. On average, cesium-137 measurements are lower than or similar to levels observed from 1979 through 2011. Other gamma-emitting isotopes, with the exception of naturally-occurring potassium-40, were below their respective LLDs.

Strontium-89 concentrations were below detection limits in all samples tested. Strontium-90 was detected above LLD in one indicator sample, at a concentration of 0.029 pCi /g.

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 2012 Land Use Census was completed to identify the presence of the nearest milk animals, gardens and farm crops surrounding the Kewaunee Power Station. The Land Use Census was completed on September 5, 2012. The census is conducted annually during the growing season per Health Physics Procedure HP 1.14.

For the 2012 census, map locations were verified for distance and direction. The greater accuracy in measurement resulted in minor distance and directional changes. Results of the 2012 census are summarized in Table 4.6. Changes from the 2011 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 2011 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, 2012). The QA Program includes participation in Interlaboratory Comparison (crosscheck) Programs. Results obtained are presented in Appendix A.

4.0 FIGURES AND TABLES

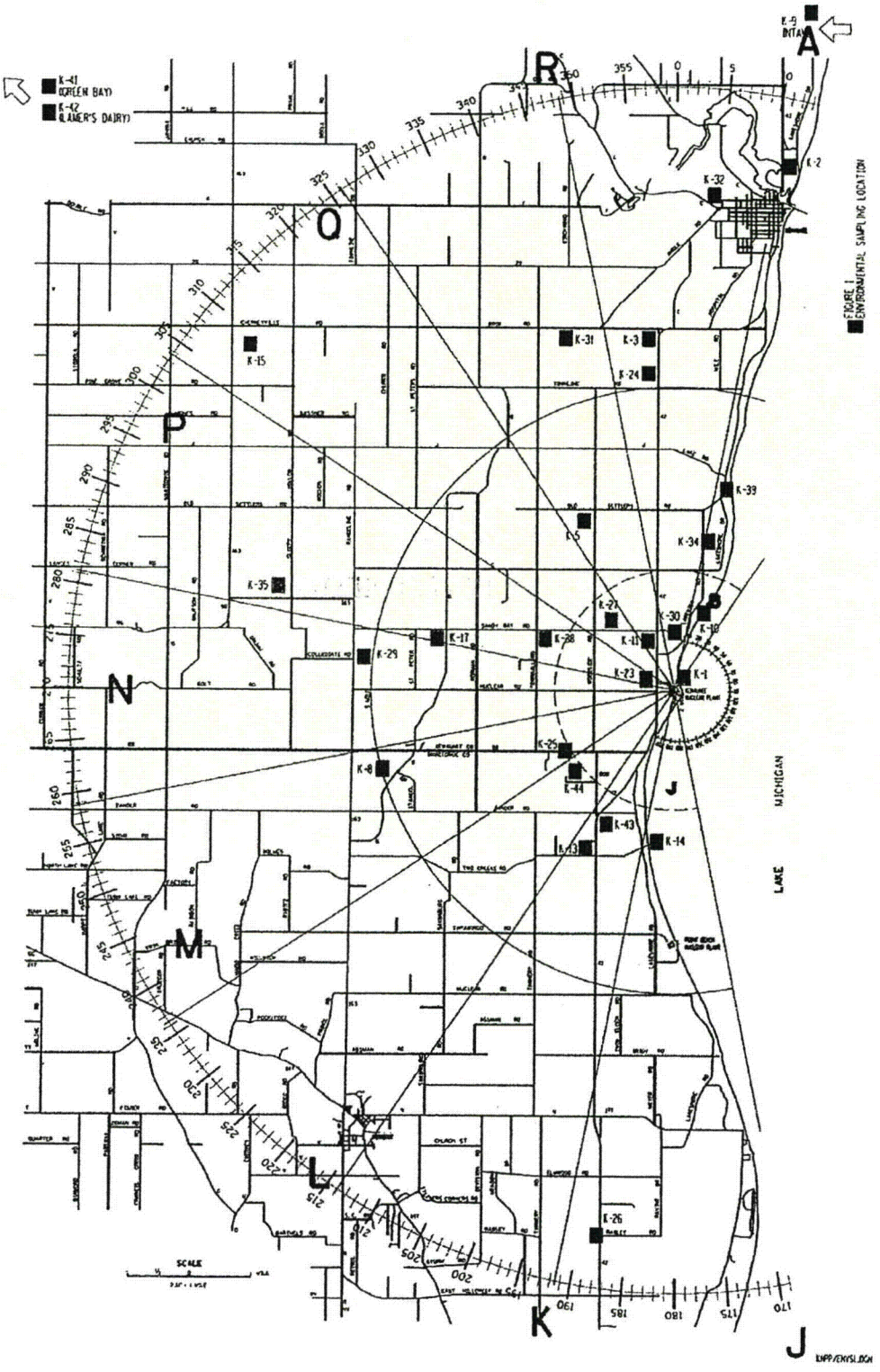

Figure 4-1. Sampling locations, Kewaunee Power Station.

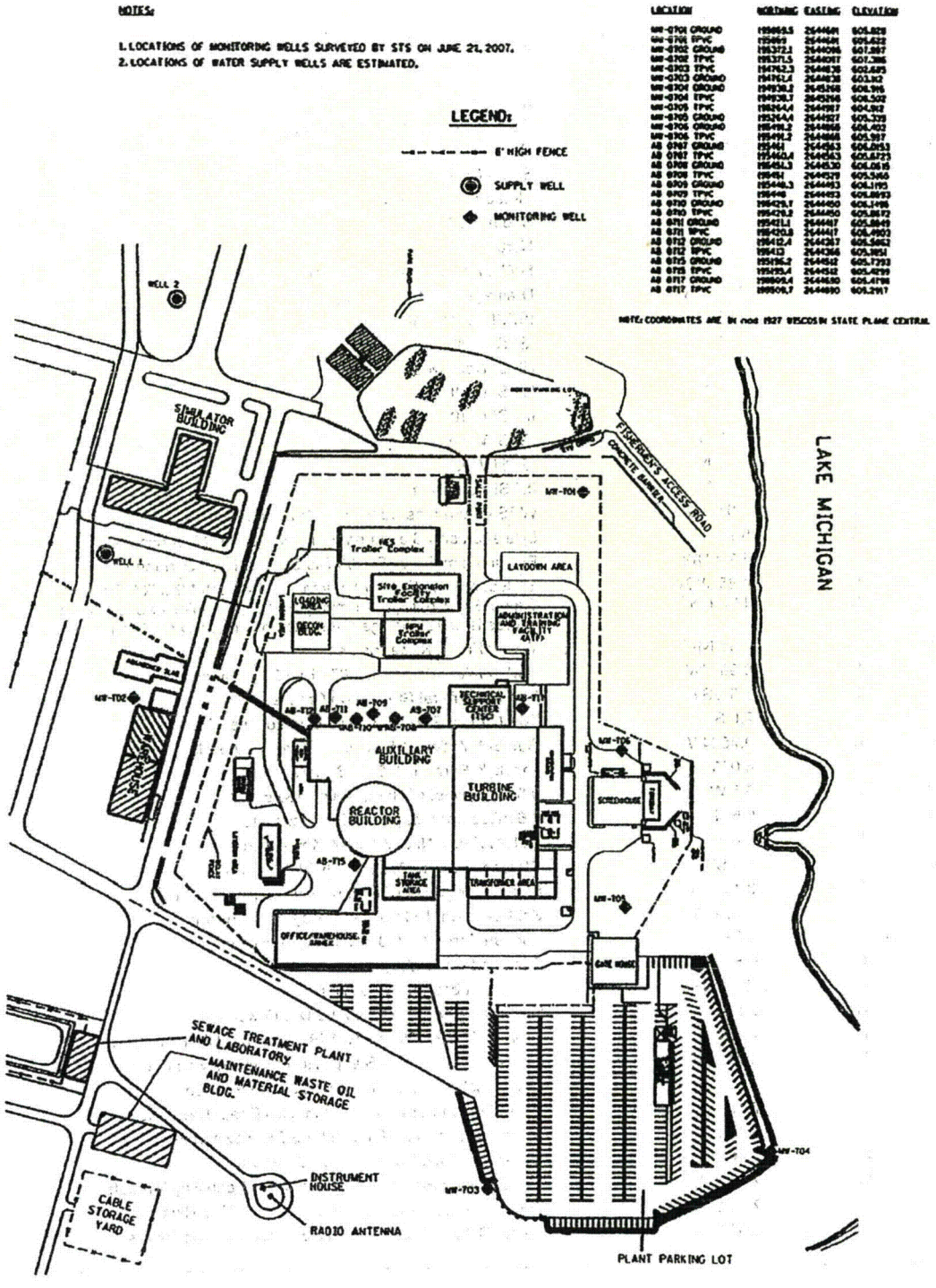

Figure 4-2. Emergency Plan Zone Map, Kewaunee Power Station.

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-8	C	4.85 WSW	St. 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 two miles north of Kewaunee.
K-10	I	1.35 NNE	Turner Farm, Kewaunee site
K-11	I	0.96 NW	Harlan Ihlenfeld Farm, N879 Hy 42, Kewaunee
K-13	C	3.0 SSW	Rand's General Store, Two Creeks
K-14	I	2.6 S	Two Creeks Park, 2.6 miles south of site
K-15	C	9.25 NW	Gas Substation, 1.5 miles north of Stangelville
K-17	I	4.0 W	Jansky's Farm, N885 Tk B, Kewaunee
K-23a	I	0.5 W	0.5 miles west of plant, Kewaunee site
K-23b	I	0.6 N	0.6 miles north of plant, Kewaunee site
K-24	I	5.4 N	Fictum Farm, N2653 Hy 42, Kewaunee
K-25	I	1.9 SW	Wotachek Farm, 3968 E. Cty Tk BB, Two Rivers
K-26	C	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, Kewaunee
K-29	I	5.34 W	Kunesh Farm, E3873 Cty Tk G, Kewaunee
K-30	I	0.8 N	End of site boundary
K-31	C	6.35 NNW	E. Krok Substation, Krok Road
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 Wojta, N1859 Lakeshore Dr., Kewaunee
K-41	C	22 NW	KPS-EOF, 3060 Voyager Dr. , Green Bay
K-42	C	28.1 NW	Lamers Dairy Products obtained from Green Bay Markets
K-43	I	2.71 SSW	Gary Maigatter Property, 17333 Hwy 42, Two Rivers
K-44	I	2.63 SW	Gerald Schleis Property, 4728 Schleis Rd., Two Rivers

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

Table 4.2. Type and frequency of collection.

Location	Weekly	Monthly	Quarterly		Semiannually		Annually
K-1a		SW			SL [f]		
K-1b		SW	GR [a]		SL [f]		
K-1c						BS [b]	
K-1d		SW	FI [a]		SL [f]	BS [b]	
K-1e		SW			SL [f]		
K-1f	AP [g], AI		GR [a]	TLD	SO		
K-1g, K-1h				WW			
K-1j						BS [b]	
K-1k		SW			SL [f]		
K-1l through K-1s				TLD			
K-2	AP [g], AI			TLD			
K-3, K-5		MI [c]	GR [a]	TLD	SO		CF [d]
K-8	AP [g], AI			TLD			
K-9		SW [i]			SL [f]	BS [b]	
K-10, K-13				WW			
K-11		PR		WW			
K-14		SW [h]			SL [f]	BS [b]	
K-15, K-17				TLD			
K-23a, b							GRN / GLV [e]
K-24			EG				DM
K-25				TLD			
K-26							VE / GLV [e]
K-27				TLD			
K-29							DM
K-30				TLD			
K-31	AP [g], 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]	GR [a]	TLD	SO		CF [d]
K-41	AP [g], AI			TLD			
K-42		MI [c]					
K-43	AP [g], AI			TLD			
K-44		MI [c]					

[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.
[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 samples are collected, North (K-14a) and South (K-14b) of Two Creeks Road.
[i] Two samples, raw and treated.

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	Thermoluminescent Dosimeter
GLV	Green Leafy Vegetables	VE	Vegetables
GRN	Grain	WW	Well water

Table 4.4. Sampling Summary, January – December, 2012.

Sample Type	Collection Type and Frequency [a]	Number of Locations	Number of Samples Collected	Number of Samples Missed
Air Environment				
Airborne particulates	C/W	6	312	0
Airborne Iodine	C/W	6	312	0
TLD's	C/Q	22	88	0
Precipitation	C/M	1	12	0
Terrestrial Environment				
Milk (May-Oct)	G/SM	8	87	3
(Nov-Apr)	G/M	8	44	0
Well water	G/Q	6	24	0
Domestic meat	G/A	3	2	1
Eggs	G/Q	2	8	0
Vegetables - 5 varieties	G/A	5	15	0
Grain - clover	G/A	1	2	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	107	1
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, 2012

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	16.1 (32/32) (11.9-21.5)	K-5, Paplham farm 3.2 mi. NNW	19.3 (4/4) (17.5-21.5)	15.3 (24/24) (11.4-20.5)	0
TLDs, Quarterly (Protected Area) (mR/91days)	Gamma 32	3.0	13.1 (32/32) (10.0-17.1)	K-1-M, ISFSI E 0.15 N	15.7 (4/4) (13.6-17.1)	none	0
Airborne Particulates (pCi/m^3)	GB 312	0.002	0.029 (104/104) (0.014-0.061)	K-41, KPS-EOF 22 mi. NW	0.030 (52/52) (0.016-0.063)	0.030 (208/208) (0.015-0.067)	0
	GS 24						
	Be-7	0.020	0.072 (8/8) (0.038-0.092)	K-41, KPS-EOF 22 mi. NW	0.079 (4/4) (0.061-0.104)	0.070 (16/16) (0.053-0.104)	0
	Nb-95	0.0015	< LLD	-	-	< LLD	0
	Zr-Nb-95	0.0020	< LLD	-	-	< LLD	0
	Ru-103	0.0013	< LLD	-	-	< LLD	0
	Ru-106	0.0092	< LLD	-	-	< LLD	0
	Cs-134	0.0010	< LLD	-	-	< LLD	0
	Cs-137	0.0010	< LLD	-	-	< LLD	0
	Ce-141	0.0019	< LLD	-	-	< LLD	0
	Ce-144	0.0053	< LLD	-	-	< LLD	0
Airborne Iodine (pCi/m^3)	I-131 312	0.03	< LLD	-	-	< LLD	0
Precipitation (pCi/L)	H-3 12	157	< LLD	-	-	none	0
Milk (pCi/L)	I-131 131	0.5	< LLD	-	-	< LLD	0
	Sr-89 91	1.5	< LLD	-	-	< LLD	0
	Sr-90 91	0.9	1.0 (14/55) (0.9-1.1)	K-34, Struck Farm 2.7 N	1.0 (4/4) (0.9-1.1)	1.0 (7/36) (0.9-1.1)	0
	GS 131						
	K-40	50	1386 (79/79) (1246-1568)	K-34, Struck Farm 2.7 N	1441 (18/18) (1288-1568)	1393 (52/52) (1242-1566)	0
	Cs-134	5.5	< LLD	-	-	< LLD	0
	Cs-137	6.3	< LLD	-	-	< LLD	0
	Ba-La-140	9.0	< LLD	-	-	< LLD	0
(g/L)	K-stable 91	1.0	1.70 (55/55) (1.52-1.91)	K-34, Struck Farm 2.7 N	1.77 (12/12) (1.62-1.91)	1.70 (36/36) (1.54-1.91)	0
(g/L)	Ca 91	0.4	1.07 (55/55) (0.80-1.32)	K-44, Schleis Farm, 2.44 SW	1.20 (7/7) (0.96-1.32)	1.05 (36/36) (0.88-1.27)	0

Table 4.5 Environmental Radiation Monitoring Program Summary.

Name of Facility: Kewaunee Nuclear Power Plant — Docket No. 50-305
Location of Facility: Kewaunee County, Wisconsin (County, State) — Reporting Period January-December, 2012

Sample Type (Units)	Type and Number of Analyses[a]	LLD[b]	Indicator Locations Mean (F)[c] Range[c]	Location with Highest Annual Mean Location[d]	Location with Highest Annual Mean Mean (F)[c] Range[c]	Control Locations Mean (F)[c] Range[c]	Number Non-Routine Results[e]
Well Water (pCi/L)	GA 8	3.1	4.8 (1/8)	K-1h, North Well 0.12 NW	4.8 (1/4)	None	0
	GB 24	3.3	4.2 (3/20) (3.6-4.9)	K-1g, South Well 0.06 W	4.5 (2/4) (4.0-4.9)	< LLD	0
	H-3 24	151	< LLD	-	-	None	0
	K-40 24	0.25	1.76 (18/20) (0.26-3.71)	K-1h, North Well 0.12 NW	2.50 (4/4) (2.40-2.70)	0.98 (4/4) (0.92-1.08)	0
	Sr-89 4	0.8	< LLD	-	-	None	0
	Sr-90 4	0.5	< LLD	-	-	None	0
	GS 24						
	Mn-54	3.0	< LLD	-	-	< LLD	0
	Fe-59	8.2	< LLD	-	-	< LLD	0
	Co-58	3.4	< LLD	-	-	< LLD	0
	Co-60	3.4	< LLD	-	-	< LLD	0
	Zn-65	6.6	< LLD	-	-	< LLD	0
	Zr-Nb-95	4.2	< LLD	-	-	< LLD	0
	Cs-134	2.8	< LLD	-	-	< LLD	0
	Cs-137	3.9	< LLD	-	-	< LLD	0
	Ba-La-140	12.5	< LLD	-	-	< LLD	0
Domestic Meat	GA 2	0.040	< LLD	-	-	< LLD	0
(pCi/gwet)	GB 4	0.10	3.81 (1/1)	K-24, Fictum Farm 5.4 mi. N	3.81 (1/1)	2.92 (1/1)	0
	GS 4						
	Be-7	0.14	< LLD	-	-	< LLD	0
	K-40	0.50	2.65 (1/1)	K-24, Fictum Farm 5.45 mi. N	2.65 (1/1)	2.05 (1/1)	0
	Nb-95	0.014	< LLD	-	-	< LLD	0
	Zr-95	0.024	< LLD	-	-	< LLD	0
	Ru-103	0.020	< LLD	-	-	< LLD	0
	Ru-106	0.11	< LLD	-	-	< LLD	0
	Cs-134	0.011	< LLD	-	-	< LLD	0
	Cs-137	0.015	< LLD	-	-	< LLD	0
	Ce-141	0.034	< LLD	-	-	< LLD	0
	Ce-144	0.095	< LLD	-	-	< LLD	0
Eggs (pCi/gwet)	GB 8	0.010	1.52 (4/4) (1.48-1.53)	K-24, Fictum Farm 5.45 mi. N	1.52 (4/4) (1.48-1.53)	1.47 (4/4) (1.39-1.57)	0
	Sr-89 8	0.010	< LLD	-	-	< LLD	0
	Sr-90 8	0.003	0.006 (3/4) (0.005-0.008)	K-24, Fictum Farm 5.45 mi. N	0.006 (3/4) (0.005-0.008)	0.006 (2/4) (0.005-0.007)	0
	GS 8						
	Be-7	0.088	< LLD	-	-	< LLD	0
	K-40	0.50	1.32 (4/4) (1.16-1.44)	K-32, Grocery 11.5 mi. N	1.37 (4/4) (1.33-1.41)	1.37 (4/4) (1.33-1.41)	0
	Nb-95	0.012	< LLD	-	-	< LLD	0
	Zr-95	0.016	< LLD	-	-	< LLD	0
	Ru-103	0.010	< LLD	-	-	< LLD	0
	Ru-106	0.053	< LLD	-	-	< LLD	0
	Cs-134	0.005	< LLD	-	-	< LLD	0
	Cs-137	0.006	< LLD	-	-	< LLD	0
	Ce-141	0.028	< LLD	-	-	< LLD	0
	Ce-144	0.048	< LLD	-	-	< LLD	0

Table 4.5 Environmental Radiation Monitoring Program Summary.

Name of Facility: Kewaunee Nuclear Power Plant — Docket No. 50-305
Location of Facility: Kewaunee County, Wisconsin (County, State) — Reporting Period: January-December, 2012

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]
Vegetables (pCi/gwet)	GB 15	0.010	3.81 (5/5) (1.70-7.17)	K-24, Fictum Farm 5.45 mi. N	6.22 (2/2) (5.26-7.17)	3.15 (8/8) (1.81-4.67)	0
	Sr-89 15	0.015	< LLD	-	-	< LLD	0
	Sr-90 15	0.003	0.017 (2/5) (0.006-0.027)	K-24, Fictum Farm 5.45 mi. N	0.017 (2/2) (0.006-0.027)	0.003 (1/8)	0
	GS 15						0
	Be-7	0.066	0.42 (2/5) (0.30-0.53)	K-24, Fictum Farm 5.45 mi. N	0.42 (2/2) (0.30-0.53)	< LLD	0
	K-40	0.50	3.66 (5/5) (1.43-6.13)	K-24, Fictum Farm 5.45 mi. N	5.86 (2/2) (5.58-6.13)	2.44 (8/8) (1.64-3.35)	0
	Nb-95	0.019	< LLD	-	-	< LLD	0
	Zr-95	0.027	< LLD	-	-	< LLD	0
	Ru-103	0.018	< LLD	-	-	< LLD	0
	Ru-106	0.12	< LLD	-	-	< LLD	0
	Cs-134	0.012	< LLD	-	-	< LLD	0
	Cs-137	0.010	< LLD	-	-	< LLD	0
	Ce-141	0.021	< LLD	-	-	< LLD	0
	Ce-144	0.074	< LLD	-	-	< LLD	0
Grain - (Oats, Clover, Corn) (pCi/gwet)	GB 2	0.010	5.41 (2/2) (4.42-6.40)	K-23, Kewaunee Site, 0.5 mi. W	5.41 (2/2) (4.42-6.40)	None	0
	Sr-89 2	0.013	< LLD	-	-	None	0
	Sr-90 2	0.003	0.010 (2/2) (0.009-0.011)	K-23, Kewaunee Site, 0.5 mi. W	0.010 (2/2) (0.009-0.011)	None	0
	GS 2						
	Be-7	0.066	0.79 (2/2) (0.65-0.92)	K-23, Kewaunee Site, 0.5 mi. W	0.79 (2/2) (0.65-0.92)	None	0
	K-40	0.50	4.38 (2/2) (4.09-4.67)	K-23, Kewaunee Site, 0.5 mi. W	4.38 (2/2) (4.09-4.67)	None	0
	Nb-95	0.011	< LLD	-	-	None	0
	Zr-95	0.016	< LLD	-	-	None	0
	Ru-103	0.013	< LLD	-	-	None	0
	Ru-106	0.080	< LLD	-	-	None	0
	Cs-134	0.008	< LLD	-	-	None	0
	Cs-137	0.012	< LLD	-	-	None	0
	Ce-141	0.021	< LLD	-	-	None	0
	Ce-144	0.086	< LLD	-	-	None	0
Cattlefeed (pCi/gwet)	GB 12	0.10	11.82 (8/8) (4.50-22.00)	K-5, Paplham Farm 3.2 mi. NNW	17.46 (2/2) (12.91-22.00)	11.01 (4/4) (5.95-14.50)	0
	Sr-89 12	0.030	< LLD	-	-	< LLD	0
	Sr-90 12	0.010	0.027 (4/8) (0.013-0.042)	-	-	0.013 (2/4) (0.012-0.013)	0
	GS 12						
	Be-7	0.28	0.60 (3/8) (0.39-0.90)	K-34, Struck Farm 2.7 N	0.90 (1/2)	0.49 (1/4)	0
	K-40	0.10	8.12 (8/8) (3.23-19.11)	K-5, Paplham Farm 3.2 mi. NNW	14.47 (2/2) (9.82-19.11)	8.72 (4/4) (4.58-12.88)	0

Table 4.5 Environmental Radiation Monitoring Program Summary.

Name of Facility: Kewaunee Nuclear Power Plant — Docket No. 50-305
Location of Facility: Kewaunee County, Wisconsin (County, State) — Reporting Period January-December, 2012

Sample Type (Units)	Type and Number of Analyses[a]	LLD[b]	Indicator Locations Mean (F)[c] Range[c]	Location with Highest Annual Mean Location[d]	Location with Highest Annual Mean Mean (F)[c] Range[c]	Control Locations Mean (F)[c] Range[c]	Number Non-Routine Results[e]
Cattlefeed (continued)	Nb-95	0.024	< LLD	-	-	< LLD	0
	Zr-95	0.061	< LLD	-	-	< LLD	0
	Ru-103	0.035	< LLD	-	-	< LLD	0
	Ru-106	0.32	< LLD	-	-	< LLD	0
	Cs-134	0.026	< LLD	-	-	< LLD	0
	Cs-137	0.030	< LLD	-	-	< LLD	0
	Ce-141	0.053	< LLD	-	-	< LLD	0
	Ce-144	0.20	< LLD	-	-	< LLD	0
Grass (pCi/gwet)	GB 24	0.10	9.39 (18/18) (7.59-15.26)	K-3, Siegmund Farm 5.9 N	11.12 (3/3) (8.15-14.72)	10.74 (6/6) (8.15-14.72)	0
	Sr-89 24	0.014	< LLD	-	-	< LLD	0
	Sr-90 24	0.006	0.014 (1/18)	K-3, Siegmund Farm 5.9 N	0.018 (1/3)	0.018 (1/6)	0
	GS 24						
	Be-7		1.85 (18/18) (0.67-4.12)	K-3, Siegmund Farm 5.9 N	3.76 (3/3) (1.80-5.41)	2.66 (6/6) (0.87-5.41)	0
	K-40	0.50	7.00 (18/18) (5.44-10.77)	K-35, Ducat 6.71 mi. WNW	8.40 (3/3) (6.52-11.31)	7.67 (6/6) (6.93-11.31)	0
	Nb-95	0.010	< LLD	-	-	< LLD	0
	Zr-95	0.013	< LLD	-	-	< LLD	0
	Ru-103	0.012	< LLD		-	< LLD	0
	Ru-106	0.075	< LLD	-	-	< LLD	0
	Cs-134	0.011	< LLD	-	-	< LLD	0
	Cs-137	0.010	< LLD	-	-	< LLD	0
	Ce-141	0.026	< LLD	-	-	< LLD	0
	Ce-144	0.083	< LLD	-	-	< LLD	0
Soil (pCi/gdry)	GA 14	4.6	7.71 (9/10) (5.69-10.80)	K-38, Sinkula Farm 2.45 mi. WNW	9.42 (2/2) (8.04-10.80)	5.87 (2/4) (5.27-6.47)	0
	GB 14	2.0	27.99 (10/10) (24.36-32.82)	K-39, Wojta Farm 3.46 mi. N	30.05 (2/2) (29.75-30.34)	25.40 (4/4) (22.77-27.65)	0
	Sr-89 14	0.14	< LLD	-	-	< LLD	0
	Sr-90 14	0.033	0.041 (1/10)	K-35, Ducat 6.71 mi. WNW	0.042 (1/2)	0.039 (3/4) (0.036-0.042)	0
	GS 14						
	Be-7	0.38	< LLD	-	-	< LLD	0
	K-40	1.4	18.50 (10/10) (16.60-21.22)	K-38, Sinkula Farm 2.45 mi. WNW	20.87 (2/2) (20.52-21.22)	17.53 (4/4) (16.51-18.99)	0
	Nb-95	0.083	< LLD	-	-	< LLD	0
	Zr-95	0.073	< LLD	-	-	< LLD	0
	Ru-103	0.061	< LLD		-	< LLD	0
	Ru-106	0.21	< LLD	-	-	< LLD	0
	Cs-134	0.022	< LLD	-	-	< LLD	0
	Cs-137	0.021	0.10 (8/10) (0.044-0.14)	K-5, Paplham Farm 3.2 mi. NNW	0.14 (1/2)	0.13 (4/4) (0.11-0.14)	0
	Ce-141	0.14	< LLD	-	-	< LLD	0
	Ce-144	0.18	< LLD	-	-	< LLD	0

Table 4.5 Environmental Radiation Monitoring Program Summary.

Name of Facility Kewaunee Nuclear Power Plant Docket No. 50-305
Location of Facility Kewaunee County, Wisconsin Reporting Period January-December, 2012
(County, State)

Sample Type (Units)	Type and Number of Analyses[a]	LLD[b]	Indicator Locations Mean (F)[c] Range[c]	Location with Highest Annual Mean Location[d]	Location with Highest Annual Mean Mean (F)[c] Range[c]	Control Locations Mean (F)[c] Range[c]	Number Non-Routine Results[e]
Surface Water	GB (TR) 107	0.8	6.1 (83/83) (1.0-37.7)	K-1a, North Creek 0.62 N	12.3 (12/12) (4.5-37.7)	1.4 (24/24) (0.7-2.1)	0
(pCi/L)	GS 107						
	Mn-54	4.9	< LLD	-	-	< LLD	0
	Fe-59	8.6	< LLD	-	-	< LLD	0
	Co-58	5.5	< LLD	-	-	< LLD	0
	Co-60	4.6	< LLD	-	-	< LLD	0
	Zn-65	10.1	< LLD	-	-	< LLD	0
	Zr-Nb-95	6.6	< LLD	-	-	< LLD	0
	Cs-134	5.2	< LLD	-	-	< LLD	0
	Cs-137	5.5	< LLD	-	-	< LLD	0
	Ba-La-140	11.9	< LLD	-	-	< LLD	0
	H-3 36	151	307 (9/28) (158-734)	K-1d, Cond. Discharge 0.10 mi. E	386 (3/4) (176-734)	< LLD	0
	Sr-89 36	1.8	< LLD	-	-	< LLD	0
	Sr-90 36	0.8	< LLD	-	-	< LLD	0
	K-40 107	0.25	4.3 (83/83) (1.1-31.5)	K-1a, North Creek 0.62 N	10.5 (12/12) (5.0-31.5)	1.2 (24/24) (1.0-1.2)	0
Fish (Muscle) (pCi/gwet)	GB 3	0.5	2.19 (3/3) (1.78-2.65)	K-1d, Cond. Discharge 0.10 mi. E	2.19 (3/3) (1.78-2.65)	None	0
	GS 3						
	K-40	0.5	1.81 (3/3) (1.47-2.16)	K-1d, Cond. Discharge 0.10 mi. E	1.81 (3/3) (1.47-2.16)	None	0
	Mn-54	0.029	< LLD	-	-	None	0
	Fe-59	0.119	< LLD	-	-	None	0
	Co-58	0.058	< LLD	-	-	None	0
	Co-60	0.031	< LLD	-	-	None	0
	Cs-134	0.028	< LLD	-	-	None	0
	Cs-137	0.037	< LLD	-	-	None	0
Fish (Bones) (pCi/gwet)	GB 3	0.5	4.05 (3/3) (3.13-5.56)	K-1d, Cond. Discharge 0.10 mi. E	4.05 (3/3) (3.13-5.56)	None	0
	Sr-89 3	0.40	< LLD	-	-	None	0
	Sr-90 3	0.05	0.18 (3/3) (0.13-0.25)	K-1d, Cond. Discharge 0.10 mi. E	0.18 (3/3) (0.13-0.25)	None	0 0

Table 4.5 Environmental Radiation Monitoring Program Summary.

Name of Facility: Kewaunee Nuclear Power Plant
Location of Facility: Kewaunee County, Wisconsin (County, State)
Docket No: 50-305
Reporting Period: January-December, 2012

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	0.10	4.78 (12/12) (2.54-7.91)	K-1a, North Creek 0.62 N	6.49 (2/2) (5.06-7.91)	5.24 (2/2) (4.08-6.39)	0
(pCi/gwet)	Sr-89 14	0.36	< LLD	-	-	< LLD	0
	Sr-90 14	0.065	0.12 (2/12) (0.096-0.15)	K-1a, North Creek 0.62 N	0.15 (1/2)	< LLD	0
	GS 14						
	Be-7		0.78 (11/12) (0.21-1.48)	K-1d, Condenser Discharge, 0.10 E	1.33 (2/2) (1.21-1.44)	< LLD	0
	K-40	0.5	3.34 (12/12) (1.59-5.12)	K-1a, North Creek 0.62 N	4.84 (2/2) (4.56-5.12)	4.68 (2/2) (3.67-5.69)	0
	Mn-54	0.015	< LLD	-	-	< LLD	0
	Co-58	0.015	0.015 (1/12)	K-1e, South Creek 0.12 S	0.015 (1/2)	< LLD	0
	Co-60	0.018	< LLD	-	-	< LLD	0
	Nb-95	0.019	< LLD	-	-	< LLD	0
	Zr-95	0.033	< LLD	-	-	< LLD	0
	Ru-103	0.018	< LLD	-	-	< LLD	0
	Ru-106	0.14	< LLD	-	-	< LLD	0
	Cs-134	0.013	< LLD	-	-	< LLD	0
	Cs-137	0.015	0.022 (6/12) (0.012-0.030)	K-1e, South Creek 0.12 S	0.030 (1/2)	< LLD	0
	Ce-141	0.035	< LLD	-	-	< LLD	0
	Ce-144	0.11	< LLD	-	-	< LLD	0
Bottom Sediments	GB 10	0.5	9.17 (8/8) (8.92-15.68)	K-9, Rostok Intake 11.5 mi. NNE	17.51 (2/2) (16.75-18.27)	17.51 (2/2) (16.75-18.27)	0
(pCi/gdry)	Sr-89 10	0.084	< LLD	-	-	< LLD	0
	Sr-90 10	0.025	0.029 (1/8)	K-1c, 500' north of condenser discharge	0.029 (1/2)	< LLD	0
	GS 10						
	K-40	0.5	7.82 (8/8) (5.86-8.66)	K-9, Rostok Intake 11.5 mi. NNE	9.25 (2/2) (7.52-10.98)	9.25 (2/2) (7.52-10.98)	0
	Co-58	0.028	< LLD	-	-	< LLD	0
	Co-60	0.016	< LLD	-	-	< LLD	0
	Cs-134	0.018	< LLD	-	-	< LLD	0
	Cs-137	0.019	0.022 (1/8)	K-14, Two Creeks Park 2.6 mi. S	0.022 (1/2)	< LLD	0

[a] GA = gross alpha, GB = gross beta, GS = gamma spectroscopy, TR = total residue.
[b] LLD = nominal lower limit of detection based on a 4.66 sigma counting error for background sample.
[c] Mean and range are based on detectable measurements only (i.e., >LLD) Fraction of detectable measurements at specified location 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	**3.05**	
A	11		X		**2.99**	
A	24	X			**2.07**	
B	18			X	2.69	K-34
B	24	X			1.35	
B	24		X		1.47	
R	23			X	**2.03**	
R	23		X		**1.83**	
R	26	X			0.96	K-11
Q	23	X			**1.22**	
Q	23		X	X	**1.24**	K-27
P	27		X	X	**2.45**	K-38
P	26	X			**2.32**	
N	26		X		**0.96**	
N	28			X	**2.29**	
N	35	X			**0.87**	
M	6		X	(Note 2)	**3.50**	
M	35	X		(Note 2)	**1.33**	
L	35	X			**1.20**	
L	2		X		**1.73**	
L	3			X	**2.63**	
K	11			X	3.43	
K	35	X			**0.97**	
K	36		X		**1.01**	
J	2	X		(Note 2)	**1.69**	
J	2		X	(Note 2)	**2.03**	

Note 1. Bold Type denotes change from previous census.
Note 2. There were no milk animals located in Sector J, M 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 2011 and 2012 census.

Sector A	Township 14	New nearest resident location. David Smidl, 2.07 miles.
Sector A	Township 11	New nearest garden location. Dustin Smidl, 2.99 miles.
Sector A	Township 24	D. Ihlenfeldt resides in nursing home, residence appeared vacant.
Sector B	No changes	
Sector J	Township 2	Nearest resident location. Vern Voight, 1.69 miles.
Sector J	Township 2	Nearest garden location. Jos. Gerdmann, 2.03 miles.
Sector K	Township 35	Nearest resident location. Dustin Smith, 0.97 miles.
Sector K	Township 35	Nearest garden location. Distance revised to 1.01 miles
Sector L	Township 35	Nearest resident location. Jos. Ratajczak, 1.20 miles.
Sector L	Township 2	Nearest garden location. Celestine Johanek, 1.73 miles.
Sector L	Township 3	Nearest milk animal location. Gerald Schleis, 2.63 miles.
Sector M	Township 35	Nearest resident location. Jane Peterson, 1.33 miles.
Sector M	Township 6	Nearest garden location. Tom Schultz, 3.50 miles.
Sector N	Township 35	Nearest resident location. Distance revised to 0.87 miles.
Sector N	Township 26	Nearest garden location. Distance revised to 0.96 miles.
Sector N	Township 26	Nearest milk animal location. Distance revised to 2.29 miles.
Sector P	Township 26	E. Beranek resides in nursing home, residence appeared vacant.
Sector P	Township 27	Nearest resident location. Dave Sinkula, 2.45 miles.
Sector P	Township 27	Nearest milk animal location. Dave Sinkula, 2.45 miles.
Sector Q	Township 23	Nearest resident location. Distance revised to 1.22 miles.
Sector Q	Township 23	Nearest garden location. Distance revised to 1.24 miles.
Sector Q	Township 26	Nearest milk animal location. Distance revised to 1.24 miles.
Sector R	Township 23	Nearest garden location. Distance revised to 1.83 miles.
Sector R	Township 23	Nearest milk animal location. Distance revised to 2.03 miles.

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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, 2012 through December, 2012

Appendix A

Interlaboratory Comparison Program Results

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

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

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

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

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

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

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

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

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

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

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

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
ERW-1783	04/09/12	Sr-89	62.2 ± 6.0	58.5	46.9 - 66.3	Pass
ERW-1783	04/09/12	Sr-90	33.7 ± 2.1	37.4	27.4 - 43.1	Pass
ERW-1786	04/09/12	Ba-133	75.7 ± 4.1	82.3	69.1 - 90.5	Pass
ERW-1786	04/09/12	Co-60	71.9 ± 4.0	72.9	65.6 - 82.6	Pass
ERW-1786	04/09/12	Cs-134	70.0 ± 4.3	74.2	60.6 - 81.6	Pass
ERW-1786	04/09/12	Cs-137	151.5 ± 6.1	155.0	140.0 - 172.0	Pass
ERW-1786	04/09/12	Zn-65	108.3 ± 89.0	105.0	94.5 - 125.0	Pass
ERW-1789	04/09/12	Gr. Alpha	55.0 ± 2.4	62.9	33.0 - 78.0	Pass
ERW-1789 [d]	04/09/12	Gr. Beta	76.2 ± 1.8	44.2	29.6 - 51.5	Fail
ERW-1795	04/09/12	Ra-226	6.4 ± 0.4	5.7	4.3 - 6.9	Pass
ERW-1795	04/09/12	Ra-228	5.4 ± 1.2	4.6	2.7 - 6.3	Pass
ERW-1795	04/09/12	Uranium	56.2 ± 2.6	61.5	50.0 - 68.2	Pass
ERW-1798	04/09/12	H-3	16023 ± 355	15800	13800 - 17400	Pass
ERW-6283	10/05/12	Sr-89	41.5 ± 4.1	39.1	29.7 - 46.1	Pass
ERW-6283	10/05/12	Sr-90	19.7 ± 1.6	20.1	14.4 - 23.8	Pass
ERW-6286	10/05/12	Ba-133	82.7 ± 4.4	84.8	71.3 - 93.3	Pass
ERW-6286	10/05/12	Co-60	77.2 ± 3.7	78.3	70.5 - 88.5	Pass
ERW-6286	10/05/12	Cs-134	74.4 ± 1.5	76.6	62.6 - 84.3	Pass
ERW-6286	10/05/12	Cs-137	183.0 ± 6.2	183.0	165.0 - 203.0	Pass
ERW-6286	10/05/12	Zn-65	211.0 ± 9.9	204.0	184.0 - 240.0	Pass
ERW-6288	10/05/12	Gr. Alpha	47.0 ± 2.3	58.6	30.6 - 72.9	Pass
ERW-6288	10/05/12	Gr. Beta	33.4 ± 1.2	39.2	26.0 - 46.7	Pass
ERW-6290	10/05/12	I-131	23.3 ± 1.0	24.8	20.6 - 29.4	Pass
ERW-6295 [e]	10/05/12	Ra-226	17.5 ± 0.7	15.0	11.2 - 17.2	Fail
ERW-6295 [e]	10/05/12	Ra-228	7.4 ± 1.5	4.6	2.7 - 6.2	Fail
ERW-6295	10/05/12	Uranium	61.2 ± 1.8	62.5	50.8 - 69.3	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] Sample dilution problem suspected. A new dilution was prepared and the sample reanalyzed. Result of reanalysis, 38.3 ± 1.3 pCi/L.

[e] Results of reanalyses (pCi/L): Ra-226, 16.51 ± 0.73 Ra-228, 4.85 ± 1.11. A new test was ordered from Environmental Resources Associates, results will be updated for first quarter, 2013.

Attachment A

ACCEPTANCE CRITERIA FOR "SPIKED" SAMPLES

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

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

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

[b] Laboratory limit.

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

Lab Code	Date	Description	Known Value (mR)	Lab Result ± 2 sigma (mR)	Control Limits	Acceptance
Environmental, Inc.						
2012-1	2/7/2012	30 cm.	74.87	87.22 ± 2.86	52.41 - 97.33	Pass
2012-1	2/7/2012	40 cm.	42.12	53.70 ± 4.53	29.48 - 54.76	Pass
2012-1	2/7/2012	50 cm.	26.95	33.04 ± 1.96	18.87 - 35.04	Pass
2012-1	2/7/2012	70 cm.	13.75	13.26 ± 1.15	9.63 - 17.88	Pass
2012-1	2/7/2012	75 cm.	11.98	13.38 ± 1.68	8.39 - 15.57	Pass
2012-1	2/7/2012	80 cm.	10.53	11.27 ± 0.95	7.37 - 13.69	Pass
2012-1	2/7/2012	90 cm.	8.32	7.79 ± 0.83	5.82 - 10.82	Pass
2012-1	2/7/2012	100 cm	6.74	5.91 ± 0.25	4.72 - 8.76	Pass
2012-1	2/7/2012	110 cm.	5.57	4.63 ± 0.83	3.90 - 7.24	Pass
2012-1	2/7/2012	120 cm.	4.68	3.96 ± 1.68	3.28 - 6.08	Pass
2012-1	2/7/2012	150 cm.	2.99	2.41 ± 0.08	2.09 - 3.89	Pass
2012-1	2/7/2012	180 cm.	2.08	2.02 ± 0.25	1.46 - 2.70	Pass
Environmental, Inc.						
2012-2	9/11/2012	40 cm.	33.75	43.74 ± 1.31	23.63 - 43.88	Pass
2012-2	9/11/2012	50 cm.	21.6	25.37 ± 0.82	15.12 - 28.08	Pass
2012-2	9/11/2012	60 cm.	15	16.63 ± 0.45	10.50 - 19.50	Pass
2012-2	9/11/2012	70 cm.	11.02	10.58 ± 0.20	7.71 - 14.33	Pass
2012-2	9/11/2012	80 cm.	8.44	8.55 ± 1.18	5.91 - 10.97	Pass
2012-2	9/11/2012	90 cm.	6.67	5.75 ± 0.33	4.67 - 8.67	Pass
2012-2	9/11/2012	100 cm.	5.4	4.44 ± 0.22	3.78 - 7.02	Pass
2012-2	9/11/2012	110 cm.	4.46	3.85 ± 0.05	3.12 - 5.80	Pass
2012-2	9/11/2012	120 cm.	3.75	3.03 ± 0.71	2.63 - 4.88	Pass
2012-2	9/11/2012	150 cm.	2.4	1.82 ± 0.10	1.68 - 3.12	Pass
2012-2	9/11/2012	180 cm.	1.67	1.19 ± 0.34	1.17 - 2.17	Pass

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

Lab Code [b]	Date	Analysis	Concentration (pCi/L)[a] Laboratory results 2s, n=1 [c]	Known Activity	Control Limits [c]	Acceptance
SPW-41824	2/15/2012	Ra-228	24.85 ± 2.14	28.75	20.13 - 37.38	Pass
W-22712	2/27/2012	Gr. Alpha	14.59 ± 0.34	20.00	10.00 - 30.00	Pass
W-22712	2/27/2012	Gr. Alpha	43.57 ± 0.40	41.70	20.85 - 62.55	Pass
SPAP-1032	3/5/2012	Cs-134	7.06 ± 1.71	5.26	0.00 - 15.26	Pass
SPAP-1032	3/5/2012	Cs-137	102.63 ± 3.13	104.24	93.82 - 114.66	Pass
SPAP-1034	3/5/2012	Gr. Beta	44.30 ± 0.11	46.88	28.13 - 65.63	Pass
SPW-1036	3/5/2012	Cs-134	43.23 ± 3.84	39.42	29.42 - 49.42	Pass
SPW-1036	3/5/2012	Cs-137	57.44 ± 4.60	52.12	42.12 - 62.12	Pass
SPW-1036	3/5/2012	Sr-90	60.51 ± 1.93	61.52	49.22 - 73.82	Pass
SPMI-1038	3/5/2012	Cs-134	37.79 ± 4.06	39.42	29.42 - 49.42	Pass
SPMI-1038	3/5/2012	Cs-137	54.75 ± 5.09	52.12	42.12 - 62.12	Pass
SPW-1045	3/5/2012	H-3	68022 ± 746	69048	55238 - 82858	Pass
SPW-1047	3/5/2012	Ni-63	217.10 ± 3.64	206.64	144.65 - 268.63	Pass
SPW-1049	3/5/2012	C-14	3858.90 ± 12.79	4738.80	2843.28 - 6634.32	Pass
W-31412	3/14/2012	Ra-226	13.13 ± 0.36	16.70	11.69 - 21.71	Pass
SPW-1520	3/23/2012	U-238	45.67 ± 2.02	41.70	29.19 - 54.21	Pass
SPW-41825	4/10/2012	Ra-228	28.48 ± 2.51	28.35	19.85 - 36.86	Pass
WW-1547	4/16/2012	Ba-133	18.99 ± 4.67	26.70	16.70 - 36.70	Pass
WW-1547	4/16/2012	Cs-134	9.28 ± 2.82	8.68	0.00 - 18.68	Pass
WW-1547	4/16/2012	Cs-137	27.77 ± 4.49	29.70	19.70 - 39.70	Pass
W-51712	5/17/2012	Ra-226	17.29 ± 0.43	16.70	11.69 - 21.71	Pass
W-61112	6/11/2012	Gr. Alpha	22.16 ± 0.45	20.00	10.00 - 30.00	Pass
W-61112	6/11/2012	Gr. Beta	43.57 ± 0.40	45.20	35.20 - 55.20	Pass
SPAP-4418	7/25/2012	Gr. Beta	43.74 ± 0.11	46.50	27.90 - 65.10	Pass
SPAP-4420	7/25/2012	Cs-134	4.54 ± 0.73	4.60	2.76 - 6.44	Pass
SPAP-4420	7/25/2012	Cs-137	104.70 ± 2.77	103.30	92.97 - 113.63	Pass
SPMI-4422	7/25/2012	Co-60	31.43 ± 2.12	31.62	21.62 - 41.62	Pass
SPMI-4422	7/25/2012	Cs-134	16.50 ± 1.17	16.15	6.15 - 26.15	Pass
SPMI-4422	7/25/2012	Cs-137	29.60 ± 2.61	26.64	16.64 - 36.64	Pass
SPMI-4422	7/25/2012	Sr-90	31.60 ± 1.35	30.47	24.38 - 36.56	Pass
SPW-4424	7/25/2012	Co-60	38.52 ± 1.76	37.95	27.95 - 47.95	Pass
SPW-4424	7/25/2012	Cs-137	33.23 ± 2.27	32.01	22.01 - 42.01	Pass
SPW-4424	7/25/2012	Sr-90	36.56 ± 1.58	40.60	32.48 - 48.72	Pass
SPF-4426	7/25/2012	Cs-134	947.50 ± 42.50	1025.00	922.50 - 1127.50	Pass
SPF-4426	7/25/2012	Cs-137	2692.00 ± 62.40	2480.00	2232.00 - 2728.00	Pass
SPW-4428	7/25/2012	C-14	4325.70 ± 15.80	4738.80	2843.28 - 6634.32	Pass
SPW-4430	7/25/2012	H-3	70119.40 ± 773.40	67570.00	54056.00 - 81084.00	Pass
SPW-4432	7/25/2012	Ni-63	187.20 ± 3.85	206.80	144.76 - 268.84	Pass
W-81712	8/17/2012	Ra-226	14.94 ± 0.40	16.70	11.69 - 21.71	Pass
SPW-5407	8/29/2012	U-238	42.95 ± 0.11	41.70	29.19 - 54.21	Pass
SPW-18022	9/10/2012	Ra-228	29.03 ± 2.80	28.21	19.75 - 36.67	Pass

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

Lab Code [b]	Date	Concentration (pCi/L)[a] Analysis	Laboratory results 2s, n=1 [c]	Known Activity	Control Limits [d]	Acceptance
W-91012	9/10/2012	Gr. Alpha	19.95 ± 0.42	20.00	10.00 - 30.00	Pass
W-91012	9/10/2012	Gr. Beta	43.47 ± 0.40	45.20	35.20 - 55.20	Pass
W-100312	10/3/2012	Gr. Alpha	19.95 ± 0.41	20.00	10.00 - 30.00	Pass
W-100312	10/3/2012	Gr. Beta	44.21 ± 0.40	45.20	35.20 - 55.20	Pass
W-101812	10/18/2012	Ra-226	18.80 ± 0.43	16.70	11.69 - 21.71	Pass
ESO-7235	12/6/2012	Sr-90	138.79 ± 2.67	161.05	128.84 - 193.26	Pass
SPW-7753	12/6/2012	U-238	45.55 ± 5.05	41.70	29.19 - 54.21	Pass
SPW-18023	12/18/2012	Ra-228	31.59 ± 2.99	25.98	18.19 - 33.77	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 : W (Water), MI (milk), AP (air filter), SO (soil), VE (vegetation), CH (charcoal canister), F (fish), U (urine).

[c] Results are based on single determinations.

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

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

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

Lab Code	Sample Type	Date	Analysis[b]	Concentration (pCi/L)[a]		
				Laboratory results (4.66σ)		Acceptance
				LLD	Activity[c]	Criteria (4.66 σ)
SPW-41814	Water	2/15/2012	Ra-228	0.65	0.49 ± 0.36	2
W-22712	Water	2/27/2012	Gr. Alpha	0.42	-0.04 ± 0.29	1
W-22712	Water	2/27/2012	Gr. Beta	0.74	-0.54 ± 0.50	3.2
SPAP-1031	Air Filter	3/5/2012	Cs-134	1.89	-	100
SPAP-1031	Air Filter	3/5/2012	Cs-137	1.16	-	100
SPAP-1033	Air Filter	3/5/2012	Gr. Beta	0.003	0.013 ± 0.003	0.01
SPW-1035	Water	3/5/2012	Cs-134	2.40	-	10
SPW-1035	Water	3/5/2012	Cs-137	2.88	-	10
SPW-1035	Water	3/5/2012	I-131(G)	2.35	-	20
SPW-1035	Water	3/5/2012	Sr-90	0.60	-0.11 ± 0.26	1
SPMI-1037	Milk	3/5/2012	Cs-134	2.85	-	10
SPMI-1037	Milk	3/5/2012	Cs-137	3.73	-	10
SPMI-1037	Milk	3/5/2012	I-131(G)	3.24	-	20
SPW-1044	Water	3/5/2012	H-3	146.10	37.10 ± 74.40	200
SPW-1046	Water	3/5/2012	Ni-63	19.07	8.30 ± 11.79	20
SPW-1048	Water	3/5/2012	C-14	5.70	2.99 ± 3.04	200
SPW-1166	water	3/9/2012	C-14	6.79	1.11	200
W-31412	Water	3/14/2012	Ra-226	0.034	0.043 ± 0.027	1
SPW-1521	Water	3/23/2012	U-238	0.10	0.09 ± 0.11	1
W-51712	Water	4/24/2012	Ra-226	0.04	0.04 ± 0.03	1
W-61112	Water	6/11/2012	Gr. Alpha	0.47	-0.14 ± 0.32	1
W-61112	Water	6/11/2012	Gr. Beta	0.71	0.29 ± 0.51	3.2
SPW-41815	Water	7/7/2011	Ra-228	0.77	0.52 ± 0.42	2
SPAP-4417	Air Filter	7/25/2012	Gr. Beta	0.001	0.021 ± 0.003	0.01
SPMI-4421	Milk	7/25/2012	Co-60	4.29	-	10
SPMI-4421	Milk	7/25/2012	Cs-134	3.58	-	10
SPMI-4421	Milk	7/25/2012	Cs-137	4.60	-	10
SPMI-4421	Milk	7/25/2012	Sr-90	0.45	0.53 ± 0.27	1
SPW-4423	Water	7/25/2012	Co-60	1.88	-	10
SPW-4423	Water	7/25/2012	Cs-134	2.38	-	10
SPW-4423	Water	7/25/2012	Cs-137	2.80	-	10
SPW-4423	water	7/25/2012	Sr-90	0.45	0.08 ± 0.22	1
SPF-4425	Fish	7/25/2012	Co-60	6.74	-	100
SPF-4425	Fish	7/25/2012	Cs-134	7.47	-	100
SPF-4425	Fish	7/25/2012	Cs-137	9.62	-	100
SPW-4427	Water	7/25/2012	C-14	10.93	3.54 ± 5.84	200
SPW-4431	Water	7/25/2012	Ni-63	19.00	5.50 ± 11.70	20
W-81712	Water	8/17/2012	Ra-226	0.038	0.035 ± 0.030	1
SPW-5408	Water	8/29/2012	U-238	0.039	0.015 ± 0.057	1

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

Lab Code	Sample Type	Date	Analysis[b]	Concentration (pCi/L)[a]		
				Laboratory results (4.66σ)		Acceptance
				LLD	Activity[c]	Criteria (4.66 σ)
SPW-18032	Water	9/10/2012	Ra-228	0.78	0.85 ± 0.46	2
W-91012	Water	9/10/2012	Gr. Alpha	0.42	0.027 ± 0.29	1
W-91012	Water	9/10/2012	Gr. Beta	0.75	-0.13 ± 0.52	3.2
W-100312	Water	10/3/2012	Gr. Beta	0.77	-0.32 ± 0.53	3.2
W-100312	Water	10/3/2012	Gr. Beta	0.43	0.06 ± 0.30	3.2
W-101812	Water	10/18/2012	Ra-226	0.04	0.04 ± 0.03	1
SPW-7754	Water	12/6/2012	U-238	0.10	0.02 ± 0.08	1
SPW-18033	Water	12/18/2012	Ra-228	0.98	0.43 ± 0.50	2

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

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

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

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
CF-20, 21	1/3/2012	Gr. Beta	14.50 ± 0.29	15.02 ± 0.30	14.76 ± 0.21	Pass
CF-20, 21	1/3/2012	K-40	12.88 ± 0.55	12.40 ± 0.53	12.64 ± 0.38	Pass
CF-20, 21	1/3/2012	Sr-90	0.01 ± 0.01	0.01 ± 0.01	0.01 ± 0.00	Pass
P-9133, 9134	1/3/2012	H-3	108.86 ± 83.03	206.60 ± 86.38	157.73 ± 59.91	Pass
U-302, 303	1/17/2012	Beta (-K40)	6.84 ± 2.91	5.24 ± 2.56	6.04 ± 1.94	Pass
S-386, 387	1/23/2012	Ac-228	0.77 ± 0.11	0.79 ± 0.14	0.78 ± 0.09	Pass
S-386, 387	1/23/2012	Bi-214	0.80 ± 0.07	0.73 ± 0.11	0.77 ± 0.07	Pass
S-386, 387	1/23/2012	Pb-214	0.74 ± 0.06	0.75 ± 0.11	0.75 ± 0.06	Pass
S-386, 387	1/23/2012	Tl-208	0.21 ± 0.02	0.21 ± 0.04	0.21 ± 0.02	Pass
S-386, 387	1/23/2012	U-235	0.05 ± 0.02	0.12 ± 0.05	0.09 ± 0.03	Pass
WW-619, 620	1/31/2012	H-3	257.20 ± 86.00	305.80 ± 88.30	281.50 ± 61.63	Pass
MI-702, 703	2/6/2012	K-40	1337.00 ± 123.00	1460.40 ± 102.00	1398.70 ± 79.90	Pass
WW-892, 893	2/17/2012	Gr. Beta	3.46 ± 0.56	3.77 ± 0.59	3.61 ± 0.41	Pass
S-850, 851	2/22/2012	Cs-134	0.14 ± 0.02	0.13 ± 0.02	0.14 ± 0.01	Pass
S-850, 851	2/22/2012	Cs-137	0.21 ± 0.03	0.22 ± 0.03	0.22 ± 0.02	Pass
W-1251, 1252	3/6/2012	Gr. Alpha	1.20 ± 0.62	1.27 ± 0.92	1.24 ± 0.55	Pass
W-1251, 1252	3/6/2012	Gr. Beta	16.86 ± 1.43	15.14 ± 1.34	16.00 ± 0.98	Pass
W-1251, 1252	3/6/2012	H-3	5235.52 ± 230.91	4893.24 ± 224.55	5064.38 ± 161.05	Pass
W-1251, 1252	3/6/2012	Tc-99	19.67 ± 3.60	14.46 ± 3.51	17.07 ± 2.51	Pass
AP-1209, 1210	3/8/2012	Be-7	0.24 ± 0.12	0.20 ± 0.11	0.22 ± 0.08	Pass
XWW-1564, 1565	3/14/2012	H-3	308.00 ± 88.00	293.00 ± 87.00	300.50 ± 61.87	Pass
SG-1438, 1439	3/19/2012	Ac-228	6.01 ± 0.30	6.23 ± 0.31	6.12 ± 0.22	Pass
SG-1438, 1439	3/19/2012	Pb-214	4.69 ± 0.49	5.20 ± 0.54	4.95 ± 0.36	Pass
WW-1585, 1586	3/19/2012	H-3	3124.50 ± 176.96	2982.38 ± 173.62	3053.44 ± 123.96	Pass
AP-2103, 2104	3/28/2012	Be-7	0.080 ± 0.016	0.076 ± 0.013	0.078 ± 0.010	Pass
AP-2166, 2167	3/28/2012	Be-7	0.061 ± 0.020	0.071 ± 0.016	0.066 ± 0.013	Pass
AP-1632, 1633	3/29/2012	Be-7	0.26 ± 0.12	0.24 ± 0.12	0.25 ± 0.08	Pass
E-1653, 1654	4/2/2012	Gr. Beta	1.53 ± 0.05	1.55 ± 0.04	1.54 ± 0.03	Pass
E-1653, 1654	4/2/2012	K-40	1.34 ± 0.13	1.36 ± 0.14	1.35 ± 0.10	Pass
SG-1677, 1678	4/2/2012	Ac-228	6.63 ± 0.37	6.49 ± 0.33	6.56 ± 0.25	Pass
SG-1677, 1678	4/2/2012	Pb-214	4.77 ± 0.16	5.07 ± 0.14	4.92 ± 0.11	Pass
SWU-1719, 1720	4/3/2012	Gr. Beta	1.16 ± 0.41	1.53 ± 0.44	1.35 ± 0.30	Pass
W-1698, 1699	4/5/2012	Gr. Beta	10.86 ± 1.49	9.42 ± 1.32	10.14 ± 1.00	Pass
W-1698, 1699	4/5/2012	Ra-226	0.41 ± 0.15	0.67 ± 0.18	0.54 ± 0.12	Pass
W-1698, 1699	4/5/2012	Ra-228	1.46 ± 0.76	1.48 ± 0.74	1.47 ± 0.53	Pass
SG-1761, 1762	4/10/2012	Ac-228	16.26 ± 0.53	16.55 ± 0.44	16.41 ± 0.34	Pass
SG-1761, 1762	4/10/2012	Pb-214	14.16 ± 1.44	15.40 ± 1.56	14.78 ± 1.06	Pass
AP-2019, 2020	4/12/2012	Be-7	0.17 ± 0.10	0.17 ± 0.08	0.17 ± 0.07	Pass
DW-2272, 2273	4/20/2012	I-131	0.52 ± 0.24	0.49 ± 0.27	0.51 ± 0.18	Pass
DW-2356, 2357	4/24/2012	Gr. Beta	12.82 ± 2.01	9.47 ± 1.74	11.14 ± 1.33	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
G-2403, 2404	5/1/2012	Be-7	1.77 ± 0.21	1.55 ± 0.33	1.66 ± 0.20	Pass
G-2403, 2404	5/1/2012	K-40	6.38 ± 0.50	6.93 ± 0.72	6.66 ± 0.44	Pass
BS-2445, 2446	5/1/2012	Gr. Beta	8.92 ± 1.52	9.29 ± 1.63	9.11 ± 1.11	Pass
BS-2445, 2446	5/1/2012	K-40	5.86 ± 0.38	6.22 ± 0.48	6.04 ± 0.31	Pass
SWU-2550, 2551	5/1/2012	Gr. Beta	2.07 ± 0.65	1.59 ± 0.62	1.83 ± 0.45	Pass
WW-2614, 2615	5/1/2012	Gr. Beta	2.03 ± 1.04	2.36 ± 1.14	2.20 ± 0.77	Pass
WW-2614, 2615	5/1/2012	H-3	750.60 ± 106.20	653.20 ± 102.30	701.90 ± 73.73	Pass
BS-2656, 2657	5/2/2012	Cs-137	0.13 ± 0.07	0.07 ± 0.04	0.10 ± 0.04	Pass
BS-2656, 2657	5/2/2012	K-40	10.15 ± 0.97	11.13 ± 0.90	10.64 ± 0.66	Pass
SO-2635, 2636	5/3/2012	Cs-137	0.046 ± 0.024	0.050 ± 0.027	0.048 ± 0.018	Pass
SO-2635, 2636	5/3/2012	K-40	13.20 ± 0.74	14.01 ± 0.67	13.61 ± 0.50	Pass
MI-2677, 2678	5/7/2012	K-40	1415.30 ± 131.40	1348.10 ± 109.00	1381.70 ± 85.36	Pass
VE-2719, 2720	5/7/2012	K-40	4.15 ± 0.36	4.19 ± 0.38	4.17 ± 0.26	Pass
SWU-3221, 3222	5/8/2012	Gr. Beta	1.67 ± 0.47	1.39 ± 0.45	1.53 ± 0.33	Pass
SWU-3221, 3222	5/8/2012	H-3	236.90 ± 101.90	281.90 ± 103.70	259.40 ± 72.69	Pass
WW-3073, 3074	5/14/2012	H-3	339.12 ± 145.45	337.23 ± 98.19	338.18 ± 87.74	Pass
AP-2968, 2969	5/17/2012	Be-7	0.25 ± 0.12	0.21 ± 0.09	0.23 ± 0.07	Pass
F-3031, 3032	5/22/2012	H-3	11291.00 ± 372.80	11167.00 ± 315.00	11229.00 ± 244.03	Pass
F-3031, 3032	5/22/2012	K-40	3528.90 ± 372.80	3677.20 ± 392.40	3603.05 ± 270.63	Pass
G-3094, 3095	5/23/2012	Gr. Beta	7.89 ± 0.16	8.01 ± 0.16	7.95 ± 0.11	Pass
F-3412, 3413	5/23/2012	Gr. Beta	3.46 ± 0.10	3.33 ± 0.10	3.40 ± 0.07	Pass
F-3412, 3413	5/23/2012	K-40	2.40 ± 0.38	2.55 ± 0.43	2.48 ± 0.29	Pass
MI-3067, 3068	5/24/2012	K-40	1267.20 ± 105.00	1305.70 ± 109.80	1286.45 ± 75.96	Pass
SO-3305, 3306	5/30/2012	Cs-137	0.024 ± 0.013	0.030 ± 0.015	0.027 ± 0.010	Pass
SO-3305, 3306	5/30/2012	Gr. Beta	10.95 ± 0.89	10.86 ± 0.89	10.91 ± 0.63	Pass
SO-3305, 3306	5/30/2012	Tl-208	0.068 ± 0.018	0.062 ± 0.017	0.065 ± 0.012	Pass
LW-3454, 3455	5/31/2012	Gr. Beta	2.12 ± 0.86	2.27 ± 0.77	2.20 ± 0.58	Pass
BS-3697, 3698	6/14/2012	Be-7	2.05 ± 0.19	2.27 ± 0.38	2.16 ± 0.21	Pass
BS-3697, 3698	6/14/2012	Cs-137	2.32 ± 0.39	2.26 ± 0.66	2.29 ± 0.38	Pass
BS-3697, 3698	6/14/2012	K-40	6.67 ± 0.28	6.64 ± 0.42	6.66 ± 0.25	Pass
VE-3798, 3799	6/20/2012	K-40	5.93 ± 0.38	6.03 ± 0.37	5.98 ± 0.26	Pass
WW-4790, 4791	6/20/2012	H-3	251.33 ± 86.51	372.48 ± 92.27	311.90 ± 63.24	Pass
DW-30103, 30104	6/27/2012	Ra-226	0.30 ± 0.08	0.42 ± 0.09	0.36 ± 0.06	Pass
DW-30103, 30104	6/27/2012	Ra-228	0.76 ± 0.54	0.78 ± 0.54	0.77 ± 0.38	Pass
LW-3970, 3971	6/28/2012	Gr. Beta	1.49 ± 1.06	0.72 ± 0.53	1.11 ± 0.59	Pass
DW-3949, 3950	6/29/2012	I-131	0.54 ± 0.26	0.25 ± 0.26	0.40 ± 0.18	Pass
SG-4075, 4076	7/2/2012	Ac-228	0.33 ± 0.09	0.34 ± 0.06	0.34 ± 0.05	Pass
SG-4075, 4076	7/2/2012	K-40	6.71 ± 0.58	7.20 ± 0.32	6.96 ± 0.33	Pass
SG-4075, 4076	7/2/2012	Pb-214	0.46 ± 0.05	0.49 ± 0.03	0.48 ± 0.03	Pass
AP-4390, 4391	7/3/2012	Be-7	0.09 ± 0.02	0.09 ± 0.01	0.09 ± 0.01	Pass
AP-4390, 4391	7/3/2012	Be-7	0.11 ± 0.02	0.10 ± 0.01	0.11 ± 0.01	Pass
AP-4012, 4013	7/5/2012	Be-7	0.27 ± 0.09	0.29 ± 0.16	0.28 ± 0.09	Pass
SW-4033, 4034	7/5/2012	H-3	614.99 ± 107.99	512.31 ± 103.83	563.65 ± 74.91	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
VE-4054, 4055	7/9/2012	K-40	7.28 ± 0.56	7.42 ± 0.63	7.35 ± 0.42	Pass
VE-4222, 4223	7/13/2012	Be-7	0.16 ± 0.08	0.22 ± 0.09	0.19 ± 0.06	Pass
VE-4222, 4223	7/13/2012	K-40	7.20 ± 0.30	6.60 ± 0.30	6.90 ± 0.21	Pass
DW-30113, 30114	7/13/2012	Ra-228	1.93 ± 0.66	1.03 ± 0.53	1.48 ± 0.42	Pass
DW-30115, 30116	7/13/2012	Gr. Alpha	7.46 ± 1.21	7.02 ± 1.14	7.24 ± 0.83	Pass
DW-30124, 30125	7/13/2012	Ra-226	1.16 ± 0.15	0.90 ± 0.12	1.03 ± 0.10	Pass
DW-30124, 30125	7/13/2012	Ra-228	1.38 ± 0.56	1.72 ± 0.60	1.55 ± 0.41	Pass
DW-30126, 30127	7/13/2012	Gr. Alpha	6.23 ± 1.16	6.75 ± 1.29	6.49 ± 0.87	Pass
AP-4433, 4434	7/19/2012	Be-7	0.17 ± 0.09	0.21 ± 0.10	0.19 ± 0.07	Pass
SG-4475, 4476	7/19/2012	Gr. Alpha	17.03 ± 4.17	15.56 ± 3.96	16.30 ± 2.88	Pass
SG-4475, 4476	7/19/2012	Gr. Beta	13.23 ± 2.61	14.36 ± 2.47	13.80 ± 1.80	Pass
WW-4685, 4686	7/24/2012	H-3	289.00 ± 99.00	375.00 ± 103.00	332.00 ± 71.43	Pass
AP-4706, 4707	7/26/2012	Be-7	0.28 ± 0.14	0.24 ± 0.14	0.26 ± 0.10	Pass
SO-4748, 4749	7/26/2012	Gr. Beta	20.45 ± 1.04	19.22 ± 0.94	19.84 ± 0.70	Pass
SO-4748, 4749	7/26/2012	Gr. Beta	20.45 ± 1.04	19.22 ± 0.94	19.84 ± 0.70	Pass
SO-4748, 4749	7/26/2012	U-233/4	0.11 ± 0.02	0.10 ± 0.01	0.11 ± 0.01	Pass
SO-4748, 4749	7/26/2012	U-238	0.12 ± 0.02	0.11 ± 0.01	0.12 ± 0.01	Pass
VE-4832, 4833	8/1/2012	K-40	4.06 ± 0.22	4.08 ± 0.24	4.07 ± 0.16	Pass
DW-30149, 30150	8/1/2012	Ra-226	2.69 ± 0.22	2.79 ± 0.22	2.74 ± 0.16	Pass
DW-30149, 30150	8/1/2012	Ra-228	2.77 ± 0.75	1.61 ± 0.57	2.19 ± 0.47	Pass
SG-4916, 4917	8/3/2012	Ac-228	11.03 ± 0.33	11.08 ± 0.44	11.06 ± 0.28	Pass
SG-4916, 4917	8/3/2012	K-40	6.39 ± 0.80	6.98 ± 0.88	6.69 ± 0.59	Pass
F-5313, 5314	8/9/2012	Cs-137	0.05 ± 0.02	0.05 ± 0.02	0.05 ± 0.01	Pass
F-5313, 5314	8/9/2012	Gr. Beta	4.12 ± 0.08	4.10 ± 0.08	4.11 ± 0.06	Pass
F-5313, 5314	8/9/2012	K-40	3.07 ± 0.42	3.14 ± 0.40	3.11 ± 0.29	Pass
VE-5166, 5167	8/15/2012	K-40	4.26 ± 0.28	3.66 ± 0.47	3.96 ± 0.27	Pass
VE-5376, 5377	8/22/2012	Gr. Beta	7.72 ± 0.17	7.61 ± 0.16	7.67 ± 0.12	Pass
VE-5334, 5335	8/27/2012	K-40	1.65 ± 0.17	1.72 ± 0.15	1.68 ± 0.12	Pass
VE-5481, 5482	8/28/2012	Be-7	2.52 ± 0.19	2.65 ± 0.21	2.59 ± 0.14	Pass
VE-5481, 5482	8/28/2012	K-40	5.05 ± 0.37	4.79 ± 0.39	4.92 ± 0.27	Pass
VE-5481, 5482	8/28/2012	Sr-90	0.01 ± 0.00	0.01 ± 0.01	0.01 ± 0.00	Pass
DW-30164, 30165	8/30/2012	Ra-226	1.33 ± 0.15	1.59 ± 0.17	1.46 ± 0.11	Pass
DW-30164, 30165	8/30/2012	Ra-228	2.76 ± 0.66	1.54 ± 0.56	2.15 ± 0.43	Pass
VE-5166, 5167	9/4/2012	K-40	2.05 ± 0.32	2.53 ± 0.36	2.29 ± 0.24	Pass
ME-5607, 5608	9/4/2012	Gr. Beta	2.92 ± 0.08	2.89 ± 0.08	2.90 ± 0.06	Pass
ME-5607, 5608	9/4/2012	K-40	2.06 ± 0.32	2.53 ± 0.36	2.29 ± 0.24	Pass
SW-5901, 5902	9/17/2012	H-3	10909.00 ± 311.00	10817.00 ± 310.00	10863.00 ± 219.56	Pass
BS-6048, 6049	9/24/2012	K-40	1.24 ± 0.20	1.18 ± 0.21	1.21 ± 0.14	Pass
AP-6482, 6483	9/27/2012	Be-7	0.09 ± 0.02	0.09 ± 0.03	0.09 ± 0.02	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
G-6090, 6091	10/1/2012	Be-7	3.74 ± 0.33	3.54 ± 0.30	3.64 ± 0.22	Pass
G-6090, 6091	10/1/2012	Gr. Beta	10.81 ± 0.34	10.72 ± 0.33	10.77 ± 0.24	Pass
G-6090, 6091	10/1/2012	K-40	5.99 ± 0.47	5.45 ± 0.44	5.72 ± 0.32	Pass
SO-6111, 6112	10/1/2012	Cs-137	0.06 ± 0.03	0.04 ± 0.02	0.05 ± 0.02	Pass
SO-6111, 6112	10/1/2012	K-40	19.66 ± 0.84	20.09 ± 0.80	19.88 ± 0.58	Pass
W-6795, 6796	10/1/2012	H-3	215.20 ± 88.00	292.80 ± 91.60	254.00 ± 63.51	Pass
AP-6461, 6462	10/2/2012	Be-7	0.07 ± 0.01	0.07 ± 0.02	0.07 ± 0.01	Pass
WW-6279, 6280	10/3/2012	Gr. Beta	1.54 ± 0.68	1.67 ± 0.75	1.61 ± 0.51	Pass
W-6346, 6347	10/3/2012	Ra-226	0.30 ± 0.10	0.36 ± 0.10	0.33 ± 0.07	Pass
VE-6503, 6504	10/9/2012	K-40	5.23 ± 0.83	6.00 ± 0.45	5.62 ± 0.47	Pass
WW-6606, 6607	10/10/2012	Gr. Beta	3.18 ± 1.31	2.42 ± 1.27	2.80 ± 0.91	Pass
WW-6606, 6607	10/10/2012	H-3	273.10 ± 85.70	219.80 ± 83.10	246.45 ± 59.69	Pass
WW-7237, 7238	10/12/2012	H-3	175.44 ± 99.84	180.75 ± 100.03	178.10 ±.70.66	Pass
F-6627, 6628	10/15/2012	K-40	3.05 ± 0.39	3.23 ± 0.37	3.14 ± 0.27	Pass
VE-6669, 6670	10/16/2012	Be-7	0.48 ± 0.26	0.50 ± 0.13	0.49 ± 0.15	Pass
VE-6669, 6670	10/16/2012	K-40	4.06 ± 0.28	3.68 ± 0.26	3.87 ± 0.19	Pass
SS-6711, 6712	10/16/2012	Ac-228	0.16 ± 0.05	0.17 ± 0.06	0.17 ± 0.04	Pass
SS-6711, 6712	10/16/2012	Bi-214	0.13 ± 0.03	0.16 ± 0.03	0.14 ± 0.02	Pass
SS-6711, 6712	10/16/2012	Gr. Beta	14.20 ± 0.89	12.67 ± 0.88	13.44 ± 0.63	Pass
SS-6711, 6712	10/16/2012	Pb-212	0.15 ± 0.06	0.13 ± 0.02	0.14 ± 0.03	Pass
SS-6711, 6712	10/16/2012	Tl-208	0.06 ± 0.02	0.04 ± 0.02	0.05 ± 0.01	Pass
WW-7258, 7259	10/22/2012	H-3	214.69 ± 85.42	314.60 ± 90.25	264.65 ± 62.13	Pass
WW-7655, 7656	10/25/2012	H-3	159.00 ± 86.10	159.00 ± 86.10	159.00 ± 60.88	Pass
WW-7747, 7748	10/25/2012	H-3	156.50 ± 84.70	170.20 ± 85.30	163.35 ± 60.10	Pass
MI-6963, 6964	10/28/2012	K-40	1384.60 ± 111.70	1421.60 ± 107.60	1403.10 ± 77.55	Pass
MI-7174, 7175	11/5/2012	K-40	1283.60 ± 97.45	1293.20 ± 91.37	1288.40 ± 66.79	Pass
SG-7221, 7222	11/9/2012	Pb-214	31.49 ± 0.70	30.11 ± 0.80	30.80 ± 0.53	Pass
DW-30216, 30217	11/9/2012	Gr. Alpha	2.23 ± 0.86	2.31 ± 0.92	2.27 ± 0.63	Pass
DW-30216, 30217	11/9/2012	Ra-226	0.72 ± 0.12	0.82 ± 0.14	0.77 ± 0.09	Pass
DW-30216, 30217	11/9/2012	Ra-228	0.92 ± 0.52	1.26 ± 0.53	1.09 ± 0.37	Pass
MI-7363, 7364	11/13/2012	K-40	1304.40 ± 103.30	1496.10 ± 121.30	1400.25 ± 79.66	Pass
CF-7384, 7385	11/13/2012	K-40	11.75 ± 0.52	10.94 ± 0.59	11.35 ± 0.39	Pass
VE-7489, 7490	11/16/2012	K-40	2.22 ± 0.23	1.91 ± 0.22	2.06 ± 0.16	Pass
AP-7531, 7532	11/21/2012	Be-7	0.19 ± 0.10	0.29 ± 0.17	0.24 ± 0.10	Pass
BS-7573, 7574	11/24/2012	K-40	7.21 ± 0.41	7.57 ± 0.39	7.39 ± 0.28	Pass
LW-7865, 7866	12/5/2012	Gr. Beta	2.16 ± 0.56	1.64 ± 0.62	1.90 ± 0.42	Pass
SG-8095, 8096	12/19/2012	Ac-228	25.15 ± 0.73	25.47 ± 0.54	25.31 ± 0.45	Pass
SG-8095, 8096	12/19/2012	Gamma	26.98 ± 2.72	28.68 ± 2.89	27.83 ± 1.98	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).

			Concentration [a]			
Lab Code [b]	Date	Analysis	Laboratory result	Known Activity	Control Limits [c]	Acceptance
STW-1670	02/01/12	I-129	9.31 ± 0.31	12.29	8.60 - 15.98	Pass
STSO-1766 [d]	02/01/12	Am-241	88.50 ± 8.30	159.00	111.00 - 207.00	Fail
STSO-1766	02/01/12	Co-57	1352.10 ± 4.00	1179.00	825.00 - 1533.00	Pass
STSO-1766	02/01/12	Co-60	1.70 ± 0.70	1.56	1.00 - 2.00	Pass
STSO-1766	02/01/12	Cs-134	842.20 ± 4.30	828.00	580.00 - 1076.00	Pass
STSO-1766	02/01/12	Cs-137	0.40 ± 0.90	0.00	0.00 - 1.00	Pass
STSO-1766	02/01/12	K-40	1729.60 ± 22.20	1491.00	1044.00 - 1938.00	Pass
STSO-1766	02/01/12	Mn-54	647.60 ± 4.20	558.00	391.00 - 725.00	Pass
STSO-1766	02/01/12	Ni-63	781.50 ± 9.70	862.00	603.00 - 1121.00	Pass
STSO-1766	02/01/12	Pu-238	142.40 ± 9.70	136.00	97.00 - 177.00	Pass
STSO-1766	02/01/12	Pu-239/40	66.10 ± 6.40	65.80	46.10 - 85.50	Pass
STSO-1766	02/01/12	Sr-90	383.20 ± 15.30	392.00	274.00 - 510.00	Pass
STSO-1766	02/01/12	Tc-99	289.60 ± 10.90	374.00	262.00 - 486.00	Pass
STSO-1766	02/01/12	U-233/4	63.20 ± 5.40	68.10	47.70 - 88.50	Pass
STSO-1766	02/01/12	U-238	310.80 ± 12.10	329.00	230.00 - 428.00	Pass
STSO-1766	02/01/12	Zn-65	766.70 ± 6.70	642.00	449.00 - 835.00	Pass
STAP-1772	02/01/12	Am-241	0.062 ± 0.02	0.073	0.051 - 0.10	Pass
STAP-1772	02/01/12	Co-57	0.010 ± 0.01	0.00	0.000 - 1.00	Pass
STAP-1772	02/01/12	Co-60	2.40 ± 0.08	2.18	1.53 - 2.84	Pass
STAP-1772	02/01/12	Cs-134	2.33 ± 0.13	2.38	1.67 - 3.09	Pass
STAP-1772	02/01/12	Cs-137	2.07 ± 0.10	1.79	1.25 - 2.33	Pass
STAP-1772	02/01/12	Mn-54	3.77 ± 0.14	3.24	2.27 - 4.21	Pass
STAP-1772	02/01/12	Pu-238	0.003 ± 0.004	0.002	0.000 - 0.10	Pass
STAP-1772	02/01/12	Pu-239/40	0.098 ± 0.017	0.097	0.07 - 0.13	Pass
STAP-1772	02/01/12	Sr-90	-0.010 ± 0.060	0.000	-0.10 - 0.13	Pass
STAP-1772 [e]	02/01/12	U-233/4	0.016 ± 0.006	0.019	0.013 - 0.024	Pass
STAP-1772	02/01/12	U-238	0.11 ± 0.02	0.12	0.09 - 0.16	Pass
STAP-1772	02/01/12	Zn-65	3.67 ± 0.20	2.99	2.09 - 3.89	Pass
STAP-1773	02/01/12	Gr. Alpha	0.51 ± 0.05	1.20	0.40 - 2.00	Pass
STAP-1773	02/01/12	Gr. Beta	2.75 ± 0.10	2.40	1.20 - 3.60	Pass
STVE-1776	02/01/12	Co-57	14.57 ± 0.28	12.00	8.40 - 15.60	Pass
STVE-1776	02/01/12	Co-60	6.45 ± 0.23	6.05	4.24 - 7.87	Pass
STVE-1776	02/01/12	Cs-134	8.39 ± 0.29	8.43	5.90 - 10.96	Pass
STVE-1776	02/01/12	Cs-137	0.01 ± 0.09	0.00	0.00 - 0.10	Pass
STVE-1776	02/01/12	Mn-54	0.03 ± 0.08	0.00	0.00 - 0.10	Pass
STVE-1776	02/01/12	Zn-65	10.31 ± 0.67	8.90	6.23 - 11.57	Pass
STW-1960	02/01/12	Gr. Alpha	1.68 ± 0.09	2.14	0.64 - 3.64	Pass
STW-1960	02/01/12	Gr. Beta	6.33 ± 0.10	6.36	3.18 - 9.54	Pass

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

			Concentration [a]			
Lab Code [b]	Date	Analysis	Laboratory result	Known Activity	Control Limits [c]	Acceptance
STW-1964	02/01/12	Am-241	1.28 ± 0.12	1.63	1.14 - 2.12	Pass
STW-1964	02/01/12	Co-57	33.30 ± 0.40	32.90	23.00 - 42.80	Pass
STW-1964	02/01/12	Co-60	23.20 ± 0.40	23.72	16.60 - 30.84	Pass
STW-1964	02/01/12	Cs-134	0.30 ± 3.00	0.00	0.00 - 1.00	Pass
STW-1964	02/01/12	Cs-137	40.10 ± 0.60	39.90	27.90 - 51.90	Pass
STW-1964	02/01/12	Fe-55	65.10 ± 9.50	81.90	57.30 - 106.50	Pass
STW-1964	02/01/12	H-3	460.00 ± 12.10	437.00	306.00 - 568.00	Pass
STW-1964	02/01/12	K-40	153.00 ± 4.20	142.00	99.00 - 185.00	Pass
STW-1964	02/01/12	Mn-54	32.70 ± 0.60	31.80	22.30 - 41.30	Pass
STW-1964	02/01/12	Ni-63	49.80 ± 2.90	60.00	42.00 - 78.00	Pass
STW-1964	02/01/12	Pu-238	0.58 ± 0.06	0.63	0.44 - 0.82	Pass
STW-1964	02/01/12	Pu-239/40	1.30 ± 0.15	1.34	0.94 - 1.74	Pass
STW-1964	02/01/12	Sr-90	0.10 ± 0.20	0.00	0.00 - 1.00	Pass
STW-1964	02/01/12	Tc-99	23.70 ± 0.80	27.90	19.50 - 36.30	Pass
STW-1964	02/01/12	U-233/4	0.40 ± 0.05	0.39	0.27 - 0.51	Pass
STW-1964	02/01/12	U-238	2.67 ± 0.13	2.76	1.93 - 3.59	Pass
STW-1964	02/01/12	Zn-65	0.01 ± 0.20	0.00	0.00 - 1.00	Pass
STW-5391	08/01/12	I-129	5.73 ± 0.28	6.82	4.77 - 8.87	Pass
STSO-5392	08/01/12	Am-241	129.30 ± 12.70	111.00	78.00 - 144.00	Pass
STSO-5392	08/01/12	Ni-63	376.20 ± 20.60	406.00	284.00 - 528.00	Pass
STSO-5392	08/01/12	Pu-238	118.70 ± 9.30	105.80	74.10 - 137.50	Pass
STSO-5392	08/01/12	Pu-239/40	140.70 ± 9.90	134.00	94.00 - 174.00	Pass
STSO-5392	08/01/12	Sr-90	483.52 ± 16.47	508.00	356.00 - 660.00	Pass
STSO-5392	08/01/12	Tc-99	432.50 ± 23.10	469.00	328.00 - 610.00	Pass
STSO-5394	08/01/12	Co-57	1528.00 ± 4.10	1316.00	921.00 - 1711.00	Pass
STSO-5394	08/01/12	Co-60	592.00 ± 3.20	531.00	372.00 - 690.00	Pass
STSO-5394	08/01/12	Cs-134	933.60 ± 5.82	939.00	657.00 - 1221.00	Pass
STSO-5394	08/01/12	Cs-137	1319.80 ± 5.50	1150.00	805.00 - 1495.00	Pass
STSO-5394	08/01/12	K-40	737.30 ± 17.70	632.00	442.00 - 822.00	Pass
STSO-5394	08/01/12	Mn-54	1083.20 ± 5.20	920.00	644.00 - 1196.00	Pass
STSO-5394	08/01/12	U-233/4	55.80 ± 4.20	60.30	42.20 - 78.40	Pass
STSO-5394	08/01/12	U-238	231.20 ± 8.60	263.00	184.00 - 342.00	Pass
STSO-5394	08/01/12	Zn-65	696.10 ± 7.00	606.00	424.00 - 788.00	Pass

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

			Concentration [a]			
Lab Code [b]	Date	Analysis	Laboratory result	Known Activity	Control Limits [c]	Acceptance
STVE-5395 [g]	08/01/12	Co-57	7.44 ± 0.17	5.66	3.96 - 7.36	Fail
STVE-5395	08/01/12	Co-60	5.90 ± 0.15	5.12	3.58 - 6.56	Pass
STVE-5395	08/01/12	Cs-134	7.40 ± 0.31	6.51	4.56 - 8.46	Pass
STVE-5395	08/01/12	Cs-137	5.45 ± 0.18	4.38	3.07 - 5.69	Pass
STVE-5395	08/01/12	Mn-54	4.06 ± 0.21	3.27	2.29 - 4.25	Pass
STAP-5398	08/01/12	Gr. Alpha	0.41 ± 0.05	0.97	0.29 - 1.65	Pass
STAP-5398	08/01/12	Gr. Beta	2.11 ± 0.09	1.92	0.96 - 2.88	Pass
STAP-5401 [h]	08/01/12	Am-241	0.12 ± 0.02	0.08	0.05 - 0.10	Fail
STAP-5403	08/01/12	Co-57	1.96 ± 0.05	1.91	1.34 - 2.48	Pass
STAP-5403	08/01/12	Co-60	1.76 ± 0.07	1.73	1.21 - 2.25	Pass
STAP-5403	08/01/12	Cs-134	2.74 ± 0.18	2.74	1.92 - 3.56	Pass
STAP-5403	08/01/12	Cs-137	0.00 ± 0.03	0.00	-0.01 - 0.01	Pass
STAP-5403	08/01/12	Mn-54	2.52 ± 0.10	2.36	1.65 - 3.07	Pass
STAP-5403	08/01/12	Pu-238	0.050 ± 0.015	0.063	0.044 - 0.081	Pass
STAP-5403	08/01/12	Pu-239/40	0.001 ± 0.004	0.00081	0.000 - 0.010	Pass
STAP-5403 [i]	08/01/12	U-233/4	0.009 ± 0.011	0.014	0.010 - 0.018	Fail
STAP-5403	08/01/12	U-238	0.08 ± 0.02	0.10	0.070 - 0.130	Pass
STAP-5403	08/01/12	Zn-65	0.01 ± 0.06	0.00	-0.010 - 0.010	Pass
STW-5445	08/01/12	Fe-55	79.80 ± 4.10	89.30	62.50 - 116.10	Pass
STW-5445	08/01/12	Ni-63	74.30 ± 3.40	66.30	46.40 - 86.20	Pass
STW-5445	08/01/12	U-233/4	0.46 ± 0.05	0.45	0.32 - 0.59	Pass
STW-5445	08/01/12	U-238	3.14 ± 0.14	3.33	2.33 - 4.33	Pass
STW-5445 [j]	08/01/12	Am-241	0.64 ± 0.04	1.06	0.74 - 1.38	Fail

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

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

[c] MAPEP results are presented as the known values and expected laboratory precision (1 sigma, 1 determination) and control limits as defined by the MAPEP. A known value of "zero" indicates an analysis was included in the testing series as a "false positive". MAPEP does not provide control limits.

[d] Investigation was inconclusive, there was not enough sample for reanalysis. ERA results (A-7) for the same matrix were acceptable.

[e] No errors found in calculation or procedure, original analysis result; 0.010 ± 0.010 Bq/filter.

[f] Reanalysis results were within limits, but low. ERA results (A-7) for the same matrix were acceptable.
The efficiency factor was recalculated for the second round of MAPEP testing. Original analysis results 55.8 ± 12.6 Bq/L.

[g] Result of reanalysis; 6.74 ± 0.15 Bq/sample. Gamma emitters for the vegetation matrix exhibited a high bias, only Co-57 exceeded acceptance limits. Recounted using a geometry more closely matched to the MAPEP sample size.

[h] Result of reanalysis; 0.070 ± 0.013 Bq/filter.

[i] Result of reanalysis; 0.013 ± 0.005 pCi/filter. A larger sample size was used to reduce the counting error.

[j] Result of reanalysis 1.07 ± 0.06 pCi/L. The analyses of the MAPEP sample matrix resulted in recovery factors greater than 100%. A correction was made using recovery based on analysis of blank samples. A new tracer solution is on order, future samples for MAPEP testing will include batch spike and blank samples.

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

Lab Code [b]	Date	Analysis	Concentration (pCi/L) [b] Laboratory Result [c]	ERA Result [d]	Control Limits	Acceptance
ERAP-1393	03/19/12	Co-60	917.5 ± 7.0	880.0	681.0 - 1100.0	Pass
ERAP-1393	03/19/12	Cs-134	586.6 ± 7.4	656.0	417.0 - 814.0	Pass
ERAP-1393	03/19/12	Cs-137	1255.9 ± 9.4	1130.0	849.0 - 1480.0	Pass
ERAP-1393	03/19/12	Mn-54	< 3.4	0.0	-	Pass
ERAP-1393	03/19/12	Zn-65	1085.2 ± 18.0	897.0	642.0 - 1240.0	Pass
ERAP-1394	03/19/12	Am-241	86.9 ± 2.9	68.8	42.4 - 93.1	Pass
ERAP-1394	03/19/12	Pu-238	70.2 ± 3.6	63.2	43.3 - 83.1	Pass
ERAP-1394	03/19/12	Pu-239/40	66.0 ± 1.0	63.0	45.6 - 82.4	Pass
ERAP-1394	03/19/12	Sr-90	112.5 ± 15.4	89.6	43.8 - 134.0	Pass
ERAP-1394	03/19/12	U-233/4	43.4 ± 0.8	47.5	29.4 - 71.6	Pass
ERAP-1394	03/19/12	U-238	44.0 ± 1.2	47.1	30.4 - 65.1	Pass
ERAP-1394	03/19/12	Uranium	89.1 ± 2.2	96.7	53.5 - 147.0	Pass
ERAP-1396	03/19/12	Gr. Alpha	81.1 ± 1.5	77.8	26.1 - 121.0	Pass
ERAP-1396	03/19/12	Gr. Beta	68.4 ± 0.7	52.5	33.2 - 76.5	Pass
ERSO-1397	03/19/12	Ac-228	1303.4 ± 89.3	1570.0	1010.0 - 2180.0	Pass
ERSO-1397	03/19/12	Am-241	856.0 ± 123.7	938.0	549.0 - 1220.0	Pass
ERSO-1397	03/19/12	Bi-212	1379.2 ± 247.2	1550.0	413.0 - 2280.0	Pass
ERSO-1397	03/19/12	Bi-214	965.2 ± 38.4	1100.0	665.0 - 1590.0	Pass
ERSO-1397	03/19/12	Co-60	3693.6 ± 32.1	3500.0	2370.0 - 4820.0	Pass
ERSO-1397	03/19/12	Cs-134	2257.3 ± 45.4	2180.0	1420.0 - 2620.0	Pass
ERSO-1397	03/19/12	Cs-137	9444.5 ± 58.4	8770.0	6720.0 - 11300.0	Pass
ERSO-1397	03/19/12	K-40	11277.0 ± 275.1	11600.0	8470.0 - 15600.0	Pass
ERSO-1397	03/19/12	Mn-54	< 21.0	0.0	-	Pass
ERSO-1397	03/19/12	Pb-212	1208.4 ± 26.3	1510.0	992.0 - 2110.0	Pass
ERSO-1397	03/19/12	Pb-214	1041.6 ± 46.9	1110.0	647.0 - 1650.0	Pass
ERSO-1397	03/19/12	Pu-238	921.0 ± 112.6	984.0	592.0 - 1360.0	Pass
ERSO-1397	03/19/12	Pu-239/40	1028.0 ± 112.6	879.0	575.0 - 1210.0	Pass
ERSO-1397	03/19/12	Sr-90	8128.0 ± 329.0	8800.0	3360.0 - 13900.0	Pass
ERSO-1397	03/19/12	Th-234	2711.3 ± 253.6	2000.0	632.0 - 3760.0	Pass
ERSO-1397	03/19/12	U-233/4	1859.3 ± 126.6	1960.0	1200.0 - 2510.0	Pass
ERSO-1397	03/19/12	U-238	2003.3 ± 130.3	2000.0	1240.0 - 2540.0	Pass
ERSO-1397	03/19/12	Uranium	3939.5 ± 283.8	4030.0	2190.0 - 5320.0	Pass
ERSO-1397	03/19/12	Zn-65	4200.4 ± 65.9	3650.0	2910.0 - 4850.0	Pass

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

Lab Code [b]	Date	Analysis	Concentration (pCi/L) [b] Laboratory Result [c]	ERA Result [d]	Control Limits	Acceptance
ERVE-1400	03/19/12	Am-241	4194.8 ± 199.5	4540.0	2780.0 - 6040.0	Pass
ERVE-1400	03/19/12	Cm-244	1471.2 ± 113.1	1590.0	779.0 - 2480.0	Pass
ERVE-1400	03/19/12	Co-60	2347.8 ± 47.9	2210.0	1520.0 - 3090.0	Pass
ERVE-1400	03/19/12	Cs-134	2847.5 ± 64.0	2920.0	1880.0 - 3790.0	Pass
ERVE-1400	03/19/12	Cs-137	1503.5 ± 52.5	1340.0	972.0 - 1860.0	Pass
ERVE-1400	03/19/12	K-40	34105.7 ± 745.3	28600.0	20700.0 - 40100.0	Pass
ERVE-1400	03/19/12	Mn-54	< 26.8	0.0	-	Pass
ERVE-1400	03/19/12	Pu-238	2509.0 ± 213.6	2350.0	1400.0 - 3220.0	Pass
ERVE-1400	03/19/12	Pu-239/40	2690.4 ± 208.9	2570.0	1580.0 - 3540.0	Pass
ERVE-1400	03/19/12	Sr-90	7881.5 ± 470.8	8520.0	4860.0 - 11300.0	Pass
ERVE-1400	03/19/12	U-233/4	3149.6 ± 165.2	3610.0	2370.0 - 4640.0	Pass
ERVE-1400	03/19/12	U-238	3203.6 ± 166.5	3580.0	2390.0 - 4550.0	Pass
ERVE-1400	03/19/12	Uranium	6463.7 ± 363.2	7350.0	4980.0 - 9150.0	Pass
ERVE-1400	03/19/12	Zn-65	2701.9 ± 105.5	2310.0	1670.0 - 3240.0	Pass
ERW-1403	03/19/12	Am-241	119.9 ± 3.2	135.0	91.0 - 181.0	Pass
ERW-1403	03/19/12	Fe-55	713.7 ± 127.4	863.0	514.0 - 1170.0	Pass
ERW-1403	03/19/12	Pu-238	131.9 ± 6.4	135.0	99.9 - 168.0	Pass
ERW-1403	03/19/12	Pu-239/40	108.9 ± 10.2	112.0	86.9 - 141.0	Pass
ERW-1403	03/19/12	U-233/4	93.1 ± 7.9	105.0	78.9 - 135.0	Pass
ERW-1403	03/19/12	U-238	96.9 ± 5.5	104.0	79.3 - 128.0	Pass
ERW-1403	03/19/12	Uranium	190.0 ± 13.8	214.0	157.0 - 277.0	Pass
ERW-1405	03/19/12	Co-60	858.7 ± 5.6	875.0	760.0 - 1020.0	Pass
ERW-1405	03/19/12	Cs-134	560.4 ± 4.4	609.0	447.0 - 700.0	Pass
ERW-1405	03/19/12	Cs-137	1239.9 ± 7.4	1250.0	1060.0 - 1500.0	Pass
ERW-1405	03/19/12	Mn-54	< 7.4	0.0	-	Pass
ERW-1405	03/19/12	Sr-90	944.3 ± 26.2	989.0	644.0 - 1310.0	Pass
ERW-1405	03/19/12	Zn-65	786.9 ± 20.6	749.0	624.0 - 945.0	Pass
ERW-1406	03/19/12	Gr. Alpha	85.9 ± 3.0	103.0	36.6 - 160.0	Pass
ERW-1406	03/19/12	Gr. Beta	45.7 ± 1.6	43.7	25.0 - 64.7	Pass
ERW-1409	03/19/12	H-3	9045.0 ± 284.0	9150.0	6130.0 - 13000.0	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). Results are reported in units of pCi/L, except for air filters (pCi/Filter), vegetation and soil (pCi/kg).

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

[d] Results are presented as the known values, expected laboratory precision (1 sigma, 1 determination) and control limits as provided by ERA. A known value of "zero" indicates an analysis was included in the testing series as a "false positive". Control limits are not provided.

APPENDIX B

DATA REPORTING CONVENTIONS

Data Reporting Conventions

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

2.0. Single Measurements

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

where: x = value of the measurement;

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

In cases where the activity is less than the lower limit of detection L, it is reported as: < L,
where L = the lower limit of detection based on 4.66σ uncertainty for a background sample.

3.0. Duplicate analyses

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

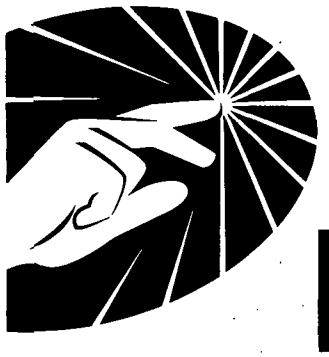
Table C-1. Maximum permissible concentrations of radioactivity in air and water above natural background in unrestricted areas[a].

	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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2012 Annual Radiological Environmental Operating Report

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

Dominion Energy Kewaunee, Inc.

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REPORT TO

DOMINION NUCLEAR

RADIOLOGICAL MONITORING PROGRAM FOR THE KEWAUNEE POWER STATION KEWAUNEE, WISCONSIN

ANNUAL REPORT - PART II
DATA TABULATIONS AND ANALYSES

January 1 to December 31, 2012

Prepared and submitted by

ENVIRONMENTAL, Inc.
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PREFACE

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

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1.0 INTRODUCTION

The following constitutes Part II of the final report for the 2012 Radiological Monitoring Program conducted at the Kewaunee Power Station (KPS), Kewaunee, Wisconsin.

Included are tabulations of data for all samples collected in 2012 along with graphs of data trends. A summary and interpretation of the data presented here are published in Part I of the 2012 Annual Report on the Radiological Monitoring Program for the Kewaunee Power Station.

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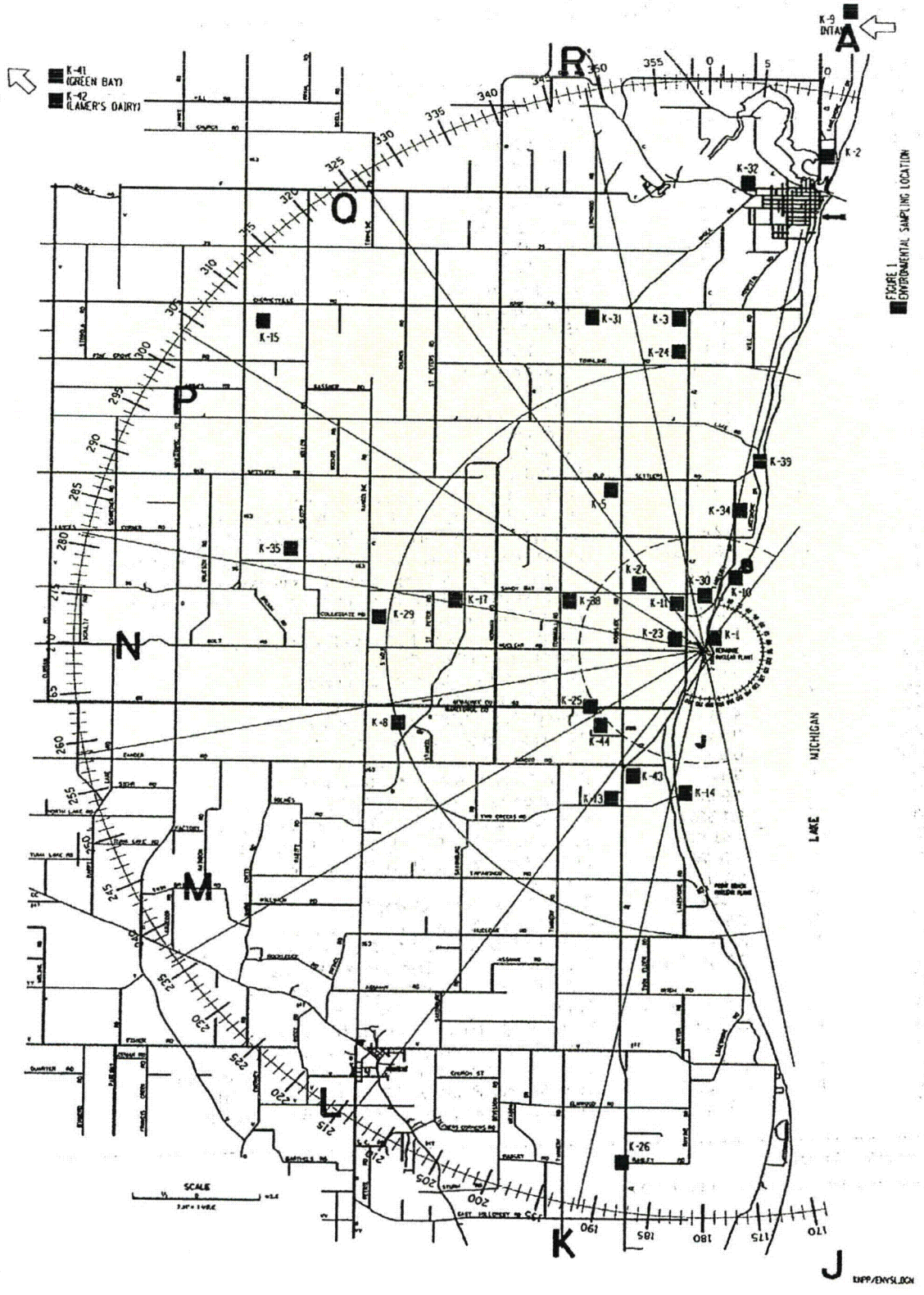

Figure 1. Sampling locations, Kewaunee Power Station

Table 1. Sampling locations, Kewaunee Power Station.

Code	Type[a]	Distance (miles)[b] and Sector	Location
K-1	I		Onsite
K-1a	I	0.62 N	North Creek
K-1b	I	0.12 N	Middle Creek
K-1c	I	0.10 N	500' north of condenser discharge
K-1d	I	0.10 E	Condenser discharge
K-1e	I	0.12 S	South Creek
K-1f	I	0.12 S	Meteorological Tower
K-1g	I	0.06 W	South Well
K-1h	I	0.12 NW	North Well
K-1j	I	0.10 S	500' south of condenser discharge
K-1k	I	0.60 SW	Drainage Pond, south of plant
K-1l	I	0.13 N	ISFSI Southeast
K-1m	I	0.15 N	ISFSI East
K-1n	I	0.16 N	ISFSI Northwest
K-1o	I	0.16 N	ISFSI North
K-1p	I	0.17 N	ISFSI Northwest
K-1q	I	0.16 N	ISFSI West
K-1r	I	0.13 N	ISFSI West
K-1s	I	0.12 N	ISFSI Southwest
K-2	C	8.91 NNE	WPS Operations Building in Kewaunee
K-3	C	5.9 N	Lyle and John Siegmund Farm, N2815 Hy 42, Kewaunee
K-5	I	3.2 NNW	Ed Paplham Farm, E4160 Old Settlers Rd, Kewaunee
K-8	C	4.85 WSW	St. Isadore the Farmer Church, 18424 Tisch Mills Rd, Tisch Mills
K-9	C	11.5 NNE	Green Bay Municipal Pumping Station, six miles east of Green Bay (sample source is Lake Michigan from Rostok Intake two miles north of Kewaunee.
K-10	I	1.35 NNE	Turner Farm, Kewaunee site
K-11	I	0.96 NW	Harlan Ihlenfeld Farm, N879 Hy 42, Kewaunee
K-13	C	3.0 SSW	Rand's General Store, Two Creeks
K-14	I	2.6 S	Two Creeks Park, 2.6 miles south of site
K-15	C	9.25 NW	Gas Substation, 1.5 miles north of Stangelville
K-17	I	4.0 W	Jansky's Farm, N885 Tk B, Kewaunee
K-23a	I	0.5 W	0.5 miles west of plant, Kewaunee site
K-23b	I	0.6 N	0.6 miles north of plant, Kewaunee site
K-24	I	5.4 N	Fictum Farm, N2653 Hy 42, Kewaunee
K-25	I	1.9 SW	Wotachek Farm, 3968 E. Cty Tk BB, Two Rivers
K-26	C	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, Kewaunee
K-29	I	5.34 W	Kunesh Farm, E3873 Cty Tk G, Kewaunee
K-30	I	0.8 N	End of site boundary
K-31	C	6.35 NNW	E. Krok Substation, Krok Road
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 Wojta, N1859 Lakeshore Dr., Kewaunee
K-41	C	22 NW	KPS-EOF, 3060 Voyager Dr. , Green Bay
K-42	C	28.1 W	Lamers Dairy Products obtained from Green Bay markets.
K-43	I	2.71 SSW	Gary Maigatter Property, 17333 Hwy 42, Two Rivers
K-44	I	2.63 SW	Gerald Schleis Property, 4728 Schleis Rd., Two Rivers

[a] I = indicator; C = control.

[b] Distances are measured from reactor stack.

Table 2. Type and frequency of collection.

Location	Weekly	Monthly	Quarterly	Semiannually	Annually
K-1a		SW		SL [f]	
K-1b		SW	GR [a]	SL [f]	
K-1c				BS [b]	
K-1d		SW	FI [a]	SL [f] BS [b]	
K-1e		SW		SL [f]	
K-1f	AP [g], AI		GR [a] TLD	SO	
K-1g, K-1h			WW		
K-1j				BS [b]	
K-1k		SW		SL [f]	
K-1l through K-1s			TLD		
K-2	AP [g], AI		TLD		
K-3, K-5		MI [c]	GR [a] TLD	SO	CF [d]
K-8	AP [g], AI		TLD		
K-9		SW [i]		SL [f] BS [b]	
K-10, K-13			WW		
K-11		PR	WW		
K-14		SW [h]		SL [f] BS [b]	
K-15, K-17			TLD		
K-23a, b					GRN / GLV [e]
K-24			EG		DM
K-25			TLD		
K-26					VE / GLV [e]
K-27			TLD		
K-29					DM
K-30			TLD		
K-31	AP [g], 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]	GR [a] TLD	SO	CF [d]
K-41	AP [g], AI		TLD		
K-42		MI [c]			
K-43	AP [g], AI		TLD		
K-44		MI [c]			

[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.
[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 samples are collected, North (K-14a) and South (K-14b) of Two Creeks Road.
[i] Two samples, raw and treated.

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

Note: Page 6 is intentionally left out.

GRAPHS OF DATA TRENDS

Note: Conventions used in trending data.

The following conventions should be used in the interpretation of the graphs of data trends:

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

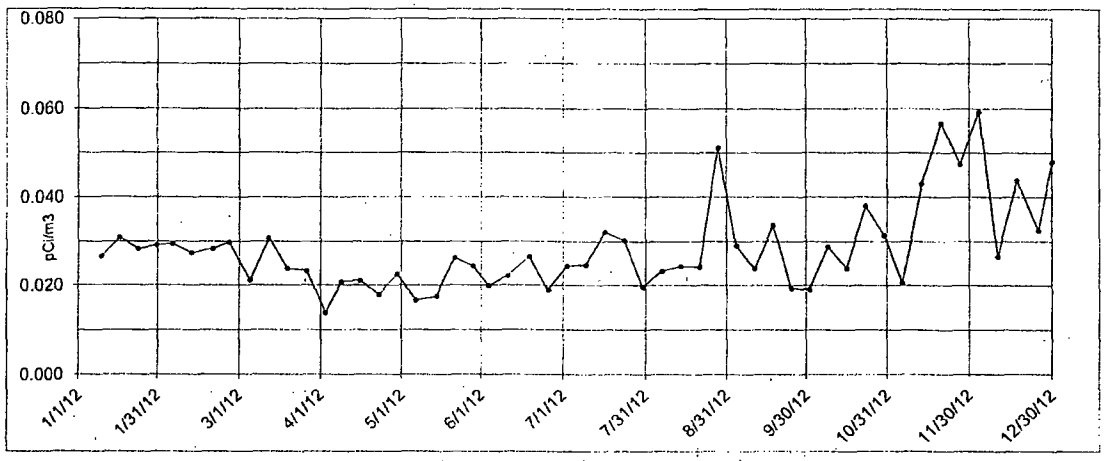

Figure 2. Location K-1f (weekly samples, 2012).

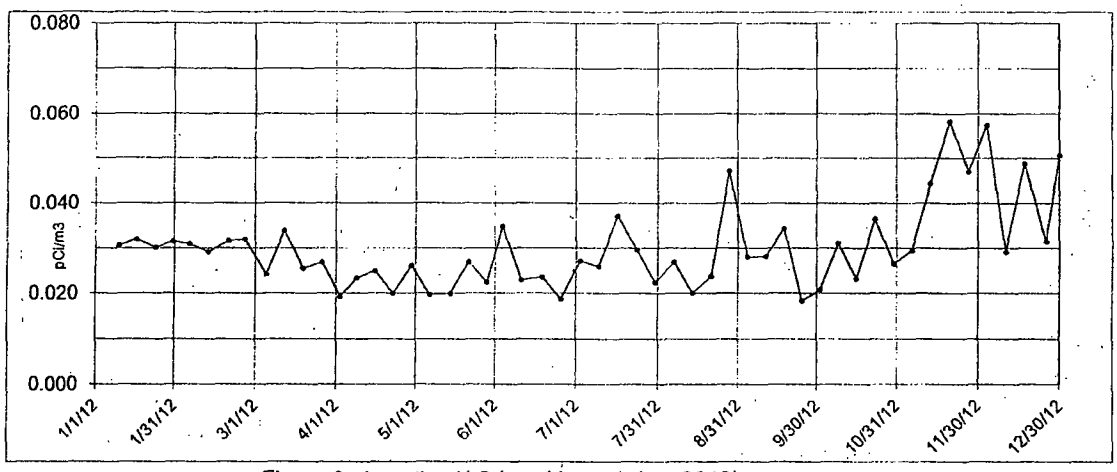

Figure 3. Location K-2 (weekly samples, 2012).

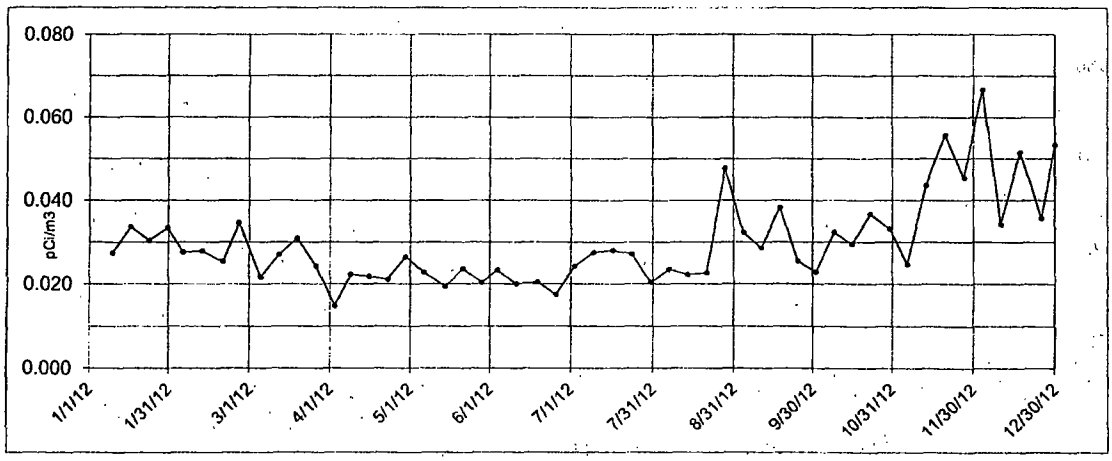

Figure 4. Location K-8 (weekly samples, 2012).

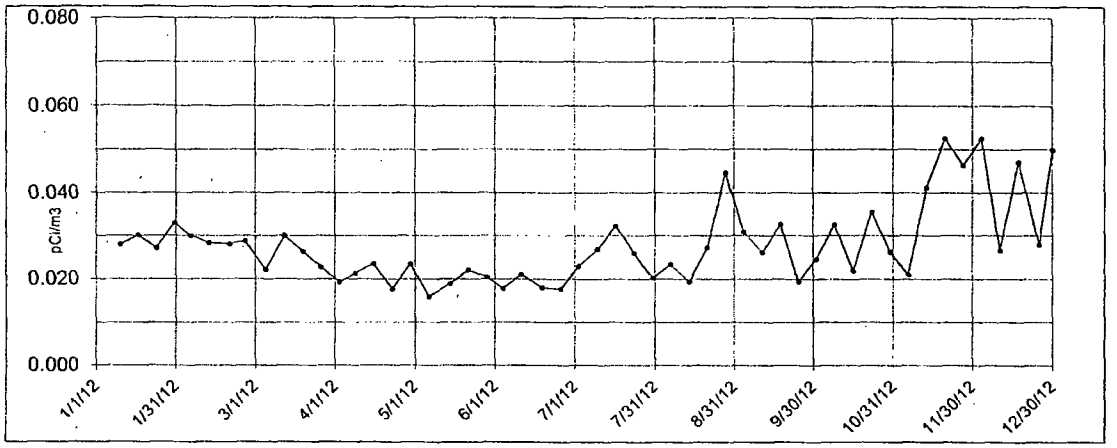

Figure 5. Location K-31 (weekly samples, 2012).

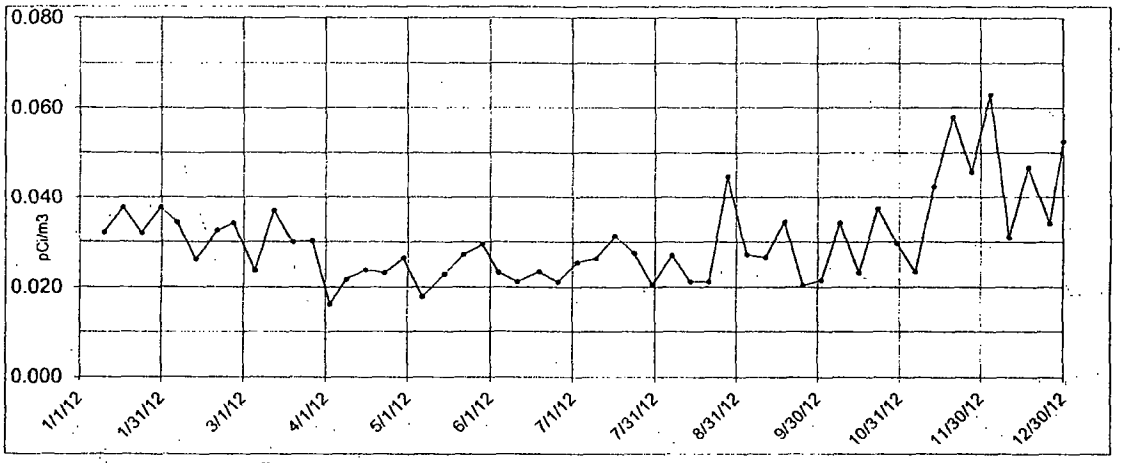

Figure 6. Location K-41 (weekly samples, 2012).

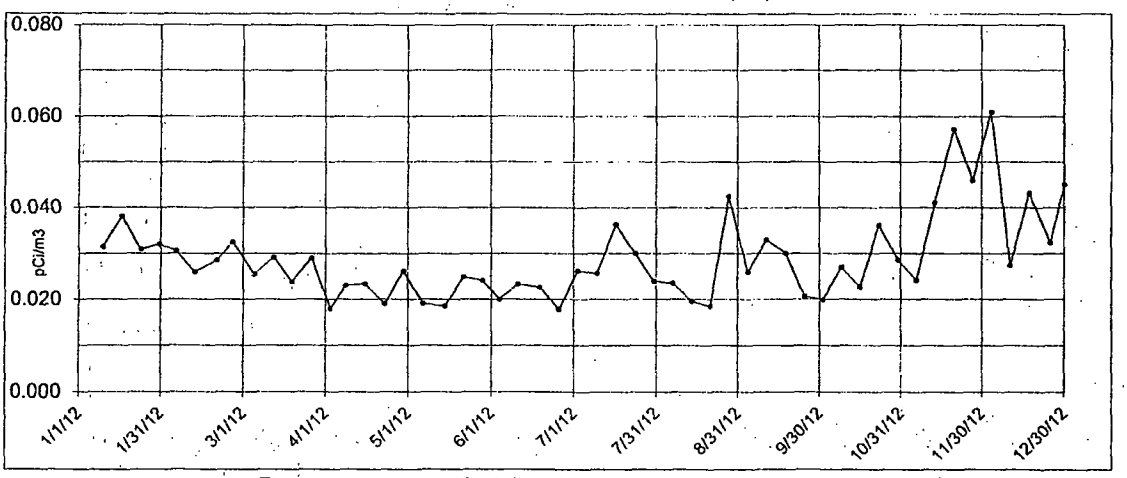

Figure 7. Location K-43 (weekly samples, 2012).

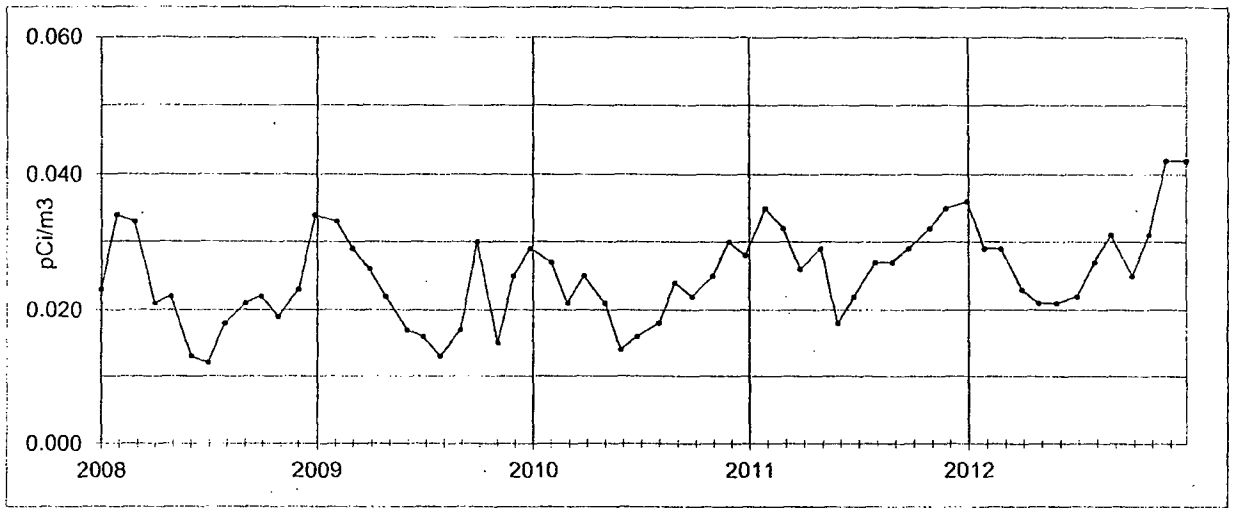

Figure 8. Location K-1f (monthly averages, 2008-2012).

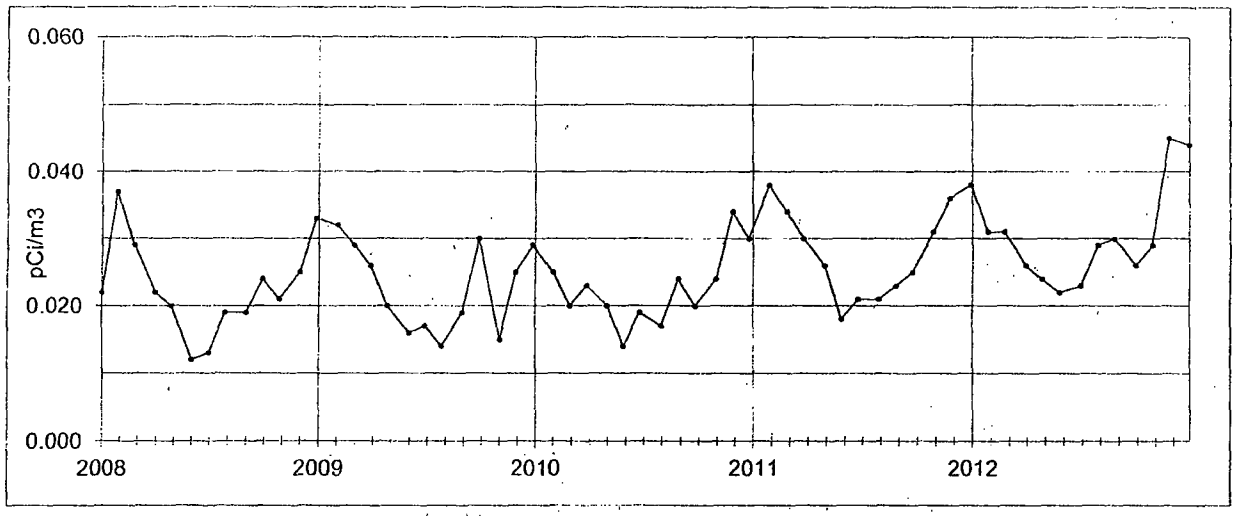

Figure 9. Location K-2 (monthly averages, 2008-2012).

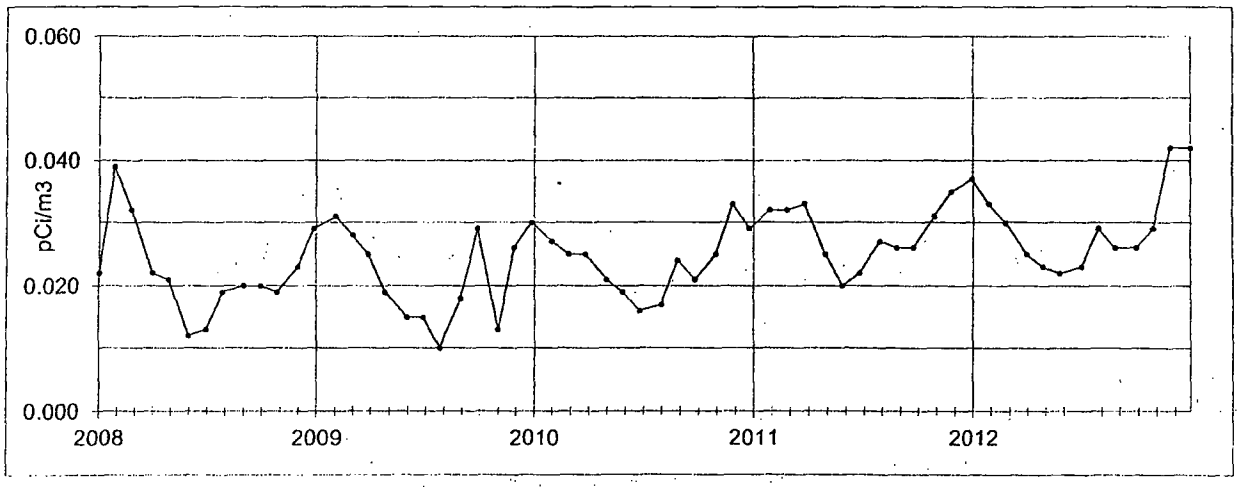

Figure 10. Location K-7/K-43 (monthly averages, 2008-2012).

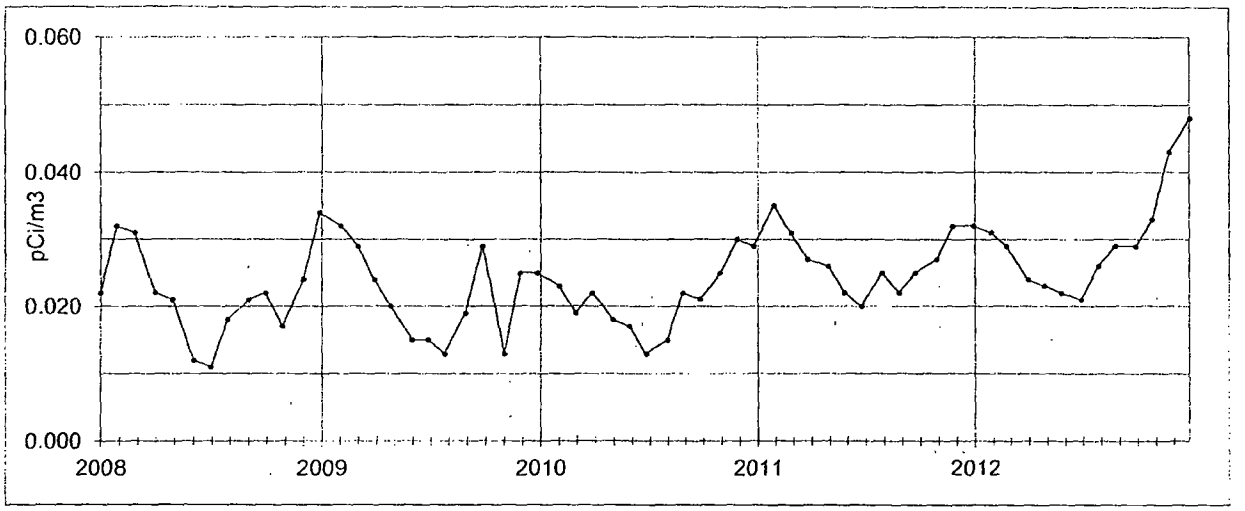

Figure 11. Location K-8 (monthly averages, 2008-2012).

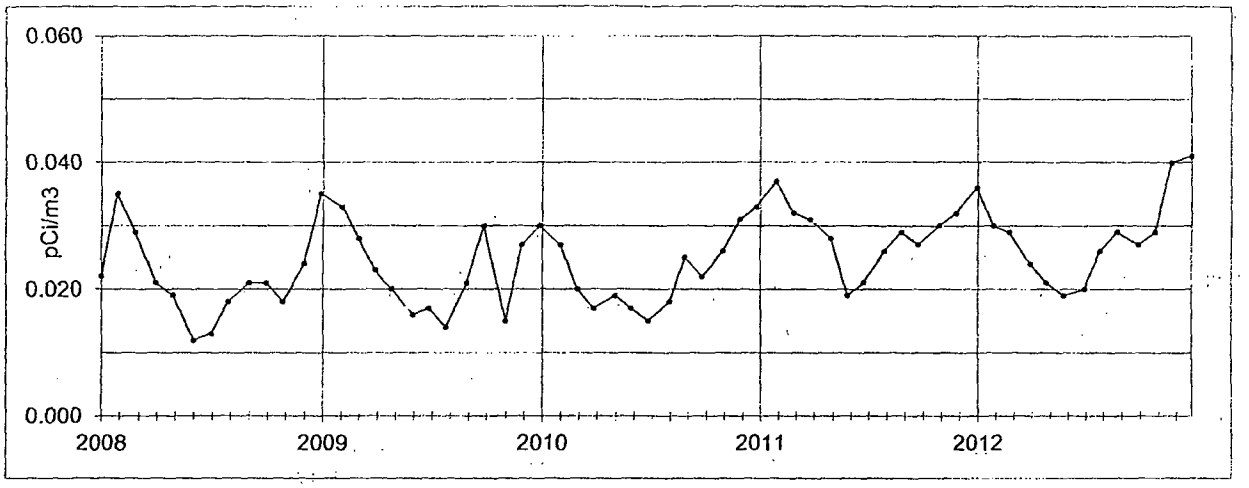

Figure 12. Location K-31 (monthly averages, 2008-2012).

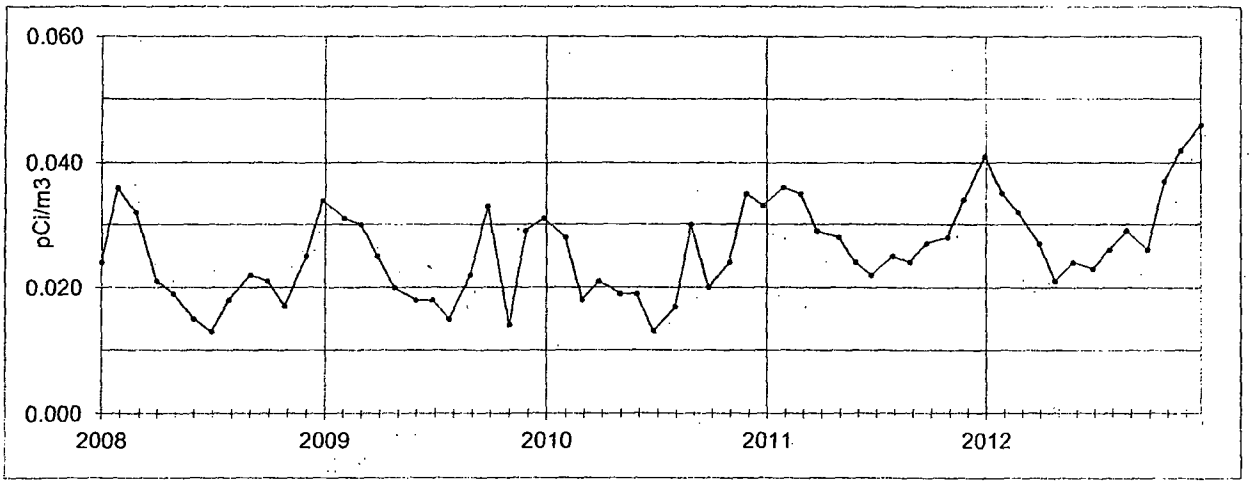

Figure 13. Location K-41 (monthly averages, 2008-2012).

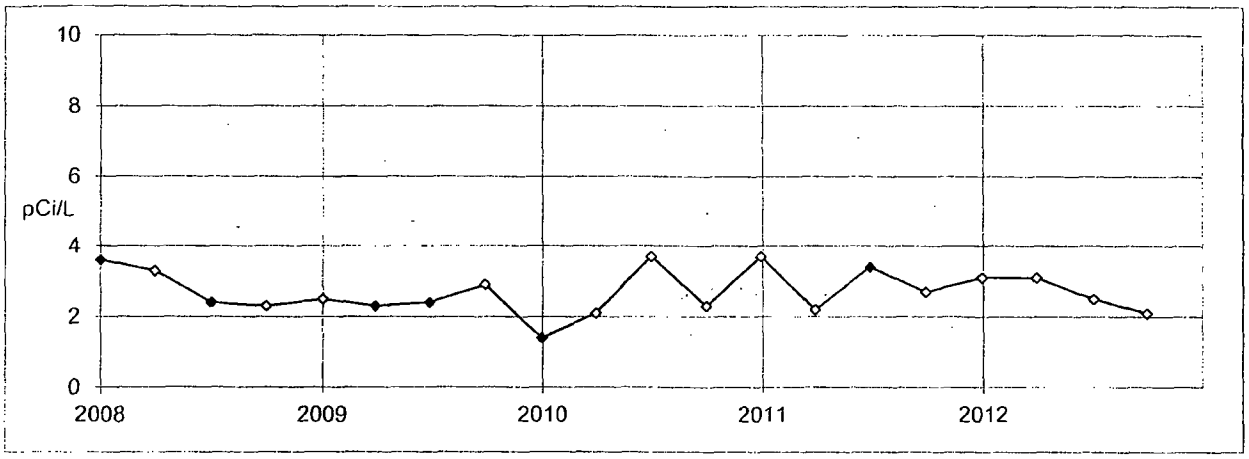

Figure 14. Location K-1g. Total Residue. Quarterly collection.

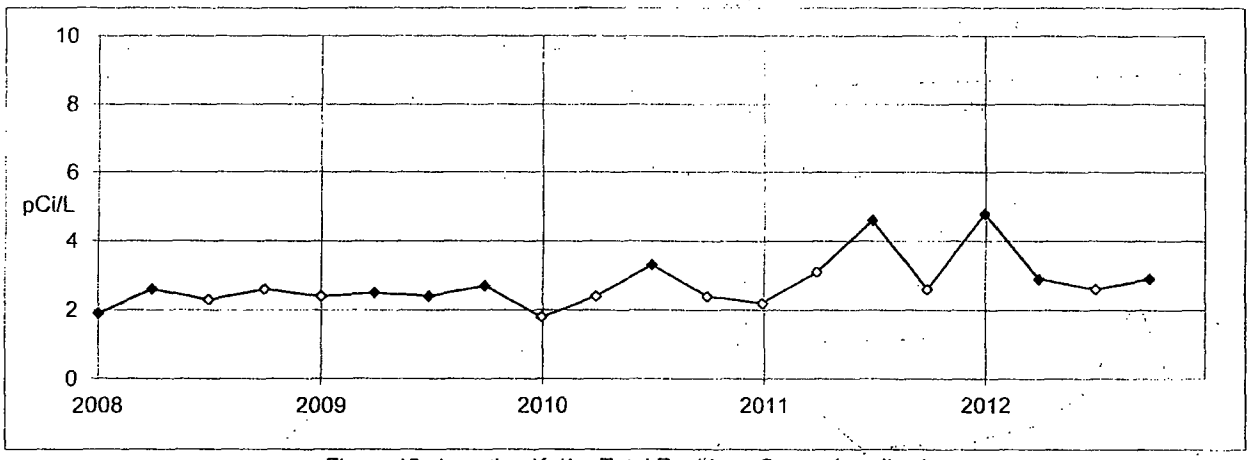

Figure 15. Location K-1h. Total Residue. Quarterly collection.

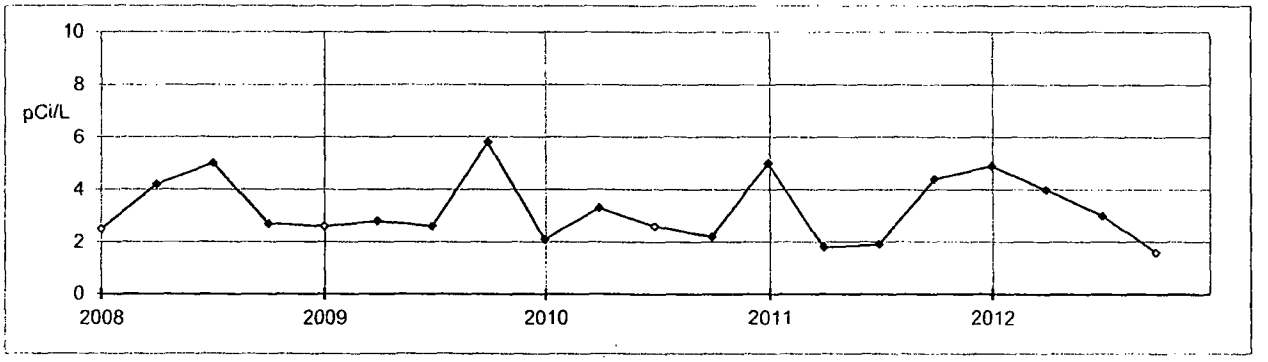

Figure 16. Location K-1g. Total Residue. Quarterly collection.

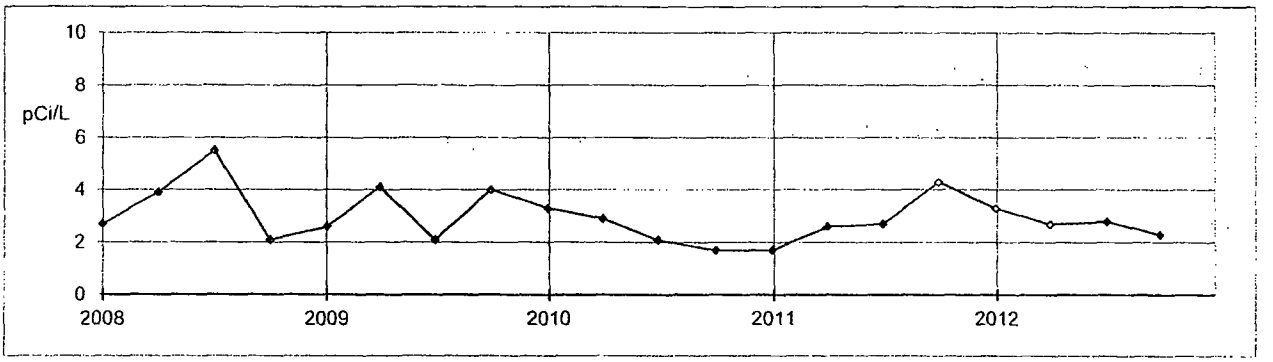

Figure 17. Location K-1h. Total Residue. Quarterly collection.

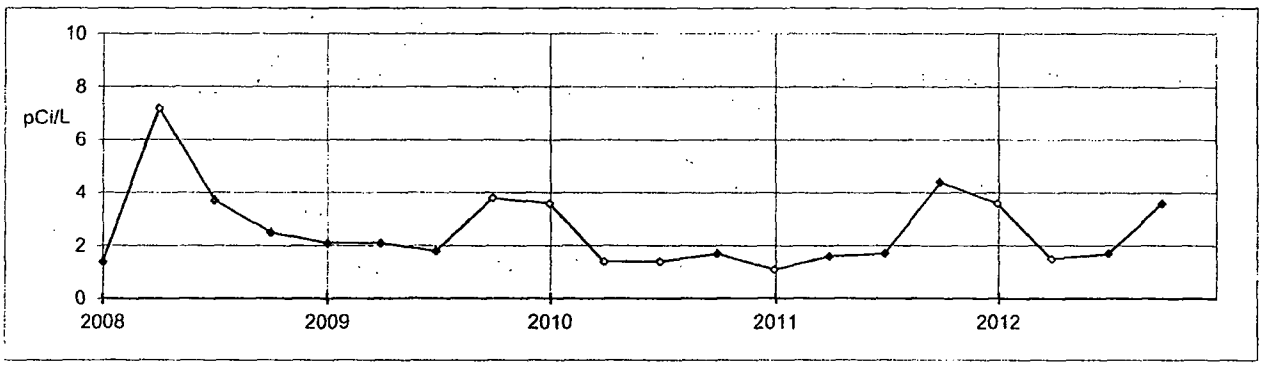

Figure 18. Location K-10. Total Residue. Quarterly collection.

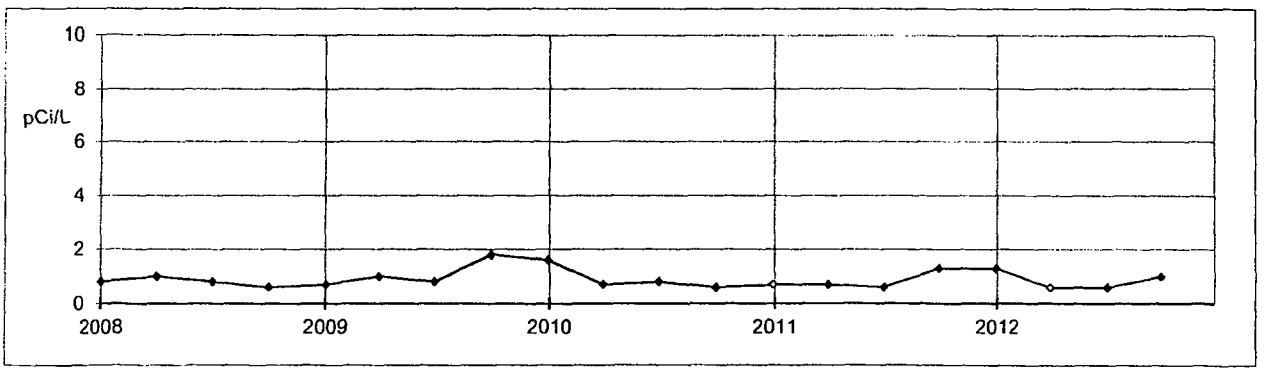

Figure 19. Location K-11. Total Residue. Quarterly collection.

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

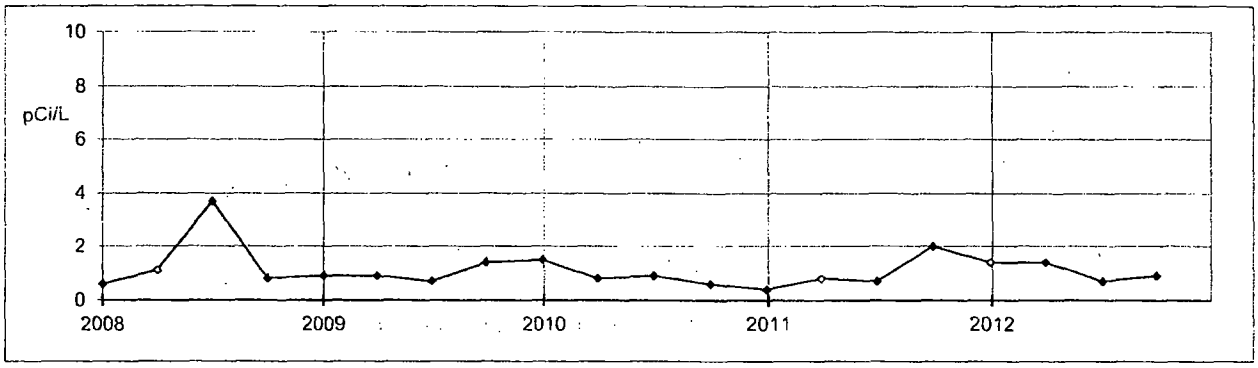

Figure 20. Location K-13. Total Residue. Quarterly collection.

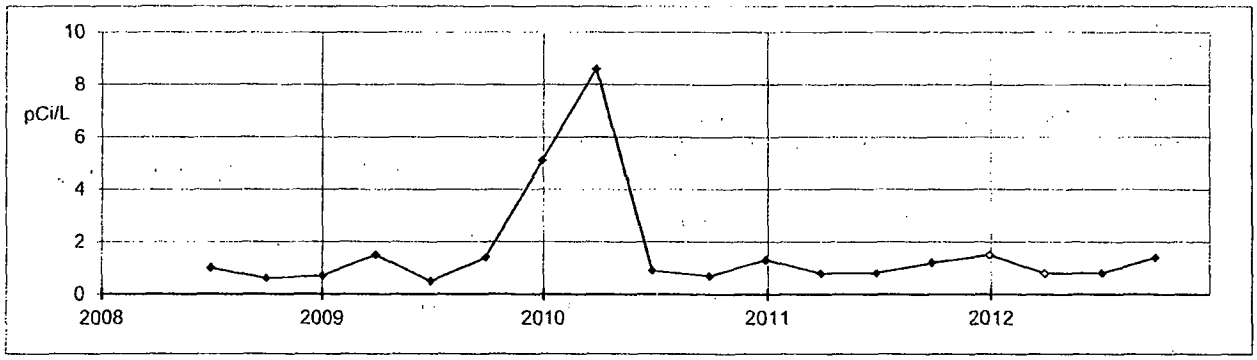

Figure 21. Location K-38. Total Residue. Quarterly collection.

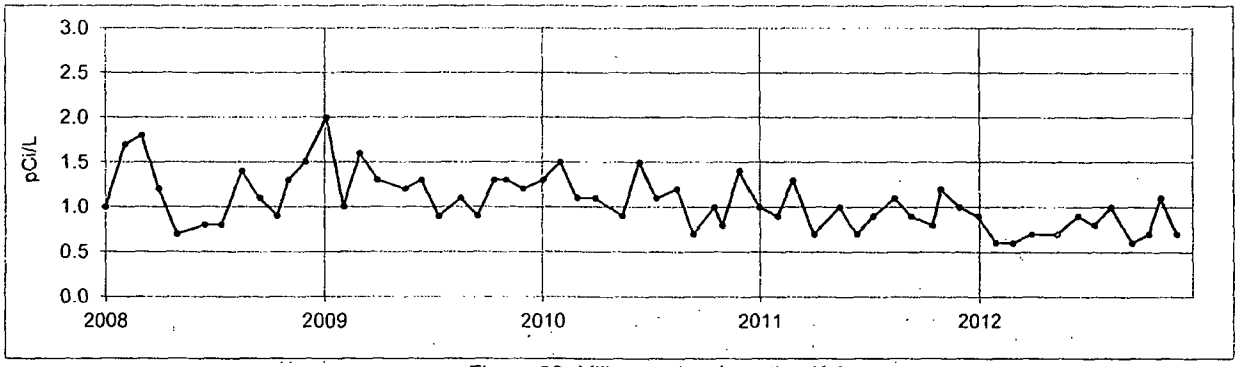

Figure 22. Milk samples. Location K-3.

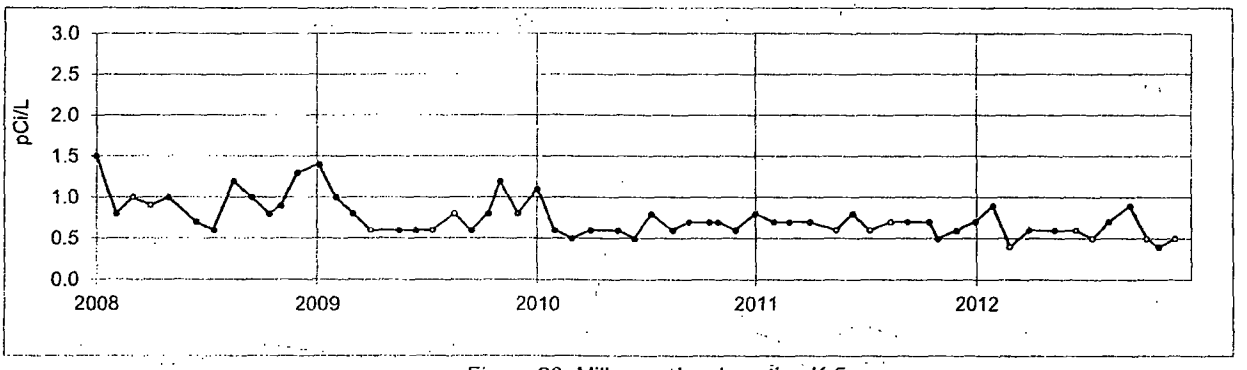

Figure 23. Milk samples. Location K-5.

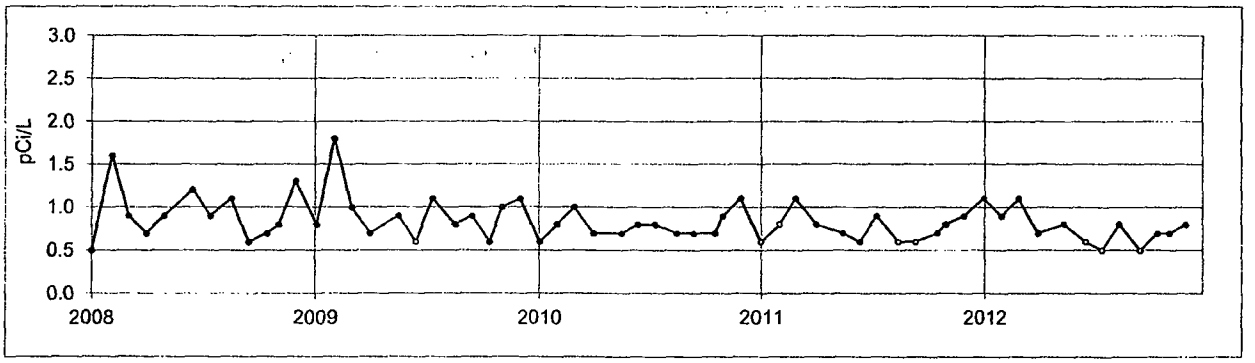

Figure 24. Milk samples. Location K-28 / K-42.

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

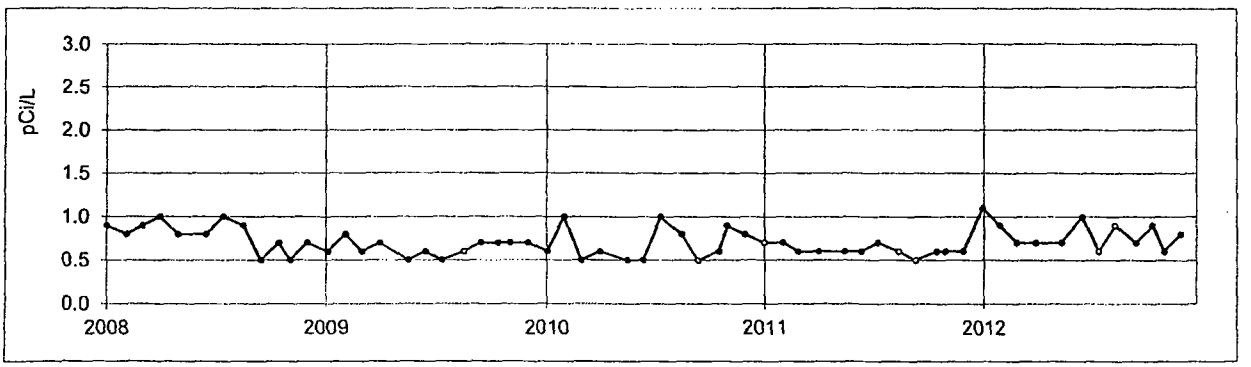

Figure 25. Milk samples. Location K-34.

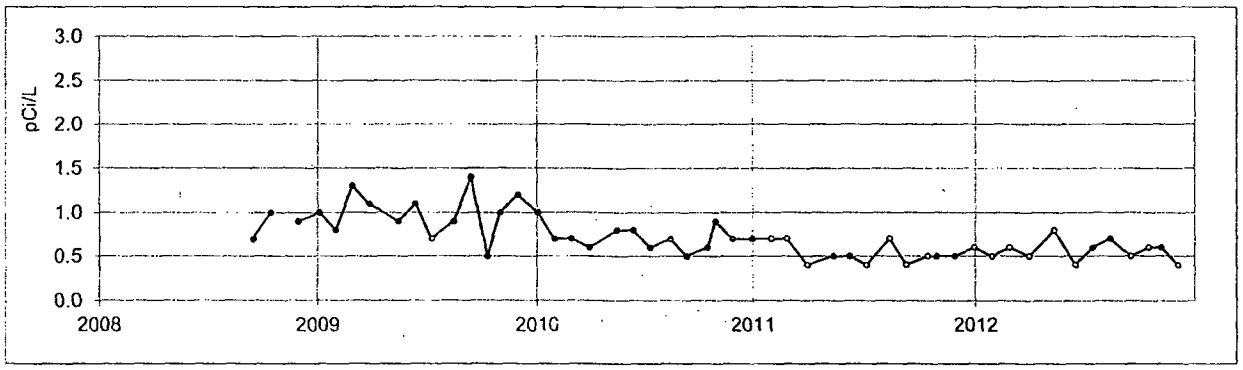

Figure 26. Milk samples. Location K-35.

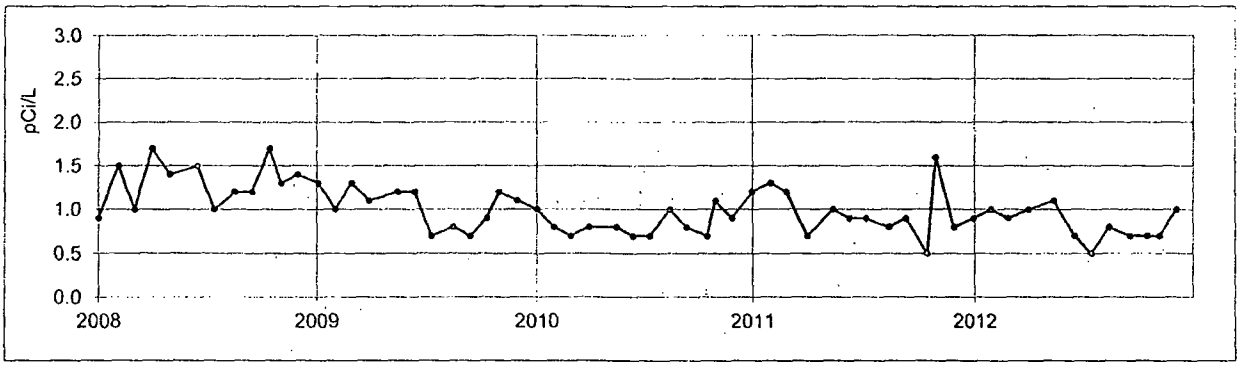

Figure 27. Milk samples. Location K-38.

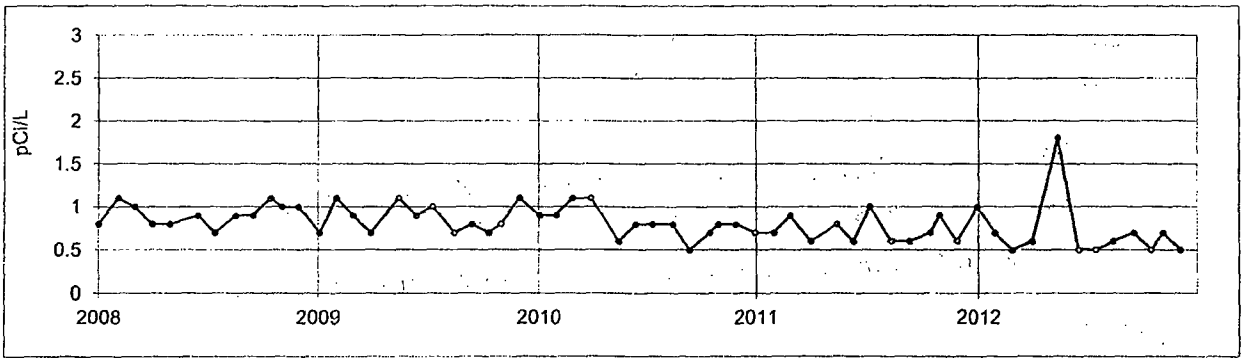

Figure 28. Milk samples. Location K-39.

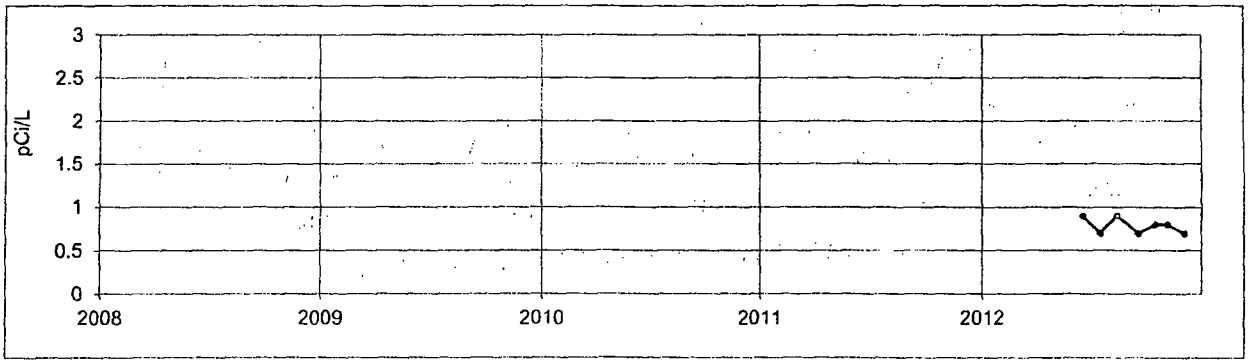

Figure 29. Milk samples. Location K-44.

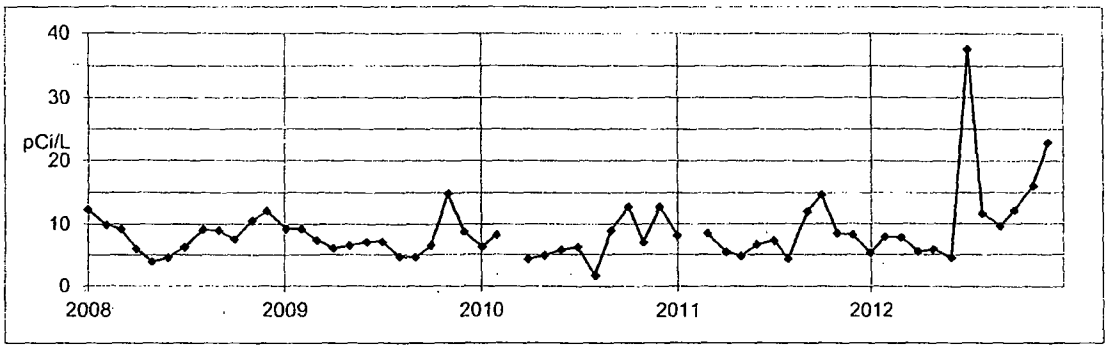

Figure 30. Surface water . North Creek, Onsite (K-1a).

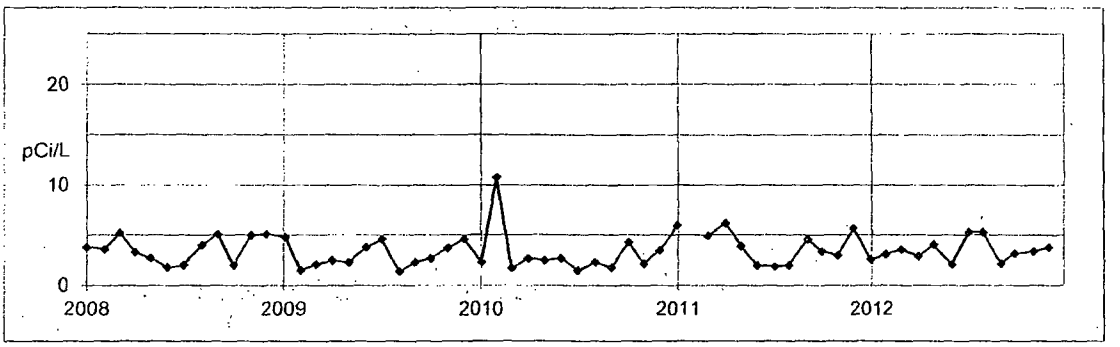

Figure 31. Surface water . Middle Creek, Onsite (K-1b).

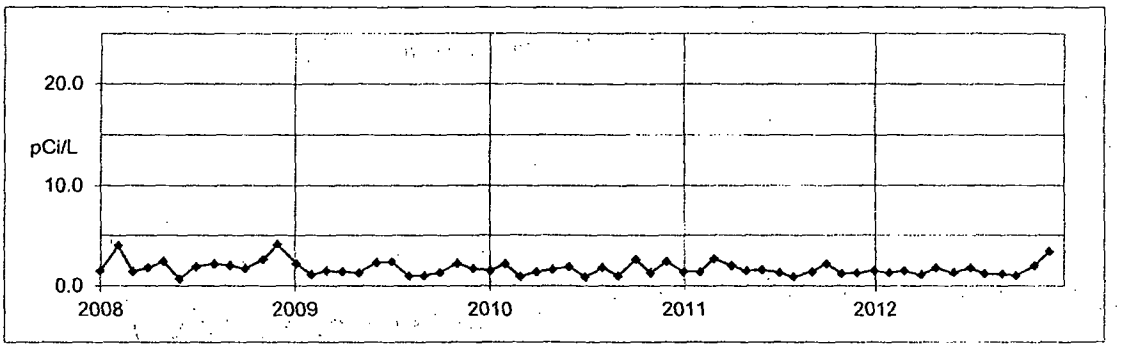

Figure 32. Surface water. Lake Michigan, condenser discharge, Onsite (K-1d).

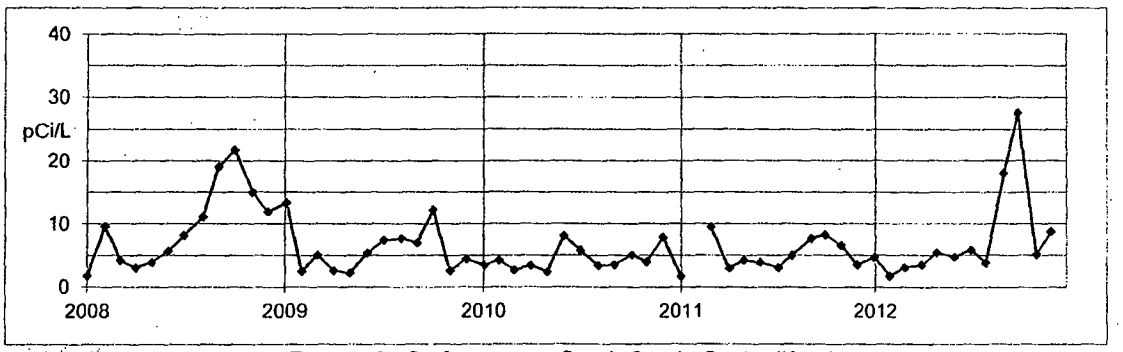

Figure 33. Surface water. South Creek, Onsite (K-1e).

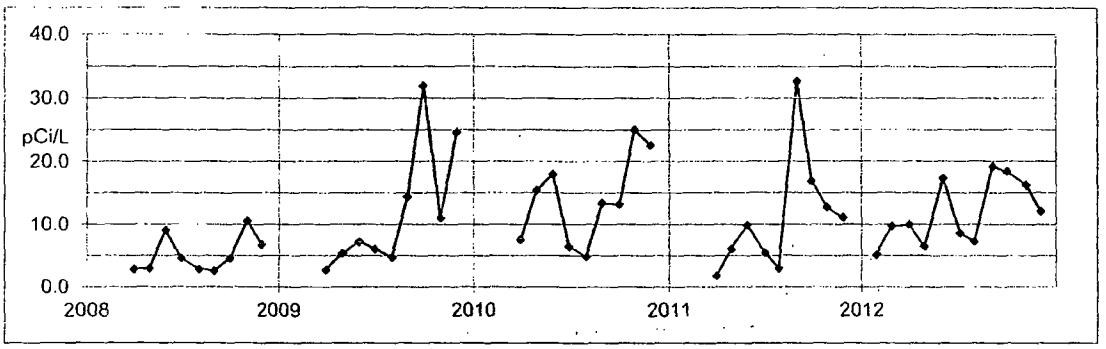

Figure 34. Surface water. School Forest Pond (K-1k).

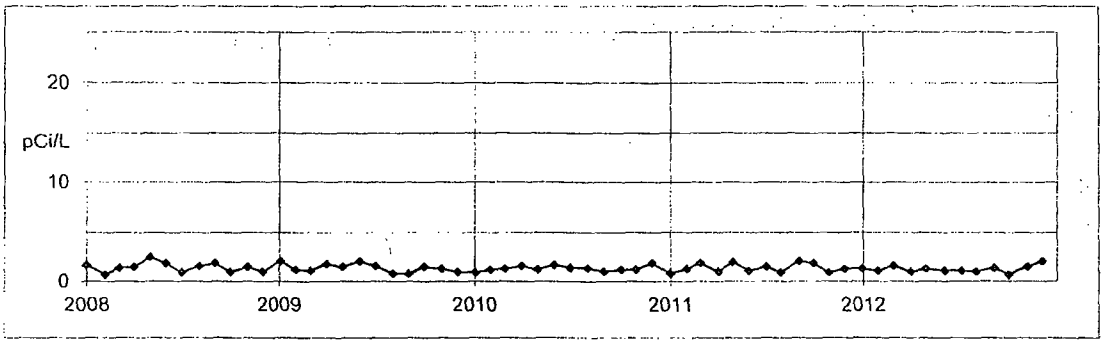

Figure 35. Surface water (raw). Lake Michigan, Rostok Intake (K-9)

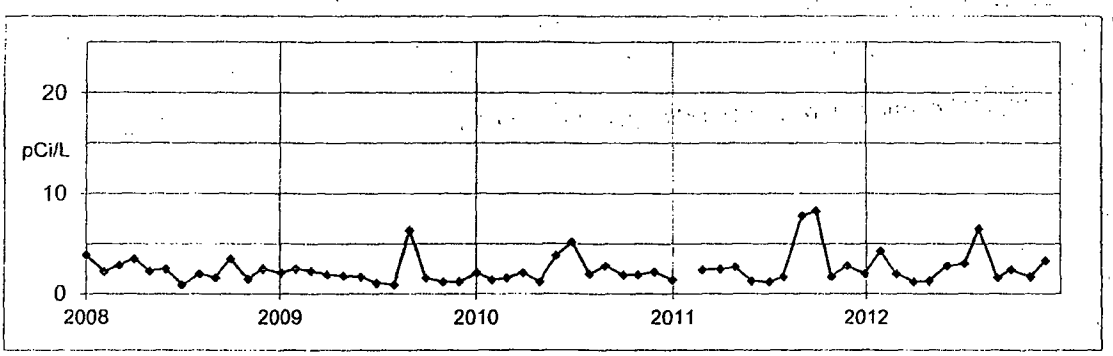

Figure 36. Surface water . Lake Michigan, Two Creeks Park (K-14a).

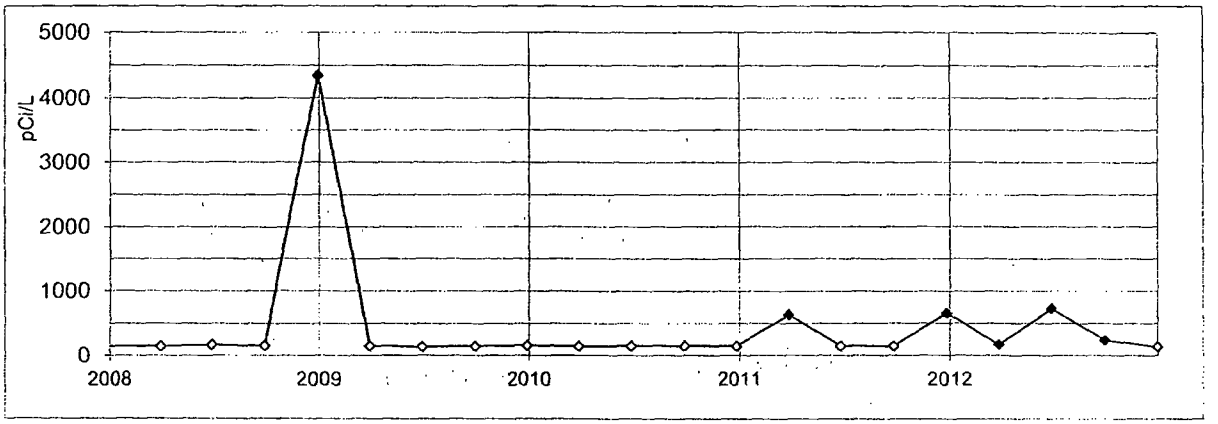

Figure 37. Surface water. Lake Michigan, condenser discharge, K-1d. Quarterly collection.

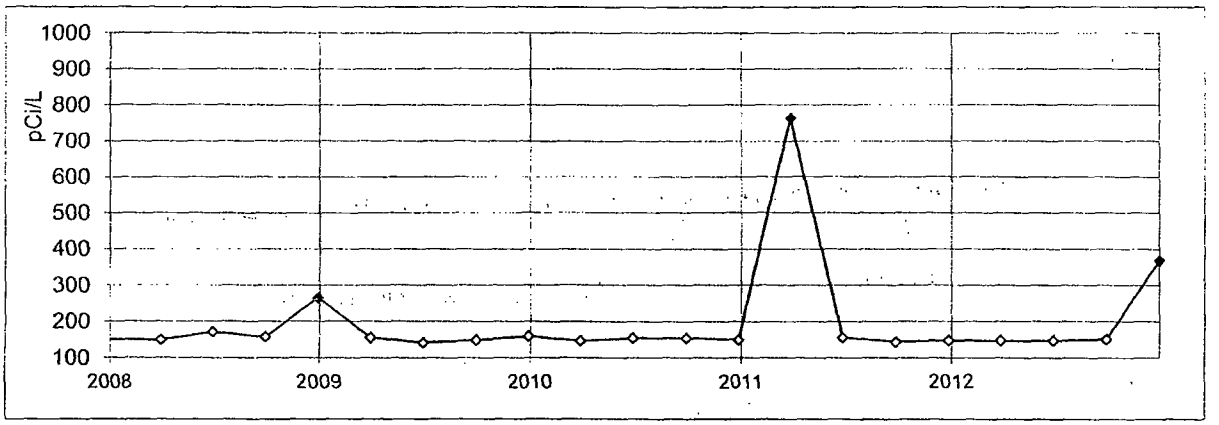

Figure 38. Surface water. Lake Michigan, Two Creeks Park, K-14a. Quarterly collection.

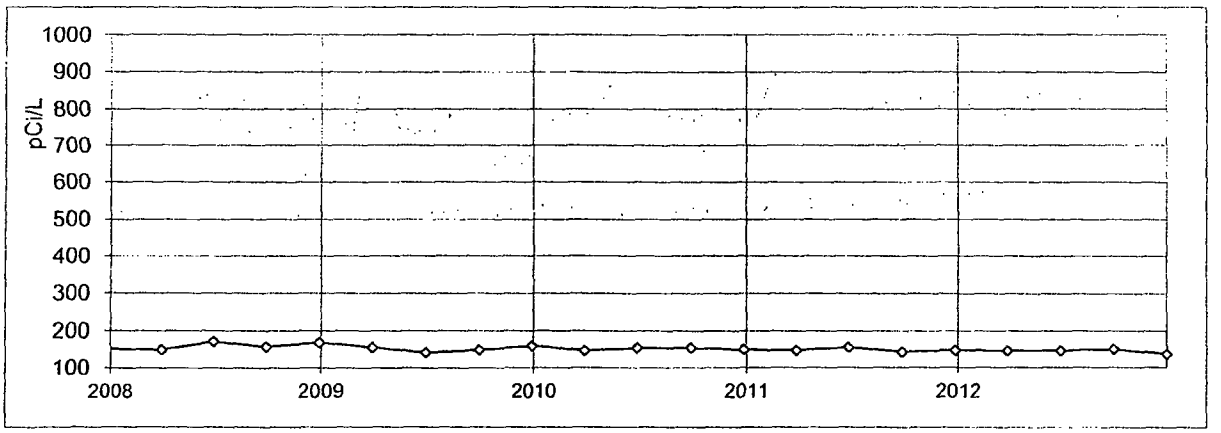

Figure 39. Surface water. Lake Michigan, Rostok Intake, K-9. Quarterly collection.

DATA TABULATIONS

Table 4. Airborne particulates and charcoal canisters, analyses for gross beta and iodine-131[a].
Location: K-1f
Units: pCi/m^3
Collection: Continuous, weekly exchange.

Date Collected	Volume (m^3)	Gross Beta	Date Collected	Volume (m^3)	Gross Beta
Required LLD		0.010	Required LLD		0.010
01-10-12	306	0.027 ± 0.003	07-10-12	302	0.025 ± 0.004
01-17-12	299	0.031 ± 0.004	07-17-12	299	0.032 ± 0.004
01-24-12	301	0.028 ± 0.003	07-24-12	302	0.030 ± 0.004
01-31-12	302	0.029 ± 0.003	07-31-12	305	0.020 ± 0.003
02-06-12	246	0.030 ± 0.004	08-07-12	304	0.023 ± 0.004
02-13-12	269	0.027 ± 0.004	08-14-12	299	0.024 ± 0.004
02-21-12	346	0.028 ± 0.003	08-21-12	310	0.024 ± 0.004
02-27-12	259	0.030 ± 0.004	08-28-12	297	0.051 ± 0.005 [b]
03-06-12	343	0.021 ± 0.003	09-04-12	302	0.029 ± 0.004
03-13-12	290	0.031 ± 0.004	09-11-12	303	0.024 ± 0.003
03-20-12	301	0.024 ± 0.003	09-18-12	302	0.034 ± 0.004
03-27-12	250	0.023 ± 0.004	09-25-12	302	0.019 ± 0.003
04-03-12	293	0.014 ± 0.003	10-02-12	304	0.019 ± 0.003
1st Quarter Mean ± s.d.		0.026 ± 0.005	3rd Quarter Mean ± s.d.		0.027 ± 0.009
04-09-12	254	0.021 ± 0.004	10-09-12	302	0.029 ± 0.004
04-16-12	300	0.021 ± 0.003	10-16-12	301	0.024 ± 0.004
04-23-12	304	0.018 ± 0.003	10-23-12	303	0.038 ± 0.004
04-30-12	303	0.023 ± 0.004	10-30-12	303	0.031 ± 0.004
05-07-12	302	0.017 ± 0.003	11-06-12	306	0.021 ± 0.004
05-15-12	343	0.017 ± 0.003	11-13-12	301	0.043 ± 0.004
05-22-12	304	0.026 ± 0.004	11-20-12	304	0.057 ± 0.005
05-29-12	303	0.024 ± 0.004	11-27-12	301	0.047 ± 0.004
06-04-12	260	0.020 ± 0.004	12-04-12	303	0.059 ± 0.005
06-11-12	302	0.022 ± 0.004	12-11-12	304	0.027 ± 0.004
06-19-12	355	0.027 ± 0.003	12-18-12	300	0.044 ± 0.004
06-26-12	292	0.019 ± 0.004	12-26-12	347	0.033 ± 0.004
07-03-12	305	0.024 ± 0.004	12-31-12	218	0.048 ± 0.005
2nd Quarter Mean ± s.d.		0.021 ± 0.003	4th Quarter Mean ± s.d.		0.039 ± 0.012
			Cumulative Average		0.028

[a] Iodine-131 is sampled biweekly. Concentrations are < 0.03 pCi/m^3 unless otherwise noted.
[b] Analysis was repeated. Result of reanalysis, 0.045 ± 0.004 pCi/m^3.

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
01-10-12	306	0.031 ± 0.003	07-10-12	302	0.026 ± 0.004
01-17-12	298	0.032 ± 0.004	07-17-12	303	0.037 ± 0.004
01-24-12	301	0.030 ± 0.003	07-24-12	298	0.030 ± 0.004
01-31-12	303	0.032 ± 0.004	07-31-12	305	0.022 ± 0.004
02-06-12	260	0.031 ± 0.004	08-07-12	304	0.027 ± 0.004
02-13-12	303	0.029 ± 0.003	08-14-12	303	0.020 ± 0.003
02-21-12	345	0.032 ± 0.003	08-21-12	306	0.024 ± 0.004
02-27-12	259	0.032 ± 0.004	08-28-12	297	0.047 ± 0.004 [b]
03-06-12	347	0.024 ± 0.003	09-04-12	302	0.028 ± 0.004
03-13-12	301	0.034 ± 0.004	09-11-12	302	0.028 ± 0.004
03-20-12	302	0.026 ± 0.003	09-18-12	302	0.034 ± 0.004
03-27-12	303	0.027 ± 0.004	09-25-12	302	0.018 ± 0.003
04-03-12	303	0.019 ± 0.004	10-02-12	304	0.021 ± 0.003
1st Quarter Mean ± s.d.		0.029 ± 0.004	3rd Quarter Mean ± s.d.		0.028 ± 0.008
04-09-12	258	0.023 ± 0.004	10-09-12	302	0.031 ± 0.004
04-16-12	302	0.025 ± 0.004	10-16-12	303	0.023 ± 0.003
04-23-12	303	0.020 ± 0.003	10-23-12	300	0.036 ± 0.004
04-30-12	303	0.026 ± 0.004	10-30-12	304	0.026 ± 0.004
05-07-12	302	0.020 ± 0.004	11-06-12	305	0.029 ± 0.004
05-15-12	345	0.020 ± 0.003	11-13-12	300	0.044 ± 0.004
05-22-12	302	0.027 ± 0.004	11-20-12	304	0.058 ± 0.005
05-29-12	304	0.022 ± 0.003	11-27-12	302	0.047 ± 0.004
06-04-12	260	0.035 ± 0.004	12-04-12	302	0.057 ± 0.005
06-11-12	302	0.023 ± 0.004	12-11-12	304	0.029 ± 0.004
06-19-12	348	0.024 ± 0.003	12-18-12	300	0.049 ± 0.004
06-26-12	299	0.019 ± 0.004	12-26-12	347	0.032 ± 0.003
07-03-12	304	0.027 ± 0.004	12-31-12	216	0.051 ± 0.006
2nd Quarter Mean ± s.d.		0.024 ± 0.004	4th Quarter Mean ± s.d.		0.039 ± 0.012
			Cumulative Average		0.030

[a] Iodine-131 is sampled biweekly. Concentrations are < 0.03 pCi/m^3 unless otherwise noted.
[b] Analysis was repeated. Result of reanalysis, 0.053 ± 0.005 pCi/m^3.

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Table 6. 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
01-10-12	302	0.027 ± 0.003	07-10-12	307	0.028 ± 0.004
01-17-12	303	0.034 ± 0.004	07-17-12	298	0.028 ± 0.004
01-24-12	300	0.030 ± 0.003	07-24-12	298	0.027 ± 0.004
01-31-12	299	0.033 ± 0.004	07-31-12	309	0.020 ± 0.003
02-06-12	262	0.028 ± 0.004	08-07-12	301	0.023 ± 0.004
02-13-12	303	0.028 ± 0.003	08-14-12	306	0.022 ± 0.003
02-21-12	348	0.025 ± 0.003	08-21-12	300	0.023 ± 0.004
02-27-12	257	0.035 ± 0.004	08-28-12	301	0.048 ± 0.004 [b]
03-06-12	345	0.022 ± 0.003	09-04-12	298	0.032 ± 0.004
03-13-12	306	0.027 ± 0.003	09-11-12	307	0.029 ± 0.004
03-20-12	301	0.031 ± 0.004	09-18-12	301	0.038 ± 0.004
03-27-12	304	0.024 ± 0.003	09-25-12	303	0.025 ± 0.003
04-03-12	298	0.015 ± 0.003	10-02-12	301	0.023 ± 0.003
1st Quarter Mean ± s.d.		0.028 ± 0.005	3rd Quarter Mean ± s.d.		0.028 ± 0.008
04-09-12	263	0.022 ± 0.004	10-09-12	301	0.032 ± 0.004
04-16-12	297	0.022 ± 0.004	10-16-12	301	0.030 ± 0.004
04-23-12	308	0.021 ± 0.003	10-23-12	305	0.037 ± 0.004
04-30-12	302	0.026 ± 0.004	10-30-12	301	0.033 ± 0.004
05-07-12	297	0.023 ± 0.004	11-06-12	306	0.025 ± 0.004
05-15-12	346	0.019 ± 0.003	11-13-12	301	0.044 ± 0.004
05-22-12	302	0.024 ± 0.004	11-20-12	307	0.056 ± 0.005
05-29-12	303	0.020 ± 0.003	11-27-12	298	0.045 ± 0.004
06-04-12	260	0.023 ± 0.004	12-04-12	307	0.067 ± 0.005
06-11-12	304	0.020 ± 0.003	12-11-12	299	0.034 ± 0.004
06-19-12	352	0.020 ± 0.003	12-18-12	303	0.051 ± 0.005
06-26-12	293	0.018 ± 0.004	12-26-12	343	0.036 ± 0.004
07-03-12	305	0.024 ± 0.004	12-31-12	219	0.053 ± 0.006
2nd Quarter Mean ± s.d.		0.022 ± 0.002	4th Quarter Mean ± s.d.		0.042 ± 0.012
			Cumulative Average		0.030

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

[b] Analysis was repeated. Result of reanalysis, 0.028 ± 0.004 pCi/m^3.

Table 7. 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
01-10-12	306	0.028 ± 0.003	07-10-12	302	0.027 ± 0.004
01-17-12	298	0.030 ± 0.004	07-17-12	303	0.032 ± 0.004
01-24-12	301	0.027 ± 0.003	07-24-12	298	0.026 ± 0.004
01-31-12	303	0.033 ± 0.004	07-31-12	305	0.020 ± 0.003
02-06-12	261	0.030 ± 0.004	08-07-12	304	0.023 ± 0.004
02-13-12	303	0.028 ± 0.003	08-14-12	300	0.019 ± 0.003
02-21-12	345	0.028 ± 0.003	08-21-12	309	0.027 ± 0.004
02-27-12	260	0.029 ± 0.004	08-28-12	297	0.045 ± 0.004 [b]
03-06-12	347	0.022 ± 0.003	09-04-12	303	0.031 ± 0.004
03-13-12	301	0.030 ± 0.004	09-11-12	304	0.026 ± 0.004
03-20-12	302	0.026 ± 0.003	09-18-12	301	0.033 ± 0.004
03-27-12	303	0.023 ± 0.003	09-25-12	302	0.019 ± 0.003
04-03-12	303	0.019 ± 0.004	10-02-12	304	0.025 ± 0.003
1st Quarter Mean ± s.d.		0.027 ± 0.004	3rd Quarter Mean ± s.d.		0.027 ± 0.007
04-09-12	258	0.021 ± 0.004	10-09-12	303	0.033 ± 0.004
04-16-12	302	0.023 ± 0.004	10-16-12	303	0.022 ± 0.003
04-23-12	303	0.018 ± 0.003	10-23-12	300	0.035 ± 0.004
04-30-12	303	0.023 ± 0.004	10-30-12	305	0.026 ± 0.004
05-07-12	302	0.016 ± 0.003	11-06-12	306	0.021 ± 0.004
05-15-12	345	0.019 ± 0.003	11-13-12	300	0.041 ± 0.004
05-22-12	302	0.022 ± 0.003	11-20-12	304	0.053 ± 0.005
05-29-12	304	0.020 ± 0.003	11-27-12	302	0.046 ± 0.004
06-04-12	260	0.018 ± 0.004	12-04-12	302	0.052 ± 0.005
06-11-12	302	0.021 ± 0.003	12-11-12	304	0.027 ± 0.004
06-19-12	348	0.018 ± 0.003	12-18-12	300	0.047 ± 0.004
06-26-12	299	0.018 ± 0.003	12-26-12	347	0.028 ± 0.003
07-03-12	305	0.023 ± 0.004	12-31-12	218	0.050 ± 0.005
2nd Quarter Mean ± s.d.		0.020 ± 0.002	4th Quarter Mean ± s.d.		0.037 ± 0.012
			Cumulative Average		0.028

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

[b] Analysis was repeated. Result of reanalysis, 0.048 ± 0.005 pCi/m^3.

Table 8. 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
01-10-12	306	0.032 ± 0.004	07-10-12	302	0.026 ± 0.004
01-17-12	299	0.038 ± 0.004	07-17-12	305	0.031 ± 0.004
01-24-12	301	0.032 ± 0.004	07-24-12	299	0.027 ± 0.004
01-31-12	303	0.038 ± 0.004	07-31-12	302	0.021 ± 0.003
02-06-12	261	0.034 ± 0.004	08-07-12	305	0.027 ± 0.004
02-13-12	303	0.026 ± 0.003	08-14-12	303	0.021 ± 0.003
02-21-12	344	0.032 ± 0.003	08-21-12	305	0.021 ± 0.004
02-27-12	260	0.034 ± 0.004	08-28-12	297	0.045 ± 0.004 [b]
03-06-12	346	0.024 ± 0.003	09-04-12	305	0.027 ± 0.004
03-13-12	301	0.037 ± 0.004	09-11-12	303	0.027 ± 0.004
03-20-12	301	0.030 ± 0.004	09-18-12	305	0.034 ± 0.004
03-27-12	303	0.030 ± 0.004	09-25-12	298	0.020 ± 0.003
04-03-12	303	0.016 ± 0.003	10-02-12	305	0.022 ± 0.003
1st Quarter Mean ± s.d.		0.031 ± 0.006	3rd Quarter Mean ± s.d.		0.027 ± 0.007
04-09-12	259	0.022 ± 0.004	10-09-12	305	0.034 ± 0.004
04-16-12	302	0.024 ± 0.004	10-16-12	300	0.023 ± 0.003
04-23-12	305	0.023 ± 0.004	10-23-12	300	0.037 ± 0.004
04-30-12	301	0.026 ± 0.004	10-30-12	304	0.030 ± 0.004
05-07-12	302	0.018 ± 0.003	11-06-12	306	0.023 ± 0.004
05-15-12	346	0.023 ± 0.003	11-13-12	300	0.042 ± 0.004
05-22-12	301	0.027 ± 0.004	11-20-12	304	0.058 ± 0.005
05-29-12	303	0.029 ± 0.004	11-27-12	301	0.046 ± 0.004
06-04-12	260	0.023 ± 0.004	12-04-12	303	0.063 ± 0.005
06-11-12	303	0.021 ± 0.003	12-11-12	303	0.031 ± 0.004
06-19-12	347	0.023 ± 0.003	12-18-12	300	0.047 ± 0.004
06-26-12	299	0.021 ± 0.004	12-26-12	347	0.034 ± 0.004
07-03-12	304	0.025 ± 0.004	12-31-12	216	0.053 ± 0.006
2nd Quarter Mean ± s.d.		0.023 ± 0.003	4th Quarter Mean ± s.d.		0.040 ± 0.013
			Cumulative Average		0.030

[a] Iodine-131 is sampled biweekly. Concentrations are < 0.03 pCi/m^3 unless otherwise noted.
[b] Analysis was repeated. Result of reanalysis, 0.043 ± 0.004 pCi/m^3.

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

Location: K-43

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
01-10-12	301	0.031 ± 0.004	07-10-12	307	0.026 ± 0.004
01-17-12	303	0.038 ± 0.004	07-17-12	297	0.036 ± 0.004
01-24-12	300	0.031 ± 0.004	07-24-12	298	0.030 ± 0.004
01-31-12	299	0.032 ± 0.004	07-31-12	310	0.024 ± 0.004
02-06-12	262	0.031 ± 0.004	08-07-12	301	0.024 ± 0.004
02-13-12	302	0.026 ± 0.003	08-14-12	297	0.020 ± 0.003
02-21-12	351	0.029 ± 0.003	08-21-12	309	0.018 ± 0.003
02-27-12	256	0.033 ± 0.004	08-28-12	302	0.042 ± 0.004 [b]
03-06-12	345	0.025 ± 0.003	09-04-12	298	0.026 ± 0.004
03-13-12	306	0.029 ± 0.004	09-11-12	308	0.033 ± 0.004
03-20-12	301	0.024 ± 0.003	09-18-12	300	0.030 ± 0.004
03-27-12	304	0.029 ± 0.004	09-25-12	303	0.021 ± 0.003
04-03-12	297	0.018 ± 0.004	10-02-12	300	0.020 ± 0.003
1st Quarter Mean ± s.d.		0.029 ± 0.005	3rd Quarter Mean ± s.d.		0.027 ± 0.007
04-09-12	264	0.023 ± 0.004	10-09-12	301	0.027 ± 0.004
04-16-12	296	0.023 ± 0.004	10-16-12	301	0.023 ± 0.003
04-23-12	309	0.019 ± 0.003	10-23-12	306	0.036 ± 0.004
04-30-12	302	0.026 ± 0.004	10-30-12	296	0.029 ± 0.004
05-07-12	297	0.019 ± 0.004	11-06-12	305	0.024 ± 0.004
05-15-12	346	0.018 ± 0.003	11-13-12	301	0.041 ± 0.004
05-22-12	302	0.025 ± 0.004	11-20-12	307	0.057 ± 0.005
05-29-12	303	0.024 ± 0.004	11-27-12	298	0.046 ± 0.004
06-04-12	260	0.020 ± 0.004	12-04-12	308	0.061 ± 0.005
06-11-12	304	0.023 ± 0.004	12-11-12	298	0.027 ± 0.004
06-19-12	353	0.023 ± 0.003	12-18-12	304	0.043 ± 0.004
06-26-12	293	0.018 ± 0.004	12-26-12	343	0.032 ± 0.004
07-03-12	305	0.026 ± 0.004	12-31-12	218	0.045 ± 0.005
2nd Quarter Mean ± s.d.		0.022 ± 0.003	4th Quarter Mean ± s.d.		0.038 ± 0.012
			Cumulative Average		0.029

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

[b] Analysis was repeated. Result of reanalysis, 0.024 ± 0.004 pCi/m^3.

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

January

Location	Average	Minima	Maxima
Indicators	0.031	0.027	0.038
K-1f	0.029	0.027	0.031
K-43	0.033	0.031	0.038
Controls	0.032	0.027	0.038
K-2	0.031	0.030	0.032
K-8	0.031	0.027	0.034
K-31	0.030	0.027	0.033
K-41	0.035	0.032	0.038

February

Location	Average	Minima	Maxima
Indicators	0.027	0.014	0.037
K-1f	0.029	0.027	0.030
K-43	0.030	0.026	0.033
Controls	0.030	0.025	0.035
K-2	0.031	0.029	0.032
K-8	0.029	0.025	0.035
K-31	0.029	0.028	0.030
K-41	0.032	0.026	0.034

March

Location	Average	Minima	Maxima
Indicators	0.024	0.014	0.031
K-1f	0.023	0.014	0.031
K-43	0.025	0.018	0.029
Controls	0.025	0.015	0.037
K-2	0.026	0.019	0.034
K-8	0.024	0.015	0.031
K-31	0.024	0.019	0.030
K-41	0.027	0.016	0.037

April

Location	Average	Minima	Maxima
Indicators	0.022	0.018	0.026
K-1f	0.021	0.018	0.023
K-43	0.023	0.019	0.026
Controls	0.022	0.018	0.026
K-2	0.024	0.020	0.026
K-8	0.023	0.021	0.026
K-31	0.021	0.018	0.023
K-41	0.021	0.018	0.023

May

Location	Average	Minima	Maxima
Indicators	0.022	0.016	0.038
K-1f	0.021	0.017	0.026
K-43	0.022	0.018	0.025
Controls	0.022	0.016	0.029
K-2	0.022	0.020	0.027
K-8	0.022	0.019	0.024
K-31	0.019	0.016	0.022
K-41	0.024	0.018	0.029

June

Location	Average	Minima	Maxima
Indicators	0.023	0.018	0.027
K-1f	0.022	0.019	0.027
K-43	0.023	0.018	0.026
Controls	0.026	0.018	0.038
K-2	0.023	0.019	0.027
K-8	0.021	0.018	0.024
K-31	0.020	0.018	0.023
K-41	0.023	0.021	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	0.028	0.020	0.036
K-1f	0.027	0.020	0.032
K-43	0.029	0.024	0.036
Controls	0.027	0.020	0.037
K-2	0.029	0.022	0.037
K-8	0.026	0.020	0.028
K-31	0.026	0.020	0.032
K-41	0.026	0.021	0.031

August

Location	Average	Minima	Maxima
Indicators	0.029	0.018	0.051
K-1f	0.031	0.023	0.051
K-43	0.026	0.018	0.042
Controls	0.029	0.019	0.048
K-2	0.030	0.020	0.047
K-8	0.029	0.022	0.048
K-31	0.029	0.019	0.045
K-41	0.029	0.021	0.045

September

Location	Average	Minima	Maxima
Indicators	0.026	0.019	0.034
K-1f	0.025	0.019	0.034
K-43	0.026	0.020	0.033
Controls	0.027	0.018	0.038
K-2	0.026	0.018	0.034
K-8	0.029	0.023	0.038
K-31	0.027	0.019	0.033
K-41	0.026	0.020	0.034

October

Location	Average	Minima	Maxima
Indicators	0.030	0.023	0.038
K-1f	0.031	0.024	0.038
K-43	0.029	0.023	0.036
Controls	0.031	0.022	0.037
K-2	0.029	0.023	0.036
K-8	0.033	0.030	0.037
K-31	0.029	0.022	0.035
K-41	0.031	0.023	0.037

November

Location	Average	Minima	Maxima
Indicators	0.042	0.021	0.057
K-1f	0.042	0.021	0.057
K-43	0.042	0.024	0.057
Controls	0.043	0.021	0.058
K-2	0.045	0.029	0.058
K-8	0.043	0.025	0.056
K-31	0.040	0.021	0.053
K-41	0.042	0.023	0.058

December

Location	Average	Minima	Maxima
Indicators	0.042	0.027	0.061
K-1f	0.042	0.027	0.059
K-43	0.042	0.027	0.061
Controls	0.045	0.027	0.067
K-2	0.044	0.029	0.057
K-8	0.048	0.034	0.067
K-31	0.041	0.027	0.052
K-41	0.046	0.031	0.063

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- 2183	KAP- 4389	KAP- 6457	KAP- 8493
Volume (m^3)	3805	3927	3931	3893
Be-7	0.058 ± 0.016	0.084 ± 0.014	0.092 ± 0.014	0.038 ± 0.013
Nb-95	< 0.0007	< 0.0012	< 0.0008	< 0.0016
Zr-95	< 0.0017	< 0.0012	< 0.0009	< 0.0013
Ru-103	< 0.0013	< 0.0009	< 0.0007	< 0.0015
Ru-106	< 0.0079	< 0.0043	< 0.0045	< 0.0064
Cs-134	< 0.0005	< 0.0007	< 0.0006	< 0.0007
Cs-137	< 0.0009	< 0.0009	< 0.0006	< 0.0007
Ce-141	< 0.0010	< 0.0013	< 0.0017	< 0.0024
Ce-144	< 0.0049	< 0.0033	< 0.0041	< 0.0058
K-43				
Lab Code	KAP- 2189	KAP- 4395	KAP- 6463	KAP- 8498
Volume (m^3)	3927	3934	3930	3886
Be-7	0.069 ± 0.016	0.092 ± 0.016	0.081 ± 0.014	0.061 ± 0.017
Nb-95	< 0.0008	< 0.0011	< 0.0015	< 0.0011
Zr-95	< 0.0011	< 0.0012	< 0.0020	< 0.0007
Ru-103	< 0.0007	< 0.0011	< 0.0013	< 0.0007
Ru-106	< 0.0073	< 0.0082	< 0.0061	< 0.0045
Cs-134	< 0.0005	< 0.0007	< 0.0008	< 0.0008
Cs-137	< 0.0008	< 0.0009	< 0.0009	< 0.0003
Ce-141	< 0.0011	< 0.0016	< 0.0019	< 0.0016
Ce-144	< 0.0047	< 0.0044	< 0.0046	< 0.0029

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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- 2184	KAP- 4390	KAP- 6458	KAP- 8494
Volume (m^3)	3931	3932	3930	3889
Be-7	0.070 ± 0.012	0.094 ± 0.016	0.068 ± 0.013	0.057 ± 0.015
Nb-95	< 0.0011	< 0.0004	< 0.0012	< 0.0014
Zr-95	< 0.0017	< 0.0012	< 0.0015	< 0.0021
Ru-103	< 0.0011	< 0.0010	< 0.0007	< 0.0007
Ru-106	< 0.0070	< 0.0034	< 0.0075	< 0.0044
Cs-134	< 0.0008	< 0.0005	< 0.0009	< 0.0004
Cs-137	< 0.0005	< 0.0006	< 0.0007	< 0.0004
Ce-141	< 0.0016	< 0.0019	< 0.0010	< 0.0015
Ce-144	< 0.0049	< 0.0043	< 0.0034	< 0.0027
K-8				
Lab Code	KAP- 2185	KAP- 4392	KAP- 6459	KAP- 8495
Volume (m^3)	3928	3932	3930	3891
Be-7	0.060 ± 0.015	0.082 ± 0.014	0.072 ± 0.014	0.059 ± 0.014
Nb-95	< 0.0008	< 0.0007	< 0.0008	< 0.0010
Zr-95	< 0.0018	< 0.0009	< 0.0016	< 0.0022
Ru-103	< 0.0008	< 0.0008	< 0.0012	< 0.0009
Ru-106	< 0.0061	< 0.0030	< 0.0046	< 0.0072
Cs-134	< 0.0004	< 0.0005	< 0.0006	< 0.0005
Cs-137	< 0.0005	< 0.0005	< 0.0006	< 0.0004
Ce-141	< 0.0013	< 0.0014	< 0.0019	< 0.0022
Ce-144	< 0.0047	< 0.0049	< 0.0053	< 0.0025

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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- 2186	KAP- 4393	KAP- 6460	KAP- 8496
Volume (m^3)	3933	3933	3932	3894
Be-7	0.056 ± 0.014	0.077 ± 0.011	0.061 ± 0.014	0.053 ± 0.013
Nb-95	< 0.0006	< 0.0012	< 0.0011	< 0.0008
Zr-95	< 0.0012	< 0.0013	< 0.0013	< 0.0012
Ru-103	< 0.0011	< 0.0006	< 0.0012	< 0.0006
Ru-106	< 0.0079	< 0.0048	< 0.0092	< 0.0052
Cs-134	< 0.0007	< 0.0007	< 0.0010	< 0.0003
Cs-137	< 0.0010	< 0.0007	< 0.0008	< 0.0005
Ce-141	< 0.0016	< 0.0012	< 0.0015	< 0.0010
Ce-144	< 0.0040	< 0.0035	< 0.0046	< 0.0044
K-41				
Lab Code	KAP- 2188	KAP- 4394	KAP- 6461	KAP- 8498
Volume (m^3)	3931	3932	3934	3889
Be-7	0.080 ± 0.016	0.104 ± 0.014	0.069 ± 0.012	0.061 ± 0.017
Nb-95	< 0.0011	< 0.0006	< 0.0008	< 0.0011
Zr-95	< 0.0017	< 0.0016	< 0.0008	< 0.0007
Ru-103	< 0.0013	< 0.0005	< 0.0009	< 0.0007
Ru-106	< 0.0066	< 0.0043	< 0.0056	< 0.0045
Cs-134	< 0.0006	< 0.0005	< 0.0005	< 0.0008
Cs-137	< 0.0009	< 0.0006	< 0.0004	< 0.0003
Ce-141	< 0.0019	< 0.0012	< 0.0008	< 0.0016
Ce-144	< 0.0042	< 0.0024	< 0.0047	< 0.0029

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

	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	
Date Placed	01-03-12	04-02-12	07-05-12	10-01-12	
Date Removed	04-02-12	07-05-12	10-01-12	01-02-13	
	mR/91 days				
Indicator					Mean±s.d.
K-1f	12.4 ± 0.9	11.9 ± 0.4	12.6 ± 0.8	14.3 ± 0.5	12.8 ± 1.0
K-5	17.5 ± 0.7	18.7 ± 0.7	19.4 ± 0.6	21.5 ± 0.7	19.3 ± 1.7
K-17	12.0 ± 0.3	13.9 ± 0.5	13.2 ± 0.7	16.3 ± 0.4	13.9 ± 1.8
K-25	13.3 ± 0.3	17.5 ± 0.5	14.8 ± 0.4	20.8 ± 0.8	16.6 ± 3.3
K-27	15.9 ± 0.2	18.0 ± 0.8	16.9 ± 0.3	21.4 ± 0.8	18.1 ± 2.4
K-30	15.4 ± 0.5	15.3 ± 0.5	16.2 ± 0.4	18.0 ± 0.4	16.2 ± 1.3
K-39	14.6 ± 0.4	16.5 ± 0.8	15.6 ± 0.6	19.4 ± 0.7	16.5 ± 2.1
K-43	14.6 ± 0.8	15.1 ± 0.5	14.4 ± 0.7	17.1 ± 0.8	15.3 ± 1.2
Mean ± s.d.	14.5 ± 1.8	15.9 ± 2.3	15.4 ± 2.2	18.6 ± 2.6	16.1 ± 1.8
Control					
K-2	15.2 ± 0.6	15.4 ± 0.7	15.9 ± 0.6	18.0 ± 0.5	16.1 ± 1.3
K-3	16.6 ± 0.9	17.3 ± 0.8	18.0 ± 1.2	20.5 ± 0.9	18.1 ± 1.7
K-8	14.7 ± 0.6	15.0 ± 0.5	15.8 ± 0.7	17.7 ± 0.6	15.8 ± 1.3
K-15	13.0 ± 0.5	14.0 ± 0.3	14.2 ± 0.4	16.7 ± 0.6	14.5 ± 1.6
K-31	11.4 ± 0.4	12.8 ± 0.3	11.9 ± 0.4	15.1 ± 0.3	12.8 ± 1.6
K-41	13.1 ± 0.8	14.8 ± 0.6	13.8 ± 0.8	17.3 ± 0.9	14.8 ± 1.8
Mean ± s.d.	14.0 ± 1.9	14.9 ± 1.5	14.9 ± 2.1	17.6 ± 1.8	15.3 ± 1.6
Inside the Protected Area					
Date Placed	12-21-11	03-25-12	06-29-12	09-17-12	
Date Removed	03-21-12	06-29-12	09-17-12	12-19-12	
K-1L	13.6 ± 0.5	10.9 ± 0.7	13.8 ± 0.6	12.8 ± 0.6	12.8 ± 1.4
K-1M	16.5 ± 0.4	13.6 ± 0.5	15.6 ± 0.5	17.1 ± 0.9	15.7 ± 1.7
K-1N	12.5 ± 0.5	11.9 ± 0.6	12.4 ± 0.8	13.8 ± 1.4	12.7 ± 0.9
K-1O	12.2 ± 0.4	11.1 ± 0.4	12.2 ± 0.3	13.1 ± 0.7	12.2 ± 1.0
K-1P	12.5 ± 0.5	11.3 ± 1.3	11.8 ± 0.4	13.4 ± 1.5	12.3 ± 1.0
K-1Q	11.5 ± 0.8	10.0 ± 0.4	11.6 ± 1.3	12.0 ± 0.5	11.3 ± 1.1
K-1R	14.1 ± 0.4	13.1 ± 0.3	15.5 ± 0.7	15.9 ± 0.7	14.7 ± 1.5
K-1S	13.7 ± 0.7	12.3 ± 0.4	14.5 ± 0.7	13.9 ± 0.6	13.6 ± 1.1
Mean ± s.d.	13.3 ± 1.6	11.8 ± 1.2	13.4 ± 1.6	14.0 ± 1.7	13.1 ± 0.9

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

Date Collected	Lab Code	H-3	
		pCi/L	T.U. (100 T.U. = 320 pCi/L)
01/03/12	KP- 91	< 145	< 45
01/31/12	KP- 587	< 146	< 46
03/06/12	KP- 1184	< 143	< 45
04/03/12	KP- 1701	< 152	< 48
04/30/12	KP- 2424	< 157	< 49
06/19/12	KP- 3753	< 151	< 47
07/10/12	KP- 4137	< 147	< 46
07/31/12	KP- 4853	< 151	< 47
09/04/12	KP- 5586	< 147	< 46
10/01/12	KP- 6122	< 143	< 45
11/05/12	KP- 7089	< 153	< 48
12/03/12	KP- 7738	< 151	< 47

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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						
01-04-12	KMI- 10	< 0.3	< 3.0	< 2.0	< 1.5	1359 ± 112
02-02-12	KMI- 561	< 0.2	< 4.1	< 3.5	< 4.4	1318 ± 123
03-02-12	KMI- 1023	< 0.3	< 3.0	< 3.1	< 4.7	1452 ± 105
04-03-12	KMI- 1618	< 0.2	< 3.2	< 3.1	< 1.6	1408 ± 116
05-02-12	KMI- 2392	< 0.2	< 4.5	< 6.3	< 2.7	1416 ± 129
05-15-12	KMI- 2816	< 0.4	< 3.2	< 2.8	< 1.7	1404 ± 118
06-05-12	KMI- 3399	< 0.2	< 2.0	< 2.7	< 1.6	1337 ± 104
06-19-12	KMI- 3702	< 0.3	< 2.9	< 2.7	< 1.3	1497 ± 126
07-06-12	KMI- 3973	< 0.5	< 2.9	< 3.0	< 2.1	1435 ± 85
07-17-12	KMI- 4216	< 0.5	< 3.1	< 4.4	< 1.3	1458 ± 116
08-02-12	KMI- 4795	< 0.1	< 3.4	< 2.8	< 3.4	1343 ± 105
08-14-12	NS [a]	-	-	-	-	-
09-05-12	KMI- 5578	< 0.2	< 4.0	< 4.4	< 2.3	1433 ± 121
09-18-12	KMI- 5871	< 0.4	< 4.3	< 4.5	< 2.8	1379 ± 139
10-02-12	KMI- 6076	< 0.3	< 2.6	< 2.7	< 5.1	1361 ± 102
10-16-12	KMI- 6590	< 0.4	< 3.8	< 5.2	< 3.1	1352 ± 128
11-06-12	KMI- 7072	< 0.2	< 3.7	< 5.2	< 4.3	1424 ± 159
12-04-12	KMI- 7722	< 0.4	< 2.9	< 2.6	< 1.7	1424 ± 113
K-34						
01-03-12	KMI- 11	< 0.3	< 2.6	< 3.3	< 1.7	1512 ± 105
02-02-12	KMI- 562	< 0.4	< 2.7	< 3.0	< 3.0	1473 ± 104
03-01-12	KMI- 1024	< 0.3	< 3.2	< 3.6	< 1.8	1435 ± 105
04-02-12	KMI- 1619	< 0.2	< 2.2	< 3.2	< 3.6	1423 ± 104
05-01-12	KMI- 2393	< 0.3	< 2.9	< 4.2	< 2.6	1429 ± 119
05-15-12	KMI- 2817	< 0.4	< 5.5	< 6.0	< 2.5	1288 ± 182
06-04-12	KMI- 3400	< 0.2	< 2.5	< 2.3	< 2.2	1459 ± 115
06-19-12	KMI- 3703	< 0.4	< 3.0	< 4.0	< 1.5	1468 ± 110
07-05-12	KMI- 3974	< 0.3	< 2.2	< 2.9	< 2.4	1335 ± 88
07-17-12	KMI- 4217	< 0.3	< 2.7	< 4.2	< 2.4	1316 ± 104
08-01-12	KMI- 4796	< 0.2	< 3.8	< 4.1	< 3.8	1502 ± 115
08-14-12	KMI- 5110	< 0.3	< 3.6	< 3.7	< 3.5	1419 ± 111
09-05-12	KMI- 5579	< 0.3	< 3.8	< 5.1	< 3.2	1460 ± 112
09-18-12	KMI- 5872	< 0.3	< 2.8	< 3.6	< 1.5	1417 ± 113
10-01-12	KMI- 6077	< 0.2	< 2.8	< 3.2	< 4.9	1469 ± 91
10-16-12	KMI- 6591	< 0.2	< 3.8	< 4.9	< 2.1	1433 ± 131
11-05-12	KMI- 7073	< 0.2	< 2.5	< 3.9	< 5.1	1568 ± 105
12-03-12	KMI- 7723	< 0.4	< 3.0	< 3.6	< 2.6	1533 ± 109

[a] NS; No Sample, Samples lost in-transit.

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						
01-03-12	KMI- 13	< 0.3	< 2.5	< 4.0	< 1.5	1246 ± 110
02-01-12	KMI- 564	< 0.3	< 3.1	< 4.2	< 1.5	1269 ± 105
03-01-12	KMI- 1026	< 0.2	< 2.8	< 3.1	< 4.2	1276 ± 101
04-02-12	KMI- 1621	< 0.2	< 3.1	< 3.1	< 1.7	1383 ± 103
05-02-12	KMI- 2395	< 0.2	< 3.5	< 2.8	< 2.1	1346 ± 113
05-15-12	KMI- 2819	< 0.4	< 2.6	< 3.9	< 1.1	1349 ± 112
06-05-12	KMI- 3402	< 0.1	< 2.2	< 1.8	< 1.5	1352 ± 97
06-19-12	KMI- 3705	< 0.3	< 3.4	< 4.9	< 2.9	1412 ± 112
07-05-12	KMI- 3976	< 0.2	< 2.8	< 2.1	< 2.8	1346 ± 103
07-17-12	KMI- 4219	< 0.4	< 3.0	< 3.5	< 3.5	1435 ± 112
08-02-12	KMI- 4798	< 0.3	< 3.0	< 3.4	< 3.6	1260 ± 101
08-14-12	KMI- 5111	< 0.3	< 3.6	< 3.9	< 2.2	1437 ± 120
09-05-12	KMI- 5581	< 0.2	< 2.1	< 4.0	< 4.3	1373 ± 112
09-18-12	KMI- 5874	< 0.3	< 4.0	< 4.9	< 2.6	1331 ± 123
10-01-12	KMI- 6079	< 0.2	< 3.5	< 3.5	< 2.8	1466 ± 97
10-16-12	KMI- 6593	< 0.5	< 4.3	< 3.9	< 2.9	1379 ± 118
11-06-12	KMI- 7075	< 0.4	< 3.1	< 4.0	< 4.9	1441 ± 117
12-04-12	KMI- 7725	< 0.4	< 4.5	< 4.2	< 3.8	1423 ± 123
K-39						
01-03-12	KMI- 14	< 0.3	< 3.2	< 3.1	< 1.7	1344 ± 108
02-01-12	KMI- 565	< 0.3	< 2.6	< 3.7	< 1.5	1409 ± 111
03-01-12	KMI- 1027	< 0.2	< 2.8	< 3.1	< 5.5	1448 ± 95
04-02-12	KMI- 1622	< 0.2	< 3.3	< 2.6	< 4.0	1336 ± 107
05-02-12	KMI- 2396	< 0.2	< 3.7	< 5.8	< 1.6	1422 ± 122
05-15-12	KMI- 2820	< 0.4	< 2.5	< 5.9	< 2.5	1411 ± 121
06-05-12	KMI- 3403	< 0.1	< 1.9	< 3.5	< 1.6	1320 ± 90
06-19-12	KMI- 3706	< 0.3	< 1.4	< 2.8	< 1.3	1398 ± 117
07-05-12	KMI- 3977	< 0.3	< 3.4	< 3.5	< 3.7	1443 ± 119
07-17-12	KMI- 4220	< 0.3	< 2.7	< 2.4	< 2.7	1390 ± 114
08-02-12	KMI- 4799	< 0.3	< 2.7	< 3.2	< 2.0	1366 ± 98
08-14-12	KMI- 5112	< 0.3	< 3.2	< 5.0	< 2.4	1343 ± 113
09-05-12	KMI- 5582	< 0.3	< 2.5	< 3.2	< 2.0	1369 ± 103
09-18-12	KMI- 5875	< 0.3	< 3.5	< 3.5	< 1.6	1338 ± 117
10-01-12	KMI- 6080	< 0.2	< 2.3	< 3.4	< 2.8	1394 ± 93
10-16-12	KMI- 6594	< 0.4	< 3.3	< 3.9	< 2.0	1431 ± 116
11-06-12	KMI- 7076	< 0.2	< 2.4	< 3.0	< 5.1	1363 ± 93
12-04-12	KMI- 7726	< 0.4	< 3.4	< 5.6	< 9.0	1398 ± 135

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
Indicator						
K-44 [a]						
06-05-12	KMI- 3405	< 0.2	< 2.3	< 2.6	< 2.1	1398 ± 93
07-05-12	KMI- 3979	< 0.3	< 2.7	< 3.8	< 3.0	1355 ± 97
08-02-12	KMI- 4801	< 0.3	< 3.0	< 3.2	< 1.5	1250 ± 96
09-05-12	KMI- 5584	< 0.2	< 3.1	< 3.0	< 4.2	1312 ± 98
10-02-12	KMI- 6082	< 0.2	< 2.3	< 4.2	< 3.8	1323 ± 111
10-16-12	KMI- 6596	< 0.4	< 3.8	< 4.4	< 2.0	1331 ± 115
11-06-12	KMI- 7078	< 0.2	< 2.4	< 3.4	< 5.8	1368 ± 88
12-04-12	KMI- 7728	< 0.4	< 2.5	< 3.1	< 3.2	1387 ± 101
Control						
K-3						
01-04-12	KMI- 9	< 0.3	< 2.9	< 2.2	< 2.4	1259 ± 96
02-02-12	KMI- 560	< 0.3	< 2.8	< 3.8	< 3.9	1419 ± 105
03-02-12	KMI- 1022	< 0.2	< 2.4	< 3.3	< 1.8	1426 ± 107
04-02-12	KMI- 1617	< 0.3	< 3.2	< 4.4	< 1.3	1447 ± 121
05-02-12	KMI- 2391	< 0.3	< 3.1	< 3.9	< 1.2	1381 ± 115
05-15-12	KMI- 2815	< 0.4	< 2.8	< 3.2	< 1.9	1462 ± 117
06-04-12	KMI- 3398	< 0.2	< 3.2	< 3.4	< 1.3	1492 ± 126
06-19-12	KMI- 3701	< 0.3	< 2.7	< 4.2	< 1.7	1402 ± 117
07-06-12	KMI- 3972	< 0.2	< 2.9	< 3.8	< 2.7	1253 ± 103
07-17-12	KMI- 4215	< 0.3	< 2.4	< 2.7	< 2.1	1368 ± 104
08-02-12	KMI- 4794	< 0.1	< 3.2	< 2.3	< 1.3	1374 ± 98
08-14-12	NS [a]	-	-	-	-	-
09-05-12	KMI- 5577	< 0.2	< 3.8	< 4.2	< 4.2	1382 ± 119
09-18-12	KMI- 5870	< 0.3	< 2.3	< 4.2	< 3.0	1315 ± 122
10-02-12	KMI- 6075	< 0.2	< 2.4	< 3.6	< 4.6	1358 ± 102
10-16-12	KMI- 6589	< 0.2	< 3.6	< 3.3	< 1.7	1461 ± 125
11-05-12	KMI- 7071	< 0.5	< 4.1	< 5.3	< 7.3	1272 ± 150
12-04-12	KMI- 7721	< 0.5	< 3.3	< 3.8	< 2.5	1427 ± 99

[a] K-44, new location. First collection June 5, 2012.

[b] NS; No Sample, Samples lost in-transit.

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
Controls						
K-35						
01-04-12	KMI- 12	< 0.4	< 3.5	< 3.4	< 1.4	1419 ± 129
02-02-12	KMI- 563	< 0.3	< 3.1	< 3.9	< 4.1	1424 ± 107
03-02-12	KMI- 1025	< 0.2	< 3.1	< 3.7	< 3.3	1394 ± 101
04-02-12	KMI- 1620	< 0.3	< 3.0	< 3.7	< 1.9	1362 ± 111
05-02-12	KMI- 2394	< 0.3	< 2.0	< 3.8	< 1.6	1300 ± 106
05-15-12	KMI- 2818	< 0.4	< 2.9	< 4.1	< 1.6	1359 ± 108
06-05-12	KMI- 3401	< 0.2	< 3.0	< 3.8	< 4.1	1255 ± 108
06-19-12	KMI- 3704	< 0.3	< 2.7	< 4.2	< 1.3	1412 ± 112
07-06-12	KMI- 3975	< 0.3	< 3.8	< 4.0	< 3.0	1428 ± 129
07-17-12	KMI- 4218	< 0.4	< 2.3	< 3.1	< 0.8	1396 ± 96
08-02-12	KMI- 4797	< 0.4	< 3.3	< 3.3	< 3.2	1398 ± 108
08-14-12	NS [a]	-	-	-	-	-
09-05-12	KMI- 5580	< 0.3	< 2.7	< 4.8	< 4.6	1419 ± 108
09-18-12	KMI- 5873	< 0.3	< 2.8	< 4.1	< 1.6	1376 ± 119
10-02-12	KMI- 6078	< 0.2	< 2.6	< 3.1	< 4.2	1566 ± 103
10-16-12	KMI- 6592	< 0.3	< 3.4	< 4.0	< 3.5	1560 ± 127
11-06-12	KMI- 7074	< 0.2	< 3.6	< 4.2	< 6.1	1377 ± 104
12-04-12	KMI- 7724	< 0.4	< 2.1	< 3.4	< 5.0	1476 ± 96
K-42						
01-03-12	KMI- 15	< 0.3	< 3.1	< 3.4	< 2.9	1432 ± 113
02-01-12	KMI- 566	< 0.2	< 2.9	< 3.8	< 3.3	1359 ± 104
03-01-12	KMI- 1028	< 0.2	< 2.7	< 2.9	< 2.6	1362 ± 101
04-02-12	KMI- 1623	< 0.2	< 2.8	< 3.2	< 4.0	1463 ± 102
05-01-12	KMI- 2397	< 0.2	< 3.0	< 2.9	< 1.2	1371 ± 111
05-15-12	KMI- 2821	< 0.4	< 2.5	< 3.3	< 1.6	1475 ± 118
06-04-12	KMI- 3404	< 0.1	< 2.5	< 3.0	< 1.3	1390 ± 114
06-19-12	KMI- 3707	< 0.3	< 2.8	< 3.4	< 1.3	1382 ± 102
07-05-12	KMI- 3978	< 0.3	< 3.0	< 5.3	< 4.0	1387 ± 125
07-17-12	KMI- 4221	< 0.3	< 2.3	< 3.4	< 2.3	1242 ± 108
08-01-12	KMI- 4800	< 0.3	< 3.3	< 4.3	< 1.6	1426 ± 109
08-14-12	KMI- 5113	< 0.3	< 2.7	< 3.3	< 2.0	1391 ± 113
09-04-12	KMI- 5583	< 0.3	< 2.4	< 4.1	< 4.5	1322 ± 104
09-18-12	KMI- 5876	< 0.4	< 4.6	< 4.3	< 3.5	1348 ± 118
10-01-12	KMI- 6081	< 0.2	< 3.1	< 3.9	< 3.5	1469 ± 103
10-16-12	KMI- 6595	< 0.3	< 2.8	< 5.1	< 3.1	1526 ± 135
11-05-12	KMI- 7077	< 0.4	< 4.2	< 3.4	< 4.2	1401 ± 118
12-03-12	KMI- 7727	< 0.4	< 3.4	< 3.4	< 6.0	1375 ± 105

[a] NS; No Sample, Samples lost in-transit.

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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 - 10	< 1.0	0.7 ± 0.3	1.66 ± 0.14	1.13	0.62	< 6.02
February	- 561	< 1.1	0.9 ± 0.4	1.61 ± 0.15	1.19	0.76	< 6.21
March	- 1023	< 0.8	< 0.4	1.77 ± 0.13	1.12	< 0.36	< 5.65
April	- 1618	< 1.0	0.6 ± 0.3	1.72 ± 0.14	1.20	0.50	< 5.81
May	- 2829	< 0.8	0.6 ± 0.3	1.72 ± 0.15	0.98	0.61	< 5.81
June	- 3866	< 0.9	< 0.6	1.73 ± 0.14	0.95	< 0.63	< 5.78
July	- 4691	< 0.7	< 0.5	1.76 ± 0.12	0.93	< 0.54	< 5.68
August	- 4795	< 0.9	0.7 ± 0.3	1.64 ± 0.15	1.09	0.64	< 6.10
September	- 6032	< 0.8	0.9 ± 0.4	1.71 ± 0.16	0.80	1.13	< 5.85
October	- 6890	< 0.9	< 0.5	1.65 ± 0.14	0.86	< 0.58	< 6.06
November	- 7072	< 0.8	0.4 ± 0.2	1.74 ± 0.19	1.12	0.36	< 5.75
December	- 7722	< 0.9	< 0.5	1.74 ± 0.14	1.12	< 0.45	< 5.75
				K-34			
January	KMI - 11	< 0.9	1.1 ± 0.3	1.84 ± 0.13	1.15	0.96	< 5.43
February	- 562	< 0.9	0.9 ± 0.3	1.80 ± 0.13	1.10	0.82	< 5.56
March	- 1024	< 1.0	0.7 ± 0.3	1.75 ± 0.13	1.20	0.58	< 5.71
April	- 1619	< 0.9	0.7 ± 0.3	1.74 ± 0.13	1.25	0.56	< 5.75
May	- 2830	< 0.7	0.7 ± 0.3	1.66 ± 0.18	0.94	0.74	< 6.02
June	- 3867	< 0.7	1.0 ± 0.5	1.78 ± 0.14	0.95	1.05	< 5.62
July	- 4692	< 0.8	< 0.6	1.62 ± 0.12	0.93	< 0.65	< 6.17
August	- 5114	< 1.1	< 0.9	1.78 ± 0.14	0.87	< 1.03	< 5.62
September	- 6033	< 0.7	0.7 ± 0.3	1.75 ± 0.14	0.85	0.82	< 5.71
October	- 6891	< 0.9	0.9 ± 0.4	1.77 ± 0.14	0.88	1.02	< 5.65
November	- 7073	< 1.0	0.6 ± 0.3	1.91 ± 0.13	0.95	0.63	< 5.24
December	- 7723	< 0.8	0.8 ± 0.3	1.87 ± 0.13	1.14	0.70	< 5.35

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

Collection Period	Lab Code	Concentration				Ratios	
		Sr-89 (pCi/L)	Sr-90 (pCi/L)	K (g/L)	Ca (g/L)	Sr-90 per gram Ca	Cs-137 per gram K
Indicators							
				K-38			
January	KMI - 13	< 0.8	0.9 ± 0.3	1.52 ± 0.13	1.23	0.73	< 6.58
February	- 564	< 0.9	1.0 ± 0.4	1.55 ± 0.13	1.05	0.95	< 6.45
March	- 1026	< 0.9	0.9 ± 0.3	1.56 ± 0.12	1.05	0.86	< 6.41
April	- 1621	< 0.9	1.0 ± 0.3	1.69 ± 0.13	1.12	0.89	< 5.92
May	- 2832	< 0.7	1.1 ± 0.3	1.64 ± 0.14	0.97	1.13	< 6.10
June	- 3869	< 0.6	0.7 ± 0.3	1.69 ± 0.13	1.03	0.68	< 5.92
July	- 4694	< 0.7	< 0.5	1.70 ± 0.13	0.89	< 0.56	< 5.88
August	- 5115	< 0.7	0.8 ± 0.3	1.64 ± 0.13	0.92	0.87	< 6.10
September	- 6035	< 0.7	0.7 ± 0.3	1.65 ± 0.14	0.84	0.83	< 6.06
October	- 6893	< 0.7	0.7 ± 0.3	1.73 ± 0.13	0.89	0.79	< 5.78
November	- 7075	< 0.8	0.7 ± 0.2	1.76 ± 0.14	1.19	0.59	< 5.68
December	- 7725	< 0.8	1.0 ± 0.3	1.74 ± 0.15	1.21	0.83	< 5.75
				K-39			
January	KMI - 14	< 0.9	1.0 ± 0.4	1.64 ± 0.13	1.17	0.85	< 6.10
February	- 565	< 0.9	0.7 ± 0.3	1.72 ± 0.14	1.25	0.56	< 5.81
March	- 1027	< 1.0	0.5 ± 0.3	1.77 ± 0.12	1.24	0.40	< 5.65
April	- 1622	< 1.0	0.6 ± 0.3	1.63 ± 0.13	1.23	0.49	< 6.13
May	- 2833	< 1.5	0.8 ± 0.3 [a]	1.73 ± 0.15	1.02	0.78	< 5.78
June	- 3870	< 0.7	< 0.5	1.66 ± 0.13	1.02	< 0.49	< 6.02
July	- 4695	< 0.7	< 0.5	1.73 ± 0.14	0.88	< 0.57	< 5.78
August	- 5116	< 0.8	0.6 ± 0.3	1.65 ± 0.13	0.87	0.69	< 6.06
September	- 6036	< 0.7	0.7 ± 0.3	1.65 ± 0.13	0.97	0.72	< 6.06
October	- 6894	< 0.7	< 0.5	1.72 ± 0.13	0.96	< 0.52	< 5.81
November	- 7076	< 1.2	0.7 ± 0.3	1.66 ± 0.11	1.17	0.60	< 6.02
December	- 7726	< 0.8	0.5 ± 0.3	1.70 ± 0.16	1.18	0.42	< 5.88
				K-44 [b]			
January							
February							
March							
April							
May							
June	KMI - 3405	< 0.8	0.9 ± 0.3	1.70 ± 0.11	1.28	0.70	< 5.88
July	- 3979	< 0.9	0.7 ± 0.4	1.65 ± 0.12	0.96	0.73	< 6.06
August	- 4801	< 1.0	< 0.6 [c]	1.52 ± 0.12	1.27	< 0.47	< 6.58
September	- 5584	< 0.9	0.7 ± 0.3	1.60 ± 0.12	1.17	0.60	< 6.25
October	- 6896	< 0.7	0.8 ± 0.3	1.62 ± 0.14	1.11	0.72	< 6.17
November	- 7078	< 1.1	0.8 ± 0.3	1.67 ± 0.11	1.32	0.61	< 5.99
December	- 7728	< 0.8	0.7 ± 0.3	1.69 ± 0.12	1.29	0.54	< 5.92

[a] Result of reanalysis.

[b] K-44, new location. First collection June 5, 2012.

[c] Result of recalculation.

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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 - 9	< 0.9	0.9 ± 0.4	1.54 ± 0.12	1.20	0.75	< 6.49
February	- 560	< 0.9	0.6 ± 0.3	1.73 ± 0.13	1.08	0.56	< 5.78
March	- 1022	< 0.8	0.6 ± 0.3	1.74 ± 0.13	1.22	0.49	< 5.75
April	- 1617	< 0.9	0.7 ± 0.3	1.76 ± 0.15	1.10	0.64	< 5.68
May	- 2828	< 0.8	< 0.7	1.73 ± 0.14	0.96	< 0.73	< 5.78
June	- 3865	< 0.7	0.9 ± 0.5	1.76 ± 0.15	1.04	0.87	< 5.68
July	- 4690	< 0.7	0.8 ± 0.3	1.60 ± 0.13	1.02	0.78	< 6.25
August	- 4794	< 0.9	1.0 ± 0.4	1.68 ± 0.14	1.16	0.86	< 5.95
September	- 6031	< 0.8	0.6 ± 0.3	1.64 ± 0.15	0.98	0.61	< 6.10
October	- 6889	< 0.8	0.7 ± 0.3	1.72 ± 0.14	0.98	0.71	< 5.81
November	- 7071	< 0.9	1.1 ± 0.4	1.55 ± 0.18	1.07	1.03	< 6.45
December	- 7721	< 0.9	0.7 ± 0.3	1.74 ± 0.12	1.22	0.57	< 5.75
				K-35			
January	KMI - 12	< 1.0	< 0.6	1.73 ± 0.16	1.08	< 0.56	< 5.78
February	- 563	< 0.8	< 0.5	1.74 ± 0.13	1.03	< 0.49	< 5.75
March	- 1025	< 1.0	< 0.6	1.70 ± 0.12	1.27	< 0.47	< 5.88
April	- 1620	< 0.8	< 0.5	1.66 ± 0.14	1.10	< 0.45	< 6.02
May	- 2831	< 0.7	< 0.8	1.62 ± 0.13	0.93	< 0.86	< 6.17
June	- 3868	< 0.6	< 0.4	1.63 ± 0.13	0.99	< 0.40	< 6.13
July	- 4693	< 0.8	0.6 ± 0.3	1.72 ± 0.14	0.90	0.67	< 5.81
August	- 4797	< 1.0	0.7 ± 0.4	1.70 ± 0.14	1.11	0.63	< 5.88
September	- 6034	< 0.7	< 0.5	1.70 ± 0.14	0.94	< 0.53	< 5.88
October	- 6892	< 0.9	< 0.6	1.91 ± 0.14	0.99	< 0.61	< 5.24
November	- 7074	< 0.8	0.6 ± 0.2	1.58 ± 0.11	1.12	0.54	< 6.33
December	- 7724	< 0.7	< 0.4	1.80 ± 0.12	1.14	< 0.35	< 5.56
				K-42			
January	KMI - 15	< 0.9	1.1 ± 0.4	1.75 ± 0.14	1.15	0.96	< 5.71
February	- 566	< 1.0	0.9 ± 0.4	1.66 ± 0.13	1.02	0.88	< 6.02
March	- 1028	< 0.9	1.1 ± 0.3	1.66 ± 0.12	1.07	1.03	< 6.02
April	- 1623	< 1.0	0.7 ± 0.3	1.78 ± 0.12	1.25	0.56	< 5.62
May	- 2834	< 0.9	0.8 ± 0.4	1.74 ± 0.14	1.08	0.74	< 5.75
June	- 3871	< 0.9	< 0.6	1.69 ± 0.13	0.95	< 0.63	< 5.92
July	- 4696	< 0.7	< 0.5	1.60 ± 0.14	0.88	< 0.57	< 6.25
August	- 5117	< 0.8	0.8 ± 0.3	1.72 ± 0.14	0.90	0.89	< 5.81
September	- 6037	< 0.7	< 0.5	1.63 ± 0.14	0.90	< 0.56	< 6.13
October	- 6895	< 1.0	0.7 ± 0.4	1.83 ± 0.15	0.88	0.80	< 5.46
November	- 7077	< 0.9	0.7 ± 0.4	1.71 ± 0.14	1.00	0.70	< 5.85
December	- 7727	< 1.0	0.8 ± 0.3	1.68 ± 0.13	1.14	< 0.70	< 5.95

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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	01-03-12	04-02-12	07-05-12	10-01-12
Lab Code	KWW- 51	KWW- 1645	KWW- 3999	KWW- 6116
Gross alpha	< 3.1	< 3.0	< 2.5	< 2.1
Gross beta	4.9 ± 2.7	4.0 ± 1.4	3.0 ± 1.3	< 1.6
H-3	< 145	< 144	< 151	< 149
Sr-89	< 0.6	< 0.8	< 0.6	< 0.7
Sr-90	< 0.4	< 0.5	< 0.5	< 0.4
K-40 (ICP)	2.33	2.51	2.22	2.44
Mn-54	< 2.0	< 2.2	< 1.6	< 2.5
Fe-59	< 4.0	< 3.5	< 4.6	< 6.4
Co-58	< 2.5	< 2.3	< 2.0	< 1.9
Co-60	< 1.9	< 2.5	< 1.4	< 1.8
Zn-65	< 2.5	< 3.5	< 4.3	< 2.9
Zr-Nb-95	< 2.5	< 2.4	< 3.3	< 4.0
Cs-134	< 1.6	< 2.4	< 2.8	< 1.3
Cs-137	< 1.4	< 2.4	< 2.5	< 2.1
Ba-La-140	< 3.6	< 2.4	< 4.1	< 5.4
K-1h				
Date Collected	01-03-12	04-02-12	07-05-12	10-01-12
Lab Code	KWW- 52	KWW- 1646	KWW- 4000	KWW- 6117
Gross alpha	4.8 ± 2.0	2.9 ± 1.9	< 2.6	2.9 ± 2.2
Gross beta	< 3.3	2.7 ± 1.3	2.8 ± 1.2	2.3 ± 1.2
H-3	< 145	< 144	< 151	< 149
K-40 (ICP)	2.42	2.44	2.49	2.67
Mn-54	< 2.3	< 3.0	< 0.8	< 2.8
Fe-59	< 3.8	< 8.2	< 3.5	< 5.9
Co-58	< 1.7	< 2.6	< 1.3	< 2.8
Co-60	< 2.0	< 3.4	< 1.3	< 2.3
Zn-65	< 3.6	< 6.6	< 2.8	< 4.4
Zr-Nb-95	< 3.1	< 3.3	< 2.1	< 3.9
Cs-134	< 2.8	< 2.5	< 1.4	< 2.2
Cs-137	< 3.9	< 3.6	< 1.3	< 3.1
Ba-La-140	< 10.2	< 5.2	< 4.0	< 9.1

[a] Strontium analyses required on samples from K-1g only.

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

Collection: Quarterly.

	Sample Description and Concentration (pCi/L)			
Indicator				
K-10				
Date Collected	01-03-12	04-02-12	07-05-12	10-01-12
Lab Code	KWW- 53	KWW- 1647	KWW- 4001	KWW- 6118
Gross beta	3.6 ± 2.0	< 1.5	1.7 ± 0.7	2.1 ± 0.8
H-3	< 145	< 144	< 151	< 149
K-40 (ICP)	3.71	0.26	2.45	1.41
Mn-54	< 2.0	< 2.6	< 1.5	< 2.4
Fe-59	< 5.5	< 5.2	< 2.6	< 6.1
Co-58	< 2.2	< 2.7	< 1.7	< 3.2
Co-60	< 1.5	< 2.1	< 1.6	< 1.7
Zn-65	< 3.0	< 4.0	< 3.2	< 4.1
Zr-Nb-95	< 3.8	< 3.0	< 2.4	< 4.1
Cs-134	< 2.0	< 1.8	< 1.6	< 2.7
Cs-137	< 3.2	< 3.0	< 1.3	< 2.1
Ba-La-140	< 3.8	< 3.6	< 3.9	< 7.1
K-11				
Date Collected	01-03-12	04-02-12	07-05-12	10-01-12
Lab Code	KWW- 54	KWW- 1648	KWW- 4002	KWW- 6119
Gross beta	1.3 ± 0.7	< 0.6	0.6 ± 0.3	1.0 ± 0.3
H-3	< 145	< 144	< 151	< 149
K-40 (ICP)	0.79	0.85	0.77	0.87
Mn-54	< 2.5	< 2.5	< 1.5	< 2.7
Fe-59	< 3.0	< 2.7	< 3.6	< 3.7
Co-58	< 1.6	< 1.8	< 1.4	< 2.5
Co-60	< 2.0	< 2.2	< 2.1	< 2.0
Zn-65	< 1.5	< 5.2	< 2.7	< 2.0
Zr-Nb-95	< 2.9	< 2.5	< 2.3	< 2.6
Cs-134	< 2.1	< 2.5	< 1.1	< 2.4
Cs-137	< 2.7	< 3.3	< 1.4	< 2.2
Ba-La-140	< 4.6	< 4.3	< 4.4	< 7.2

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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-38				
Date Collected	01-03-12	04-02-12	07-05-12	10-01-12
Lab Code	KWW- 56	KWW- 1650	KWW- 4004	KWW- 6121
Gross beta	< 1.5	< 0.8	0.8 ± 0.4	1.4 ± 0.4
H-3	< 145	< 144	< 151	< 149
K-40 (ICP)	< 0.30	< 0.30	0.85	0.29
Mn-54	< 2.0	< 1.8	< 1.2	< 2.5
Fe-59	< 3.5	< 2.8	< 2.5	< 6.6
Co-58	< 1.6	< 2.0	< 1.1	< 2.8
Co-60	< 1.0	< 1.7	< 1.3	< 2.4
Zn-65	< 3.1	< 4.4	< 3.3	< 2.0
Zr-Nb-95	< 3.1	< 2.9	< 2.7	< 3.4
Cs-134	< 1.9	< 2.0	< 1.4	< 2.3
Cs-137	< 2.4	< 2.3	< 1.5	< 2.9
Ba-La-140	< 5.4	< 3.5	< 3.8	< 12.5
Control				
K-13				
Date Collected	01-04-12	04-02-12	07-05-12	10-01-12
Lab Code	KWW- 55	KWW- 1649	KWW- 4003	KWW- 6120
Gross beta	< 1.4	1.4 ± 0.4	0.7 ± 0.3	0.9 ± 0.3
H-3	< 145	< 144	< 151	< 149
K-40 (ICP)	0.92	1.08 [b]	0.93	0.97
Mn-54	< 2.1	< 2.1	< 1.6	< 2.6
Fe-59	< 4.1	< 4.7	< 2.8	< 5.0
Co-58	< 2.2	< 2.3	< 2.1	< 3.4
Co-60	< 1.5	< 2.3	< 1.3	< 2.0
Zn-65	< 4.4	< 3.0	< 2.4	< 4.4
Zr-Nb-95	< 2.6	< 2.6	< 2.1	< 4.2
Cs-134	< 2.0	< 2.3	< 1.2	< 2.3
Cs-137	< 2.3	< 1.5	< 1.2	< 2.3
Ba-La-140	< 5.9	< 2.2	< 4.5	< 7.6

[b] Result of reanalysis.

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-32
Date Collected	09-04-12	09-04-12
Lab Code	KME- 5606	KME- 5607
Gross Alpha	< 0.040	< 0.032
Gross Beta	3.81 ± 0.11	2.92 ± 0.08
Be-7	< 0.12	< 0.136
K-40	2.65 ± 0.38	2.05 ± 0.32
Nb-95	< 0.013	< 0.014
Zr-95	< 0.019	< 0.024
Ru-103	< 0.014	< 0.020
Ru-106	< 0.089	< 0.105
Cs-134	< 0.009	< 0.011
Cs-137	< 0.015	< 0.013
Ce-141	< 0.034	< 0.021
Ce-144	< 0.095	< 0.079

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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	01-03-12	04-02-12	07-05-12	10-01-12
Lab Code	KE- 38	KE- 1653	KE- 3989	KE- 6088
Gross beta	1.53 ± 0.06	1.53 ± 0.04	1.48 ± 0.06	1.53 ± 0.04
Sr-89	< 0.005	< 0.007	< 0.007	< 0.010
Sr-90	< 0.003	0.005 ± 0.002	0.006 ± 0.002	0.008 ± 0.003
Be-7	< 0.053	< 0.062	< 0.072	< 0.053
K-40	1.32 ± 0.13	1.34 ± 0.13	1.44 ± 0.14	1.16 ± 0.11
Nb-95	< 0.006	< 0.006	< 0.012	< 0.008
Zr-95	< 0.008	< 0.010	< 0.016	< 0.010
Ru-103	< 0.006	< 0.006	< 0.008	< 0.008
Ru-106	< 0.031	< 0.053	< 0.044	< 0.036
Cs-134	< 0.004	< 0.005	< 0.005	< 0.004
Cs-137	< 0.003	< 0.006	< 0.004	< 0.004
Ce-141	< 0.010	< 0.009	< 0.028	< 0.025
Ce-144	< 0.037	< 0.043	< 0.048	< 0.045
Location	K-32			
Date Collected	01-03-12	04-02-12	07-05-12	10-01-12
Lab Code	KE- 39	KE- 1655	KE- 3990	KE- 6089
Gross beta	1.39 ± 0.06	1.57 ± 0.04	1.45 ± 0.06	1.46 ± 0.04
Sr-89	< 0.004	< 0.006	< 0.009	< 0.006
Sr-90	< 0.003	0.007 ± 0.002	< 0.003	0.005 ± 0.002
Be-7	< 0.045	< 0.045	< 0.049	< 0.088
K-40	1.39 ± 0.16	1.41 ± 0.13	1.33 ± 0.13	1.33 ± 0.12
Nb-95	< 0.007	< 0.005	< 0.010	< 0.011
Zr-95	< 0.011	< 0.007	< 0.009	< 0.012
Ru-103	< 0.006	< 0.007	< 0.008	< 0.010
Ru-106	< 0.042	< 0.047	< 0.044	< 0.032
Cs-134	< 0.005	< 0.003	< 0.003	< 0.004
Cs-137	< 0.005	< 0.003	< 0.006	< 0.003
Ce-141	< 0.012	< 0.012	< 0.020	< 0.025
Ce-144	< 0.047	< 0.030	< 0.033	< 0.026

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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-1A	K-11
Date Collected	07-05-12	08-01-12	09-04-12	09-04-12
Lab Code	KVE- 4064	KVE- 4805	KVE- 5595	KVE- 5596
Type	Clover	Clover	Corn	Corn
Gross beta	4.42 ± 0.21	6.40 ± 0.20	2.29 ± 0.04	2.62 ± 0.05
Sr-89	< 0.013	< 0.006	< 0.004	< 0.006
Sr-90	0.009 ± 0.004	0.011 ± 0.003	< 0.002	< 0.003
Be-7	0.92 ± 0.17	0.65 ± 0.129	< 0.066	< 0.043
K-40	4.09 ± 0.28	4.67 ± 0.35	2.55 ± 0.20	2.60 ± 0.17
Nb-95	< 0.011	< 0.010	< 0.006	< 0.004
Zr-95	< 0.013	< 0.016	< 0.012	< 0.009
Ru-103	< 0.010	< 0.013	< 0.005	< 0.005
Ru-106	< 0.080	< 0.077	< 0.060	< 0.051
Cs-134	< 0.008	< 0.007	< 0.005	< 0.002
Cs-137	< 0.012	< 0.010	< 0.006	< 0.005
Ce-141	< 0.021	< 0.021	< 0.017	< 0.007
Ce-144	< 0.086	< 0.077	< 0.05	< 0.039

Location	K-24		K-25
Date Collected	09-04-12	09-04-12	10-01-12
Lab Code	KVE- 5597	KVE- 5598	KVE- 6123
Type	Cabbage	Beans	Pumpkin
Gross beta	5.26 ± 0.14	7.17 ± 0.18	1.70 ± 0.03
Sr-89	< 0.010	< 0.015	< 0.007
Sr-90	0.006 ± 0.003	0.027 ± 0.006	< 0.003
Be-7	0.30 ± 0.106	0.53 ± 0.163	< 0.047
K-40	5.58 ± 0.30	6.13 ± 0.48	1.43 ± 0.11
Nb-95	< 0.009	< 0.019	< 0.003
Zr-95	< 0.017	< 0.027	< 0.005
Ru-103	< 0.008	< 0.018	< 0.004
Ru-106	< 0.072	< 0.120	< 0.025
Cs-134	< 0.006	< 0.012	< 0.004
Cs-137	< 0.009	< 0.010	< 0.004
Ce-141	< 0.013	< 0.021	< 0.011
Ce-144	< 0.069	< 0.074	< 0.039

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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	09-05-12	09-05-12	09-05-12	09-05-12
Lab Code	KVE- 5599	KVE- 5600	KVE- 5601	KVE- 5602
Type	Cabbage	Corn	Carrots	Acorn Squash
Gross beta	2.20 ± 0.04	3.05 ± 0.05	4.02 ± 0.08	4.67 ± 0.08
Sr-89	< 0.002	< 0.005	< 0.003	< 0.006
Sr-90	< 0.001	< 0.002	0.003 ± 0.001	< 0.003
Be-7	< 0.031	< 0.036	< 0.056	< 0.024
K-40	1.89 ± 0.12	2.16 ± 0.15	3.34 ± 0.20	3.35 ± 0.13
Nb-95	< 0.003	< 0.004	< 0.005	< 0.005
Zr-95	< 0.006	< 0.007	< 0.010	< 0.007
Ru-103	< 0.003	< 0.005	< 0.005	< 0.004
Ru-106	< 0.039	< 0.030	< 0.045	< 0.024
Cs-134	< 0.003	< 0.003	< 0.005	< 0.002
Cs-137	< 0.003	< 0.006	< 0.006	< 0.004
Ce-141	< 0.008	< 0.007	< 0.014	< 0.006
Ce-144	< 0.030	< 0.031	< 0.031	< 0.016

	K-26 (control)			
Date Collected	09-05-12	09-05-12	09-05-12	10-02-12
Lab Code	KVE- 5603	KVE- 5604	KVE- 5605	KVE- 6124
Type	Cucumber	Cauliflower	Kohlrabi	Pumpkin
Gross beta	1.81 ± 0.03	3.05 ± 0.05	4.28 ± 0.07	2.13 ± 0.04
Sr-89	< 0.003	< 0.002	< 0.002	< 0.003
Sr-90	< 0.001	< 0.001	< 0.001	0.002 ± 0.001
Be-7	< 0.042	< 0.039	< 0.033	< 0.043
K-40	1.64 ± 0.15	2.42 ± 0.14	2.80 ± 0.15	1.90 ± 0.12
Nb-95	< 0.004	< 0.005	< 0.006	< 0.005
Zr-95	< 0.008	< 0.005	< 0.006	< 0.006
Ru-103	< 0.006	< 0.004	< 0.005	< 0.004
Ru-106	< 0.047	< 0.027	< 0.043	< 0.031
Cs-134	< 0.004	< 0.004	< 0.004	< 0.003
Cs-137	< 0.004	< 0.004	< 0.006	< 0.003
Ce-141	< 0.008	< 0.009	< 0.011	< 0.008
Ce-144	< 0.034	< 0.024	< 0.031	< 0.033

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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	01-04-12	01-04-12	01-03-12	01-03-12
Lab Code	KCF- 17	KCF- 32	KCF- 20	KCF- 35
Type	Hay	Silage	Hay	Silage
Gross beta	10.67 ± 0.23	5.95 ± 0.27	14.50 ± 0.29	12.93 ± 0.54
Sr-89	< 0.012	< 0.008	< 0.012	< 0.013
Sr-90	0.012 ± 0.005	< 0.005	0.013 ± 0.005	< 0.007
Be-7	0.26 ± 0.125	0.49 ± 0.153	< 0.10	< 0.085
K-40	7.20 ± 0.44	4.58 ± 0.37	12.88 ± 0.55	10.22 ± 0.41
Nb-95	< 0.012	< 0.009	< 0.013	< 0.009
Zr-95	< 0.015	< 0.021	< 0.016	< 0.008
Ru-103	< 0.009	< 0.009	< 0.010	< 0.007
Ru-106	< 0.102	< 0.070	< 0.095	< 0.072
Cs-134	< 0.010	< 0.009	< 0.011	< 0.009
Cs-137	< 0.009	< 0.012	< 0.011	< 0.011
Ce-141	< 0.023	< 0.027	< 0.024	< 0.016
Ce-144	< 0.093	< 0.070	< 0.073	< 0.065
	Indicator			
Location	K-5	K-5	K-34	K-34
Date Collected	01-03-12	01-03-12	01-03-12	01-03-12
Lab Code	KCF- 18	KCF- 33	KCF- 19	KCF- 34
Type	Hay	Silage	Hay	Silage
Gross beta	22.00 ± 0.44	12.91 ± 0.53	6.92 ± 0.16	4.50 ± 0.22
Sr-89	< 0.018	< 0.012	< 0.010	< 0.008
Sr-90	0.036 ± 0.008	0.015 ± 0.005	0.013 ± 0.005	0.005 ± 0.003
Be-7	< 0.20	0.39 ± 0.14	< 0.075	0.90 ± 0.18
K-40	19.11 ± 0.89	9.82 ± 0.59	3.23 ± 0.28	3.33 ± 0.34
Nb-95	< 0.019	< 0.015	< 0.008	< 0.013
Zr-95	< 0.040	< 0.029	< 0.014	< 0.011
Ru-103	< 0.018	< 0.016	< 0.008	< 0.012
Ru-106	< 0.129	< 0.097	< 0.056	< 0.078
Cs-134	< 0.018	< 0.011	< 0.008	< 0.012
Cs-137	< 0.023	< 0.016	< 0.011	< 0.012
Ce-141	< 0.034	< 0.018	< 0.013	< 0.030
Ce-144	< 0.126	< 0.076	< 0.082	< 0.107

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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	01-03-12	01-03-12	01-03-12	01-03-12
Lab Code	KCF- 22	KCF- 36	KCF- 23	KCF- 37
Type	Hay	Silage	Hay	Silage
Gross beta	21.93 ± 0.42	5.10 ± 0.25	9.39 ± 0.20	11.79 ± 0.49
Sr-89	< 0.030	< 0.012	< 0.009	< 0.014
Sr-90	0.042 ± 0.015	< 0.007	< 0.006	< 0.010
Be-7	< 0.28	0.51 ± 0.15	< 0.14	0.25 ± 0.10
K-40	12.28 ± 1.03	3.61 ± 0.31	5.98 ± 0.48	7.54 ± 0.38
Nb-95	< 0.024	< 0.006	< 0.015	< 0.008
Zr-95	< 0.061	< 0.016	< 0.014	< 0.016
Ru-103	< 0.035	< 0.009	< 0.015	< 0.007
Ru-106	< 0.320	< 0.096	< 0.078	< 0.051
Cs-134	< 0.026	< 0.008	< 0.012	< 0.009
Cs-137	< 0.030	< 0.011	< 0.011	< 0.011
Ce-141	< 0.053	< 0.019	< 0.014	< 0.012
Ce-144	< 0.201	< 0.083	< 0.083	< 0.044

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

Sample Description and Concentration				
	Indicator			
Location	K-1b	K-1f	K-5	K-34
Date Collected	05-01-12	05-01-12	05-01-12	05-01-12
Lab Code	KG- 2400	KG- 2401	KG- 2403	KG- 2405
Gross beta	7.66 ± 0.15	7.85 ± 0.16	7.59 ± 0.15	7.81 ± 0.15
Sr-89	< 0.010	< 0.007	< 0.014	< 0.014
Sr-90	< 0.004	< 0.003	< 0.007	< 0.006
Be-7	1.51 ± 0.25	0.68 ± 0.22	1.77 ± 0.21	1.37 ± 0.17
K-40	6.33 ± 0.55	6.40 ± 0.48	6.38 ± 0.50	6.16 ± 0.40
Mn-54	< 0.015	< 0.015	< 0.017	< 0.012
Co-58	< 0.011	< 0.015	< 0.016	< 0.015
Co-60	< 0.019	< 0.012	< 0.019	< 0.010
Nb-95	< 0.016	< 0.014	< 0.020	< 0.010
Zr-95	< 0.033	< 0.026	< 0.035	< 0.013
Ru-103	< 0.017	< 0.015	< 0.017	< 0.012
Ru-106	< 0.125	< 0.101	< 0.195	< 0.075
Cs-134	< 0.014	< 0.011	< 0.017	< 0.011
Cs-137	< 0.021	< 0.016	< 0.019	< 0.010
Ce-141	< 0.023	< 0.027	< 0.036	< 0.026
Ce-144	< 0.101	< 0.131	< 0.161	< 0.083
	Indicator		Control	
Location	K-38	K-39	K-3	K-35
Date Collected	05-01-12	05-01-12	05-01-12	04-02-12
Lab Code	KG- 2406	KG- 2407	KG- 2402	KG- 1651
Gross beta	8.02 ± 0.15	8.00 ± 0.19	14.72 ± 0.30	8.42 ± 0.16
Sr-89	< 0.007	< 0.015	< 0.028	< 0.011
Sr-90	< 0.003	< 0.007	< 0.012	< 0.005
Be-7	1.67 ± 0.24	1.56 ± 0.16	4.06 ± 0.27	0.87 ± 0.18
K-40	7.58 ± 0.51	5.97 ± 0.40	6.89 ± 0.61	7.37 ± 0.45
Mn-54	< 0.016	< 0.010	< 0.015	< 0.011
Co-58	< 0.014	< 0.011	< 0.008	< 0.010
Co-60	< 0.010	< 0.010	< 0.019	< 0.010
Nb-95	< 0.009	< 0.012	< 0.016	< 0.013
Zr-95	< 0.017	< 0.017	< 0.028	< 0.025
Ru-103	< 0.010	< 0.011	< 0.013	< 0.016
Ru-106	< 0.136	< 0.082	< 0.112	< 0.103
Cs-134	< 0.014	< 0.009	< 0.008	< 0.010
Cs-137	< 0.017	< 0.011	< 0.018	< 0.009
Ce-141	< 0.022	< 0.020	< 0.027	< 0.027
Ce-144	< 0.109	< 0.068	< 0.118	< 0.091

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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	07-05-12	07-05-12	07-05-12	07-05-12
Lab Code	KG- 4056	KG- 4057	KG- 4059	KG- 4060
Gross beta	8.11 ± 0.24	7.98 ± 0.23	11.42 ± 0.32	9.43 ± 0.26
Sr-89	< 0.011	< 0.019	< 0.028	< 0.022
Sr-90	< 0.006	< 0.010	0.014 ± 0.008	0.011 ± 0.005
Be-7	1.44 ± 0.15	0.67 ± 0.18	1.46 ± 0.16	1.21 ± 0.17
K-40	5.48 ± 0.29	6.05 ± 0.41	8.74 ± 0.42	7.43 ± 0.42
Mn-54	< 0.010	< 0.010	< 0.012	< 0.011
Co-58	< 0.009	< 0.008	< 0.009	< 0.010
Co-60	< 0.009	< 0.015	< 0.009	< 0.007
Nb-95	< 0.010	< 0.010	< 0.013	< 0.016
Zr-95	< 0.013	< 0.023	< 0.025	< 0.021
Ru-103	< 0.009	< 0.017	< 0.008	< 0.010
Ru-106	< 0.073	< 0.083	< 0.084	< 0.072
Cs-134	< 0.009	< 0.009	< 0.009	< 0.010
Cs-137	< 0.010	< 0.014	< 0.015	< 0.012
Ce-141	< 0.018	< 0.017	< 0.024	< 0.020
Ce-144	< 0.074	< 0.098	< 0.081	< 0.083
	Indicator		Control	
Location	K-38	K-39	K-3	K-35
Date Collected	07-05-12	07-05-12	07-05-12	07-05-12
Lab Code	KG- 4062	KG- 4063	KG- 4058	KG- 4061
Gross beta	7.93 ± 0.25	8.61 ± 0.25	10.50 ± 0.28	9.81 ± 0.30
Sr-89	< 0.018	< 0.012	< 0.013	< 0.018
Sr-90	< 0.008	< 0.006	< 0.006	< 0.006
Be-7	1.01 ± 0.12	1.20 ± 0.12	1.80 ± 0.19	1.29 ± 0.15
K-40	5.73 ± 0.29	6.05 ± 0.29	8.01 ± 0.44	6.52 ± 0.31
Mn-54	< 0.009	< 0.010	< 0.011	< 0.008
Co-58	< 0.010	< 0.008	< 0.014	< 0.009
Co-60	< 0.005	< 0.006	< 0.016	< 0.012
Nb-95	< 0.011	< 0.008	< 0.014	< 0.011
Zr-95	< 0.009	< 0.015	< 0.026	< 0.014
Ru-103	< 0.007	< 0.007	< 0.010	< 0.006
Ru-106	< 0.063	< 0.066	< 0.108	< 0.073
Cs-134	< 0.007	< 0.006	< 0.008	< 0.009
Cs-137	< 0.008	< 0.010	< 0.012	< 0.009
Ce-141	< 0.016	< 0.016	< 0.026	< 0.022
Ce-144	< 0.040	< 0.052	< 0.092	< 0.045

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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	10-01-12	10-01-12	10-01-12	10-01-12
Lab Code	KG- 6090	KG- 6092	KG- 6094	KG- 6095
Gross beta	10.81 ± 0.34	8.22 ± 0.24	11.80 ± 0.24	10.49 ± 0.31
Sr-89	< 0.068	< 0.063	< 0.039	< 0.075
Sr-90	< 0.013	< 0.013	< 0.008	< 0.014
Be-7	3.54 ± 0.28	2.70 ± 0.33	2.13 ± 0.25	4.12 ± 0.37
K-40	5.99 ± 0.47	5.44 ± 0.54	9.43 ± 0.52	7.19 ± 0.62
Mn-54	< 0.014	< 0.012	< 0.019	< 0.015
Co-58	< 0.008	< 0.011	< 0.017	< 0.021
Co-60	< 0.013	< 0.018	< 0.013	< 0.016
Nb-95	< 0.015	< 0.016	< 0.016	< 0.020
Zr-95	< 0.019	< 0.026	< 0.030	< 0.032
Ru-103	< 0.015	< 0.020	< 0.017	< 0.023
Ru-106	< 0.144	< 0.182	< 0.123	< 0.168
Cs-134	< 0.012	< 0.022	< 0.012	< 0.018
Cs-137	< 0.016	< 0.013	< 0.011	< 0.021
Ce-141	< 0.036	< 0.034	< 0.027	< 0.035
Ce-144	< 0.118	< 0.090	< 0.103	< 0.136

	Indicator		Control	
Location	K-38	K-39	K-3	K-35
Date Collected	10-01-12	10-01-12	10-01-12	10-01-12
Lab Code	KG- 6097	KG- 6098	KG- 6093	KG- 6096
Gross beta	12.03 ± 0.27	15.26 ± 0.33	8.15 ± 0.22	12.83 ± 0.27
Sr-89	< 0.052	< 0.054	< 0.070	< 0.045
Sr-90	< 0.011	< 0.011	0.018 ± 0.009	< 0.009
Be-7	3.08 ± 0.26	2.09 ± 0.32	5.41 ± 0.41	2.49 ± 0.29
K-40	8.92 ± 0.52	10.77 ± 0.72	5.90 ± 0.54	11.31 ± 0.70
Mn-54	< 0.013	< 0.017	< 0.015	< 0.014
Co-58	< 0.016	< 0.016	< 0.018	< 0.010
Co-60	< 0.013	< 0.020	< 0.017	< 0.012
Nb-95	< 0.019	< 0.024	< 0.025	< 0.021
Zr-95	< 0.024	< 0.039	< 0.041	< 0.028
Ru-103	< 0.009	< 0.020	< 0.012	< 0.018
Ru-106	< 0.146	< 0.204	< 0.103	< 0.241
Cs-134	< 0.013	< 0.020	< 0.011	< 0.013
Cs-137	< 0.016	< 0.020	< 0.023	< 0.022
Ce-141	< 0.028	< 0.032	< 0.027	< 0.036
Ce-144	< 0.101	< 0.120	< 0.156	< 0.116

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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	05-01-12	05-01-12
Lab Code	KSO- 2450	KSO- 2452
Gross alpha	7.05 ± 2.87	6.12 ± 3.50
Gross beta	26.59 ± 2.99	24.36 ± 2.89
Sr-89	< 0.037	< 0.049
Sr-90	< 0.016	< 0.023
Be-7	< 0.16	< 0.18
K-40	18.44 ± 0.83	16.93 ± 0.80
Nb-95	< 0.024	< 0.018
Zr-95	< 0.045	< 0.026
Ru-103	< 0.022	< 0.013
Ru-106	< 0.171	< 0.094
Cs-134	< 0.020	< 0.014
Cs-137	0.090 ± 0.025	< 0.021
Ce-141	< 0.043	< 0.034
Ce-144	< 0.095	< 0.109
Location		
Date Collected	10-01-12	10-01-12
Lab Code	KSO- 6108	KSO- 6110
Gross alpha	9.13 ± 3.32	8.87 ± 3.29
Gross beta	25.48 ± 3.12	32.82 ± 3.31
Sr-89	< 0.082	< 0.104
Sr-90	< 0.021	0.041 ± 0.017
Be-7	< 0.26	< 0.38
K-40	16.60 ± 0.71	19.17 ± 0.84
Nb-95	< 0.083	< 0.073
Zr-95	< 0.051	< 0.071
Ru-103	< 0.042	< 0.033
Ru-106	< 0.144	< 0.134
Cs-134	< 0.020	< 0.018
Cs-137	< 0.019	0.14 ± 0.029
Ce-141	< 0.136	< 0.111
Ce-144	< 0.135	< 0.133

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

Sample Description and Concentration (pCi/g dry)

	Indicator		
Location	K-34	K-38	K-39
Date Collected	05-01-12	05-01-12	05-01-12
Lab Code	KSO- 2453	KSO- 2455	KSO- 2456
Gross alpha	< 4.60	10.80 ± 3.35	6.55 ± 2.82
Gross beta	27.44 ± 3.12	28.40 ± 3.05	30.34 ± 3.23
Sr-89	< 0.062	< 0.038	< 0.054
Sr-90	< 0.028	0.027 ± 0.012	< 0.018
Be-7	< 0.22	< 0.28	< 0.22
K-40	19.55 ± 0.87	20.52 ± 0.83	18.99 ± 0.85
Nb-95	< 0.016	< 0.023	< 0.023
Zr-95	< 0.022	< 0.049	< 0.030
Ru-103	< 0.017	< 0.022	< 0.019
Ru-106	< 0.106	< 0.185	< 0.176
Cs-134	< 0.020	< 0.018	< 0.021
Cs-137	0.083 ± 0.026	0.11 ± 0.029	0.10 ± 0.029
Ce-141	< 0.044	< 0.045	< 0.045
Ce-144	< 0.094	< 0.142	< 0.117
Location			
Date Collected	10-01-12	10-01-12	10-01-12
Lab Code	KSO- 6111	KSO- 6114	KSO- 6115
Gross alpha	7.10 ± 3.54	8.04 ± 2.33	5.69 ± 2.10
Gross beta	28.27 ± 2.99	31.13 ± 2.45	29.75 ± 2.28
Sr-89	< 0.098	< 0.127	< 0.079
Sr-90	< 0.025	< 0.033	< 0.021
Be-7	< 0.27	< 0.30	< 0.29
K-40	19.66 ± 0.84	21.22 ± 0.85	20.76 ± 0.82
Nb-95	< 0.075	< 0.079	< 0.081
Zr-95	< 0.073	< 0.063	< 0.064
Ru-103	< 0.034	< 0.038	< 0.050
Ru-106	< 0.123	< 0.192	< 0.170
Cs-134	< 0.020	< 0.014	< 0.019
Cs-137	0.058 ± 0.025	0.12 ± 0.028	0.044 ± 0.021
Ce-141	< 0.113	< 0.119	< 0.110
Ce-144	< 0.139	< 0.175	< 0.149

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	05-01-12	05-11-12
Lab Code	KSO- 2451	KSO- 2454
Gross alpha	< 3.10	< 3.21
Gross beta	25.91 ± 3.10	25.25 ± 3.13
Sr-89	< 0.047	< 0.056
Sr-90	0.036 ± 0.015	0.042 ± 0.017
Be-7	< 0.15	< 0.14
K-40	18.99 ± 0.80	16.60 ± 0.80
Nb-95	< 0.012	< 0.021
Zr-95	< 0.031	< 0.027
Ru-103	< 0.011	< 0.020
Ru-106	< 0.144	< 0.186
Cs-134	< 0.017	< 0.014
Cs-137	0.13 ± 0.036	0.13 ± 0.027
Ce-141	< 0.037	< 0.033
Ce-144	< 0.112	< 0.065
Location		
Date Collected	10-01-12	10-01-12
Lab Code	KSO- 6109	KSO- 6113
Gross alpha	5.27 ± 2.78	6.47 ± 3.13
Gross beta	27.65 ± 3.04	22.77 ± 2.89
Sr-89	< 0.140	< 0.101
Sr-90	0.037 ± 0.020	0.030 ± 0.016
Be-7	< 0.34	< 0.38
K-40	17.98 ± 0.79	16.51 ± 0.77
Nb-95	< 0.068	< 0.066
Zr-95	< 0.050	< 0.057
Ru-103	< 0.035	< 0.061
Ru-106	< 0.214	< 0.134
Cs-134	< 0.020	< 0.022
Cs-137	0.14 ± 0.028	0.11 ± 0.033
Ce-141	< 0.103	< 0.140
Ce-144	< 0.154	< 0.176

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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	01-03-12	02-01-12	03-01-12
Lab Code	KSW- 24	KSW- 578	KSW- 1050
Gross beta			
Suspended Solids	< 0.8	3.7 ± 0.4	< 0.8
Dissolved Solids	5.3 ± 1.1	4.2 ± 0.7	7.8 ± 0.9
Total Residue	5.3 ± 1.1	7.9 ± 0.8	7.8 ± 0.9
K-40 (ICP)	5.82	6.77	6.90
Mn-54	< 3.6	< 2.4	< 4.5
Fe-59	< 8.6	< 2.9	< 7.0
Co-58	< 5.5	< 2.9	< 3.6
Co-60	< 2.3	< 1.9	< 3.9
Zn-65	< 10.1	< 2.9	< 6.8
Zr-Nb-95	< 4.1	< 2.1	< 6.6
Cs-134	< 4.2	< 2.4	< 4.1
Cs-137	< 5.5	< 3.1	< 3.5
Ba-La-140	< 7.7	< 2.2	< 5.8
K-1b			
Date Collected	01-03-12	02-01-12	03-01-12
Lab Code	KSW- 25	KSW- 579	KSW- 1051
Gross beta			
Suspended Solids	< 0.7	0.8 ± 0.3	< 0.7
Dissolved Solids	2.6 ± 0.7	2.3 ± 0.5	3.6 ± 0.5
Total Residue	2.6 ± 0.7	3.1 ± 0.6	3.6 ± 0.5
K-40 (ICP)	2.06	2.44	3.53
Mn-54	< 2.9	< 3.6	< 2.2
Fe-59	< 4.5	< 6.7	< 5.0
Co-58	< 2.2	< 2.7	< 1.5
Co-60	< 3.0	< 3.1	< 1.7
Zn-65	< 2.3	< 5.8	< 3.4
Zr-Nb-95	< 4.1	< 2.9	< 3.2
Cs-134	< 2.3	< 3.0	< 2.0
Cs-137	< 2.7	< 3.7	< 2.6
Ba-La-140	< 6.4	< 4.6	< 1.5

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	04-02-12	05-01-12	06-04-12
Lab Code	KSW- 1636	KSW- 2408	KSW- 3417
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.8
Dissolved Solids	5.5 ± 1.1	5.9 ± 1.6	4.5 ± 1.0
Total Residue	5.5 ± 1.1	5.9 ± 1.6	4.5 ± 1.0
K-40 (ICP)	5.27	5.52	5.03
Mn-54	< 3.7	< 2.8	< 3.1
Fe-59	< 5.9	< 4.4	< 7.1
Co-58	< 3.4	< 2.6	< 3.8
Co-60	< 2.2	< 2.9	< 2.5
Zn-65	< 5.2	< 6.2	< 3.4
Zr-Nb-95	< 1.8	< 4.0	< 3.7
Cs-134	< 2.7	< 2.8	< 3.0
Cs-137	< 2.9	< 2.8	< 3.5
Ba-La-140	< 2.5	< 3.3	< 3.4
K-1b			
Date Collected	04-02-12	05-01-12	06-04-12
Lab Code	KSW- 1637	KSW- 2409	KSW- 3418
Gross beta			
Suspended Solids	< 0.7	< 0.7	< 0.7
Dissolved Solids	2.9 ± 0.7	4.1 ± 1.1	2.1 ± 0.6
Total Residue	2.9 ± 0.7	4.1 ± 1.1	2.1 ± 0.6
K-40 (ICP)	2.08	2.16	2.49
Mn-54	< 3.0	< 3.1	< 2.4
Fe-59	< 7.1	< 6.3	< 4.0
Co-58	< 2.6	< 3.4	< 2.3
Co-60	< 1.5	< 2.3	< 3.4
Zn-65	< 4.1	< 4.0	< 3.1
Zr-Nb-95	< 2.6	< 2.7	< 2.3
Cs-134	< 2.1	< 2.0	< 4.2
Cs-137	< 2.5	< 1.8	< 3.6
Ba-La-140	< 2.1	< 4.4	< 2.4

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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	07-05-12	08-01-12	09-04-12
Lab Code	KSW- 3980	KSW- 4814	KSW- 5568
Gross beta			
Suspended Solids	< 1.0	< 0.8	< 0.8
Dissolved Solids	37.7 ± 1.9	11.7 ± 1.1	9.6 ± 1.3
Total Residue	37.7 ± 1.9	11.7 ± 1.1	9.6 ± 1.3
K-40 (ICP)	31.49	10.00	10.82
Mn-54	< 2.4	< 1.9	< 2.3
Fe-59	< 8.6	< 6.0	< 7.0
Co-58	< 2.1	< 3.2	< 3.0
Co-60	< 2.8	< 2.6	< 2.3
Zn-65	< 6.8	< 5.1	< 3.2
Zr-Nb-95	< 2.1	< 2.5	< 2.8
Cs-134	< 3.7	< 2.9	< 2.0
Cs-137	< 2.7	< 2.4	< 1.6
Ba-La-140	< 3.6	< 3.3	< 4.4
K-1b			
Date Collected	07-05-12	08-01-12	09-04-12
Lab Code	KSW- 3981	KSW- 4815	KSW- 5569
Gross beta			
Suspended Solids	< 0.7	< 0.7	< 0.7
Dissolved Solids	5.3 ± 0.9	5.3 ± 0.8	2.2 ± 0.6
Total Residue	5.3 ± 0.9	5.3 ± 0.8	2.2 ± 0.6
K-40 (ICP)	2.94	5.00	2.87
Mn-54	< 3.4	< 2.4	< 2.9
Fe-59	< 7.4	< 4.1	< 3.9
Co-58	< 3.9	< 1.6	< 2.6
Co-60	< 1.9	< 2.1	< 1.3
Zn-65	< 4.6	< 4.3	< 4.4
Zr-Nb-95	< 2.1	< 4.3	< 2.6
Cs-134	< 2.8	< 3.4	< 2.7
Cs-137	< 2.9	< 3.4	< 3.4
Ba-La-140	< 3.4	< 6.1	< 6.4

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	10-01-12	11-05-12	12-03-12
Lab Code	KSW- 6099	KSW- 7080	KSW- 7729
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.8
Dissolved Solids	12.2 ± 0.9	16.1 ± 1.3	22.9 ± 1.8
Total Residue	12.2 ± 0.9	16.1 ± 1.3	22.9 ± 1.8
K-40 (ICP)	10.09	14.27	13.86
Mn-54	< 1.8	< 2.4	< 3.7
Fe-59	< 5.3	< 6.0	< 5.1
Co-58	< 3.2	< 1.5	< 4.0
Co-60	< 2.1	< 2.1	< 3.2
Zn-65	< 3.1	< 4.3	< 4.0
Zr-Nb-95	< 3.4	< 3.3	< 4.7
Cs-134	< 2.2	< 2.3	< 3.2
Cs-137	< 2.3	< 2.4	< 4.1
Ba-La-140	< 6.8	< 2.8	< 1.8
K-1b			
Date Collected	10-01-12	11-05-12	12-03-12
Lab Code	KSW- 6100	KSW- 7081	KSW- 7730
Gross beta			
Suspended Solids	< 0.7	< 0.7	< 0.7
Dissolved Solids	3.2 ± 0.8	3.4 ± 0.7	3.8 ± 0.9
Total Residue	3.2 ± 0.8	3.4 ± 0.7	3.8 ± 0.9
K-40 (ICP)	2.57	2.84	1.93
Mn-54	< 2.6	< 3.6	< 2.8
Fe-59	< 4.7	< 3.1	< 3.8
Co-58	< 3.2	< 2.3	< 3.9
Co-60	< 2.6	< 4.3	< 3.4
Zn-65	< 2.5	< 3.6	< 4.7
Zr-Nb-95	< 3.6	< 3.4	< 3.1
Cs-134	< 1.6	< 3.4	< 2.7
Cs-137	< 2.3	< 2.9	< 3.2
Ba-La-140	< 5.2	< 1.6	< 1.7

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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	01-03-12	02-01-12	03-01-12
Lab Code	KSW- 26	KSW- 580	KSW- 1052
Gross beta			
Suspended Solids	< 0.8	< 0.5	< 0.7
Dissolved Solids	1.5 ± 0.4	1.3 ± 0.3	1.5 ± 0.3
Total Residue	1.5 ± 0.4	1.3 ± 0.3	1.5 ± 0.3
K-40 (ICP)	1.18	1.14	1.28
Mn-54	< 3.0	< 3.0	< 3.0
Fe-59	< 4.5	< 4.2	< 6.2
Co-58	< 4.5	< 2.3	< 1.9
Co-60	< 2.5	< 2.4	< 3.3
Zn-65	< 7.9	< 3.6	< 4.7
Zr-Nb-95	< 3.2	< 3.0	< 2.2
Cs-134	< 3.3	< 2.5	< 2.4
Cs-137	< 4.1	< 2.0	< 1.6
Ba-La-140	< 6.5	< 1.6	< 3.9
K-1e			
Date Collected	01-03-12	02-01-12	03-01-12
Lab Code	KSW- 27	KSW- 581	KSW- 1053
Gross beta			
Suspended Solids	< 0.7	< 0.5	< 0.7
Dissolved Solids	4.7 ± 1.1	1.8 ± 0.6	3.1 ± 0.7
Total Residue	4.7 ± 1.1	1.8 ± 0.6	3.1 ± 0.7
K-40 (ICP)	3.85	1.95	2.97
Mn-54	< 1.2	< 2.0	< 3.0
Fe-59	< 3.3	< 5.4	< 6.4
Co-58	< 2.0	< 1.7	< 3.9
Co-60	< 1.4	< 1.1	< 2.8
Zn-65	< 2.7	< 3.4	< 3.5
Zr-Nb-95	< 1.7	< 3.3	< 3.0
Cs-134	< 1.5	< 2.4	< 3.2
Cs-137	< 2.4	< 1.7	< 3.6
Ba-La-140	< 4.1	< 1.7	< 5.8

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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	04-02-12	05-01-12	06-04-12
Lab Code	KSW- 1638	KSW- 2410	KSW- 3419
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.7
Dissolved Solids	1.1 ± 0.4	1.8 ± 0.7	1.3 ± 0.4
Total Residue	1.1 ± 0.4	1.8 ± 0.7	1.3 ± 0.4
K-40 (ICP)	1.28	1.21	1.18
Mn-54	< 2.9	< 2.7	< 3.6
Fe-59	< 3.3	< 2.5	< 5.7
Co-58	< 3.5	< 2.7	< 2.1
Co-60	< 1.8	< 2.0	< 3.6
Zn-65	< 1.9	< 4.0	< 4.5
Zr-Nb-95	< 3.9	< 2.8	< 4.3
Cs-134	< 1.8	< 3.6	< 2.9
Cs-137	< 3.5	< 2.1	< 2.8
Ba-La-140	< 3.9	< 2.0	< 3.7
K-1e			
Date Collected	04-02-12	05-01-12	06-04-12
Lab Code	KSW- 1639	KSW- 2412	KSW- 3420
Gross beta			
Suspended Solids	< 0.7	< 0.8	< 0.7
Dissolved Solids	3.5 ± 0.9	5.4 ± 1.6	4.8 ± 1.1
Total Residue	3.5 ± 0.9	5.4 ± 1.6	4.8 ± 1.1
K-40 (ICP)	3.00	4.38	3.99
Mn-54	< 2.1	< 2.2	< 3.1
Fe-59	< 4.5	< 3.0	< 6.4
Co-58	< 1.5	< 2.6	< 1.7
Co-60	< 2.3	< 1.6	< 2.1
Zn-65	< 2.2	< 3.9	< 4.6
Zr-Nb-95	< 2.8	< 3.3	< 2.2
Cs-134	< 3.2	< 1.9	< 3.7
Cs-137	< 2.0	< 3.5	< 3.1
Ba-La-140	< 2.9	< 2.1	< 2.1

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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	07-05-12	08-01-12	09-04-12
Lab Code	KSW- 3982	KSW- 4816	KSW- 5570
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.8
Dissolved Solids	1.8 ± 0.5	1.2 ± 0.4	1.2 ± 0.4
Total Residue	1.8 ± 0.5	1.2 ± 0.4	1.2 ± 0.4
K-40 (ICP)	1.07	1.16	1.21
Mn-54	< 3.3	< 2.3	< 1.8
Fe-59	< 4.6	< 4.4	< 4.6
Co-58	< 3.6	< 2.0	< 1.6
Co-60	< 2.3	< 1.6	< 2.5
Zn-65	< 3.7	< 2.8	< 3.3
Zr-Nb-95	< 3.7	< 2.5	< 3.2
Cs-134	< 2.5	< 1.7	< 1.9
Cs-137	< 2.6	< 2.0	< 2.3
Ba-La-140	< 4.7	< 2.4	< 6.9
K-1e			
Date Collected	07-05-12	08-01-12	09-04-12
Lab Code	KSW- 3983	KSW- 4817	KSW- 5571
Gross beta			
Suspended Solids	< 0.7	< 0.7	< 0.7
Dissolved Solids	5.9 ± 1.1	3.8 ± 1.0	18.0 ± 3.1
Total Residue	5.9 ± 1.1	3.8 ± 1.0	18.0 ± 3.1
K-40 (ICP)	3.91	4.20	12.14
Mn-54	< 2.4	< 2.0	< 2.1
Fe-59	< 4.4	< 5.0	< 4.3
Co-58	< 2.7	< 2.2	< 2.5
Co-60	< 2.4	< 2.5	< 2.2
Zn-65	< 1.6	< 4.2	< 5.0
Zr-Nb-95	< 3.0	< 3.4	< 3.2
Cs-134	< 1.4	< 1.8	< 2.4
Cs-137	< 2.6	< 1.8	< 3.6
Ba-La-140	< 4.1	< 4.6	< 9.4

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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	10-01-12	11-05-12	12-03-12
Lab Code	KSW- 6101	KSW- 7082	KSW- 7731
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.8
Dissolved Solids	1.0 ± 0.4	2.0 ± 0.5	3.4 ± 0.6
Total Residue	1.0 ± 0.4	2.0 ± 0.5	3.4 ± 0.6
K-40 (ICP)	1.16	1.19	1.18
Mn-54	< 2.4	< 2.8	< 3.8
Fe-59	< 5.5	< 3.6	< 6.5
Co-58	< 2.0	< 3.7	< 4.0
Co-60	< 1.3	< 4.4	< 4.6
Zn-65	< 4.4	< 7.0	< 4.5
Zr-Nb-95	< 2.6	< 3.4	< 2.8
Cs-134	< 2.5	< 3.4	< 4.0
Cs-137	< 1.9	< 3.9	< 4.4
Ba-La-140	< 6.1	< 3.1	< 4.8
K-1e			
Date Collected	10-01-12	11-05-12	12-03-12
Lab Code	KSW- 6102	KSW- 7083	KSW- 7732
Gross beta			
Suspended Solids	< 0.7	< 0.7	< 0.8
Dissolved Solids	27.6 ± 1.6	5.2 ± 1.1	8.8 ± 1.4
Total Residue	27.6 ± 1.6 [a]	5.2 ± 1.1	8.8 ± 1.4
K-40 (ICP)	18.29	4.75	6.36
Mn-54	< 1.7	< 2.4	< 3.1
Fe-59	< 2.8	< 5.1	< 3.0
Co-58	< 2.6	< 2.2	< 1.4
Co-60	< 2.5	< 2.7	< 2.9
Zn-65	< 2.7	< 3.2	< 4.6
Zr-Nb-95	< 2.2	< 2.1	< 3.2
Cs-134	< 2.3	< 2.9	< 2.5
Cs-137	< 2.6	< 3.6	< 3.3
Ba-La-140	< 5.0	< 4.4	< 3.1

[a] Analysis was repeated; result of reanalysis: 25.4 ± 3.0 pCi/L.

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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	01-03-12	02-01-12	03-01-12
Lab Code	NS[a]	KSW- 582	KSW- 1054
Gross beta			
Suspended Solids	-	0.7 ± 0.3	0.9 ± 0.4
Dissolved Solids	-	4.5 ± 0.4	8.8 ± 0.6
Total Residue	-	5.2 ± 0.5	9.7 ± 0.7
K-40 (ICP)	-	3.81	6.40
Mn-54	-	< 3.2	< 2.2
Fe-59	-	< 7.4	< 3.1
Co-58	-	< 3.2	< 2.8
Co-60	-	< 3.5	< 2.0
Zn-65	-	< 4.6	< 3.0
Zr-Nb-95	-	< 3.7	< 2.6
Cs-134	-	< 2.4	< 2.1
Cs-137	-	< 3.6	< 2.2
Ba-La-140	-	< 4.7	< 3.3
Date Collected	04-02-12	05-01-12	06-04-12
Lab Code	KSW- 1640	KSW- 2413	KSW- 3421
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.8
Dissolved Solids	10.0 ± 0.9	6.5 ± 0.7	17.3 ± 1.2
Total Residue	10.0 ± 0.9	6.5 ± 0.7	17.3 ± 1.2
K-40 (ICP)	10.09	9.10	7.46
Mn-54	< 3.3	< 3.5	< 2.9
Fe-59	< 7.3	< 3.0	< 6.1
Co-58	< 3.0	< 1.3	< 2.1
Co-60	< 2.9	< 1.9	< 2.7
Zn-65	< 5.9	< 5.0	< 2.4
Zr-Nb-95	< 3.7	< 3.8	< 3.3
Cs-134	< 3.9	< 2.3	< 2.6
Cs-137	< 3.5	< 3.4	< 2.4
Ba-La-140	< 5.5	< 2.2	< 4.0

[a] NS= No sample; water frozen.

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

Sample Description and Concentration (pCi/L)			
Indicator			
K-1k			
Date Collected	07-05-12	08-01-12	09-04-12
Lab Code	KSW- 3984	KSW- 4818	KSW- 5572
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.7
Dissolved Solids	8.6 ± 0.8	7.3 ± 0.9	19.2 ± 1.3
Total Residue	8.6 ± 0.8	7.3 ± 0.9	19.2 ± 1.3
K-40 (ICP)	2.81	6.91	9.84
Mn-54	< 3.3	< 1.6	< 1.8
Fe-59	< 6.6	< 3.2	< 6.7
Co-58	< 4.3	< 2.5	< 3.5
Co-60	< 2.9	< 1.1	< 2.5
Zn-65	< 6.6	< 1.3	< 3.3
Zr-Nb-95	< 3.2	< 3.0	< 2.0
Cs-134	< 2.6	< 1.8	< 2.2
Cs-137	< 3.2	< 2.4	< 2.1
Ba-La-140	< 4.8	< 5.4	< 7.4
Date Collected	10-01-12	11-05-12	12-03-12
Lab Code	KSW- 6103	KSW- 7084	KSW- 7733
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.7
Dissolved Solids	18.4 ± 0.6	16.3 ± 1.1	12.1 ± 0.9
Total Residue	18.4 ± 0.6	16.3 ± 1.1	12.1 ± 0.9
K-40 (ICP)	9.68	7.25	6.53
Mn-54	< 3.4	< 2.4	< 4.9
Fe-59	< 5.9	< 4.2	< 4.5
Co-58	< 1.8	< 1.7	< 2.9
Co-60	< 2.5	< 3.0	< 3.9
Zn-65	< 5.0	< 1.4	< 3.7
Zr-Nb-95	< 5.1	< 3.5	< 3.7
Cs-134	< 2.3	< 2.1	< 5.2
Cs-137	< 3.5	< 2.7	< 4.7
Ba-La-140	< 11.4	< 2.4	< 6.9

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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	01-03-12	02-01-12	03-01-12
Lab Code	KSW- 28	KSW- 583	KSW- 1055
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.8
Dissolved Solids	1.3 ± 0.4	1.1 ± 0.3	1.6 ± 0.3
Total Residue	1.3 ± 0.4	1.1 ± 0.3	1.6 ± 0.3
K-40 (ICP)	1.07	1.21	1.20
Mn-54	< 2.7	< 2.7	< 2.4
Fe-59	< 4.1	< 5.6	< 3.3
Co-58	< 2.6	< 1.8	< 1.9
Co-60	< 2.6	< 1.6	< 1.7
Zn-65	< 5.2	< 3.1	< 1.9
Zr-Nb-95	< 5.4	< 2.1	< 2.3
Cs-134	< 3.4	< 2.1	< 2.1
Cs-137	< 4.8	< 2.4	< 2.9
Ba-La-140	< 3.8	< 1.5	< 2.6
K-9 (Tap)			
Date Collected	01-03-12	02-01-12	03-01-12
Lab Code	KSW- 29	KSW- 584	KSW- 1056
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.7
Dissolved Solids	0.8 ± 0.4	1.7 ± 0.5	0.9 ± 0.3
Total Residue	0.8 ± 0.4	1.7 ± 0.5	0.9 ± 0.3
K-40 (ICP)	1.07	1.20	1.17
Mn-54	< 1.5	< 2.2	< 2.3
Fe-59	< 3.3	< 3.3	< 3.6
Co-58	< 1.6	< 3.3	< 1.6
Co-60	< 1.4	< 1.6	< 2.2
Zn-65	< 3.1	< 2.1	< 4.9
Zr-Nb-95	< 2.9	< 3.3	< 2.5
Cs-134	< 1.8	< 2.1	< 2.5
Cs-137	< 2.2	< 3.0	< 2.3
Ba-La-140	< 5.3	< 3.8	< 3.8

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	04-02-12	05-01-12	06-04-12
Lab Code	KSW- 1641	KSW- 2414	KSW- 3422
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.8
Dissolved Solids	1.0 ± 0.4	1.3 ± 0.4	1.1 ± 0.4
Total Residue	1.0 ± 0.4	1.3 ± 0.4	1.1 ± 0.4
K-40 (ICP)	1.16	1.08	1.08
Mn-54	< 2.1	< 2.5	< 2.7
Fe-59	< 3.4	< 3.4	< 5.2
Co-58	< 1.9	< 2.8	< 2.1
Co-60	< 1.5	< 1.9	< 1.6
Zn-65	< 2.5	< 4.7	< 3.7
Zr-Nb-95	< 2.9	< 3.8	< 3.2
Cs-134	< 2.1	< 2.2	< 2.7
Cs-137	< 2.9	< 2.8	< 2.9
Ba-La-140	< 2.0	< 2.6	< 2.4
K-9 (Tap)			
Date Collected	04-02-12	05-01-12	06-04-12
Lab Code	KSW- 1642	KSW- 2415	KSW- 3423
Gross beta			
Suspended Solids	< 0.7	< 0.7	< 0.7
Dissolved Solids	1.3 ± 0.4	0.7 ± 0.4	1.6 ± 0.7
Total Residue	1.3 ± 0.4	0.7 ± 0.4	1.6 ± 0.7
K-40 (ICP)	1.24	1.16	1.08
Mn-54	< 2.3	< 3.3	< 1.9
Fe-59	< 2.9	< 6.7	< 4.8
Co-58	< 3.1	< 2.2	< 1.6
Co-60	< 1.9	< 3.9	< 1.8
Zn-65	< 5.5	< 4.9	< 3.8
Zr-Nb-95	< 2.7	< 4.3	< 3.3
Cs-134	< 2.1	< 2.9	< 1.9
Cs-137	< 3.3	< 4.3	< 2.1
Ba-La-140	< 4.7	< 2.1	< 2.7

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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	07-05-12	08-01-12	09-04-12
Lab Code	KSW- 3985	KSW- 4819	KSW- 5573
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.8
Dissolved Solids	1.1 ± 0.5	1.0 ± 0.4	1.4 ± 0.4
Total Residue	1.1 ± 0.5	1.0 ± 0.4	1.4 ± 0.4
K-40 (ICP)	1.03	1.14	1.16
Mn-54	< 3.3	< 2.0	< 2.6
Fe-59	< 4.6	< 4.7	< 4.2
Co-58	< 4.3	< 2.4	< 3.0
Co-60	< 2.5	< 1.7	< 2.3
Zn-65	< 7.4	< 2.6	< 4.5
Zr-Nb-95	< 3.4	< 3.7	< 3.1
Cs-134	< 3.8	< 2.2	< 1.9
Cs-137	< 4.1	< 1.5	< 2.4
Ba-La-140	< 5.4	< 3.6	< 5.3
K-9 (Tap)			
Date Collected	07-05-12	08-01-12	09-04-12
Lab Code	KSW- 3986	KSW- 4820	KSW- 5574
Gross beta			
Suspended Solids	< 0.7	< 0.7	< 0.8
Dissolved Solids	2.0 ± 0.5	1.8 ± 0.7	1.3 ± 0.4
Total Residue	2.0 ± 0.5	1.8 ± 0.7	1.3 ± 0.4
K-40 (ICP)	1.06	1.17	1.16
Mn-54	< 3.4	< 1.6	< 1.8
Fe-59	< 5.9	< 3.7	< 7.2
Co-58	< 4.7	< 1.9	< 2.4
Co-60	< 2.5	< 1.5	< 1.8
Zn-65	< 4.9	< 3.4	< 4.3
Zr-Nb-95	< 3.6	< 1.6	< 3.6
Cs-134	< 3.8	< 1.9	< 2.0
Cs-137	< 3.0	< 1.5	< 2.5
Ba-La-140	< 4.5	< 3.9	< 7.4

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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	10-01-12	11-05-12	12-03-12
Lab Code	KSW- 6104	KSW- 7085	KSW- 7734
Gross beta			
Suspended Solids	< 0.7	< 0.8	< 0.8
Dissolved Solids	0.7 ± 0.4	1.5 ± 0.4	2.1 ± 0.6
Total Residue	0.7 ± 0.4	1.5 ± 0.4	2.1 ± 0.6
K-40 (ICP)	1.15	1.14	1.12
Mn-54	< 2.8	< 2.6	< 4.5
Fe-59	< 5.1	< 2.5	< 2.6
Co-58	< 3.2	< 2.9	< 3.0
Co-60	< 2.5	< 1.5	< 4.4
Zn-65	< 2.9	< 5.1	< 5.1
Zr-Nb-95	< 3.1	< 2.6	< 4.6
Cs-134	< 2.3	< 2.9	< 3.4
Cs-137	< 2.5	< 3.1	< 4.5
Ba-La-140	< 9.6	< 4.0	< 3.5
K-9 (Tap)			
Date Collected	10-01-12	11-05-12	12-03-12
Lab Code	KSW- 6105	KSW- 7086	KSW- 7735
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.7
Dissolved Solids	1.2 ± 0.4	1.4 ± 0.4	2.0 ± 0.7
Total Residue	1.2 ± 0.4	1.4 ± 0.4	2.0 ± 0.7
K-40 (ICP)	1.16	1.17	1.15
Mn-54	< 1.8	< 3.1	< 2.9
Fe-59	< 4.1	< 3.8	< 3.3
Co-58	< 1.8	< 3.0	< 3.0
Co-60	< 2.0	< 3.2	< 2.3
Zn-65	< 2.7	< 5.5	< 3.6
Zr-Nb-95	< 2.2	< 2.5	< 2.8
Cs-134	< 1.2	< 2.7	< 2.9
Cs-137	< 1.8	< 2.9	< 3.2
Ba-La-140	< 4.0	< 3.1	< 1.8

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	01-03-12	02-01-12	03-01-12
Lab Code	KSW- 30	KSW- 585	KSW- 1057
Gross beta			
Suspended Solids	< 0.7	< 0.8	< 0.7
Dissolved Solids	2.0 ± 0.5	4.3 ± 0.6	2.0 ± 0.3
Total Residue	2.0 ± 0.5	4.3 ± 0.6	2.0 ± 0.3
K-40 (ICP)	1.18	2.94	1.53
Mn-54	< 2.4	< 3.2	< 2.5
Fe-59	< 3.5	< 5.8	< 5.8
Co-58	< 2.7	< 2.4	< 1.7
Co-60	< 2.1	< 1.6	< 1.3
Zn-65	< 2.8	< 3.1	< 3.2
Zr-Nb-95	< 3.2	< 2.9	< 2.6
Cs-134	< 2.5	< 2.8	< 2.6
Cs-137	< 2.7	< 3.0	< 3.2
Ba-La-140	< 7.2	< 1.4	< 5.0
K-14b			
Date Collected	01-03-12	02-01-12	03-01-12
Lab Code	KSW- 31	KSW- 586	KSW- 1058
Gross beta			
Suspended Solids	< 0.7	< 0.8	< 0.7
Dissolved Solids	1.7 ± 0.5	4.7 ± 0.7	1.7 ± 0.3
Total Residue	1.7 ± 0.5	4.7 ± 0.7	1.7 ± 0.3
K-40 (ICP)	1.16	3.12	1.53
Mn-54	< 1.6	< 2.2	< 2.8
Fe-59	< 4.7	< 5.3	< 5.1
Co-58	< 1.5	< 2.7	< 3.2
Co-60	< 1.6	< 2.1	< 2.8
Zn-65	< 2.2	< 4.0	< 3.8
Zr-Nb-95	< 2.0	< 2.5	< 2.7
Cs-134	< 2.4	< 2.0	< 2.4
Cs-137	< 3.0	< 3.1	< 3.5
Ba-La-140	< 4.0	< 1.8	< 6.6

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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	04-02-12	05-01-12	06-04-12
Lab Code	KSW- 1643	KSW- 2416	KSW- 3424
Gross beta			
Suspended Solids	< 0.8	< 0.7	< 0.7
Dissolved Solids	1.2 ± 0.4	1.3 ± 0.4	2.8 ± 0.7
Total Residue	1.2 ± 0.4	1.3 ± 0.4	2.8 ± 0.7
K-40 (ICP)	1.34	1.23	1.18
Mn-54	< 1.9	< 3.0	< 2.5
Fe-59	< 4.3	< 3.9	< 4.2
Co-58	< 2.5	< 2.4	< 1.6
Co-60	< 1.9	< 3.5	< 2.1
Zn-65	< 5.2	< 6.3	< 5.9
Zr-Nb-95	< 3.8	< 3.3	< 3.2
Cs-134	< 2.3	< 3.4	< 2.7
Cs-137	< 2.5	< 3.7	< 3.3
Ba-La-140	< 4.3	< 2.7	< 5.0
K-14b			
Date Collected	04-02-12	05-01-12	06-04-12
Lab Code	KSW- 1644	KSW- 2417	KSW- 3425
Gross beta			
Suspended Solids	< 0.7	< 0.8	< 0.7
Dissolved Solids	1.5 ± 0.4	1.3 ± 0.4	3.9 ± 0.8
Total Residue	1.5 ± 0.4	1.3 ± 0.4	3.9 ± 0.8
K-40 (ICP)	1.35	1.24	1.22
Mn-54	< 3.4	< 3.0	< 3.0
Fe-59	< 6.6	< 6.6	< 6.0
Co-58	< 1.9	< 4.2	< 2.7
Co-60	< 2.1	< 2.8	< 3.0
Zn-65	< 3.4	< 4.1	< 2.8
Zr-Nb-95	< 2.1	< 4.8	< 3.4
Cs-134	< 2.5	< 3.1	< 2.0
Cs-137	< 2.4	< 4.5	< 3.1
Ba-La-140	< 3.8	< 2.4	< 2.5

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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	07-05-12	08-01-12	09-04-12
Lab Code	KSW- 3987	KSW- 4821	KSW- 5575
Gross beta			
Suspended Solids	0.9 ± 0.4	< 0.7	< 0.7
Dissolved Solids	2.1 ± 0.3	6.5 ± 0.9	1.6 ± 0.7
Total Residue	3.0 ± 0.5	6.5 ± 0.9	1.6 ± 0.7
K-40 (ICP)	1.15	2.71	1.17
Mn-54	< 2.0	< 1.5	< 2.8
Fe-59	< 5.3	< 6.1	< 5.9
Co-58	< 1.8	< 2.9	< 2.2
Co-60	< 3.3	< 2.3	< 2.7
Zn-65	< 5.3	< 2.8	< 2.0
Zr-Nb-95	< 3.7	< 2.9	< 3.8
Cs-134	< 3.1	< 1.9	< 1.9
Cs-137	< 3.9	< 2.3	< 2.5
Ba-La-140	< 7.4	< 6.3	< 11.9
K-14b			
Date Collected	07-05-12	08-01-12	09-04-12
Lab Code	KSW- 3988	KSW- 4822	KSW- 5576
Gross beta			
Suspended Solids	< 0.7	< 0.8	< 0.8
Dissolved Solids	1.9 ± 0.4	5.5 ± 0.9	1.9 ± 0.7
Total Residue	1.9 ± 0.4	5.5 ± 0.9	1.9 ± 0.7
K-40 (ICP)	1.11	2.62	1.21
Mn-54	< 3.2	< 1.9	< 1.7
Fe-59	< 5.7	< 7.2	< 4.4
Co-58	< 3.4	< 1.8	< 2.8
Co-60	< 2.1	< 1.9	< 2.5
Zn-65	< 4.4	< 2.2	< 4.3
Zr-Nb-95	< 3.4	< 4.5	< 3.7
Cs-134	< 3.0	< 2.4	< 2.4
Cs-137	< 2.0	< 3.0	< 2.6
Ba-La-140	< 4.0	< 7.2	< 11.8

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	10-01-12	11-05-12	12-03-12
Lab Code	KSW- 6106	KSW- 7087	KSW- 7736
Gross beta			
Suspended Solids	< 0.7	< 0.8	0.8 ± 0.4
Dissolved Solids	2.4 ± 0.5	1.7 ± 0.4	2.5 ± 0.7
Total Residue	2.4 ± 0.5	1.7 ± 0.4	3.3 ± 0.8
K-40 (ICP)	1.56	1.21	1.23
Mn-54	< 2.3	< 4.3	< 2.6
Fe-59	< 5.5	< 5.6	< 7.1
Co-58	< 2.4	< 3.6	< 2.4
Co-60	< 2.4	< 3.8	< 3.7
Zn-65	< 3.7	< 7.0	< 5.0
Zr-Nb-95	< 2.6	< 3.7	< 3.4
Cs-134	< 2.0	< 3.0	< 3.1
Cs-137	< 2.0	< 3.6	< 3.6
Ba-La-140	< 6.6	< 3.1	< 5.3
K-14b			
Date Collected	10-01-12	11-05-12	12-03-12
Lab Code	KSW- 6107	KSW- 7088	KSW- 7737
Gross beta			
Suspended Solids	< 0.8	< 0.8	< 0.8
Dissolved Solids	2.2 ± 0.5	2.0 ± 0.5	2.9 ± 0.8
Total Residue	2.2 ± 0.5	2.0 ± 0.5	2.9 ± 0.8
K-40 (ICP)	1.57	1.22	1.21
Mn-54	< 3.7	< 3.2	< 2.7
Fe-59	< 3.7	< 3.7	< 3.9
Co-58	< 3.6	< 2.2	< 1.7
Co-60	< 3.5	< 3.3	< 2.0
Zn-65	< 4.0	< 6.5	< 2.1
Zr-Nb-95	< 5.7	< 4.1	< 3.3
Cs-134	< 2.3	< 3.3	< 1.8
Cs-137	< 4.9	< 4.6	< 2.1
Ba-La-140	< 9.5	< 2.4	< 2.3

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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 -1300	< 147	< 1.0	< 0.6
2nd Quarter	-3823	< 147	< 1.1	< 0.7
3rd Quarter	-6200	< 151	< 1.1	< 0.5
4th Quarter	-8099	< 138	< 1.0	< 0.4
K-1b				
1st Quarter	KSW -1301	< 147	< 1.2	< 0.6
2nd Quarter	-3824	< 147	< 1.2	< 0.5
3rd Quarter	-6201	< 151	< 1.2	< 0.5
4th Quarter	-8100	< 138	< 1.8	< 0.5
K-1d				
1st Quarter	KSW -1302	176 ± 86	< 1.1	< 0.6
2nd Quarter [a, b]	-3825	734 ± 110	< 1.2	< 0.5
3rd Quarter [d]	-6202	246 ± 91	< 1.0	< 0.5
4th Quarter	-8101	< 138	< 1.1	< 0.5
K-1e				
1st Quarter	KSW -1303	< 147	< 0.9	< 0.4
2nd Quarter [c]	-3826	195 ± 87	< 1.1	< 0.4
3rd Quarter [e]	-6203	351 ± 96	< 1.0	< 0.5
4th Quarter	-8102	158 ± 91	< 1.4	< 0.6

[a] The May composite was a partial sample. A grab sample was also collected.

[b] Individual months of the composite were analyzed for tritium.

Results of analyses (pCi/L):				
	KSW-1638		4/2/2012	< 150
	KSW-2410	Compositor	5/1/2012	668 ± 103
	KSW-2411	Grab	5/1/2012	250 ± 85
	KSW-3419		6/4/2012	1590 ± 135

[c] The analysis for tritium was repeated, result of reanalysis: 171 ± 81 pCi/L.

[d] The analysis for tritium was repeated, result of reanalysis: 251 ± 90 pCi/L.

[e] The analysis for tritium was repeated, result of reanalysis: 366 ± 95 pCi/L.

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 -1307	< 147	< 0.9	< 0.5
2nd Quarter	-3830	< 147	< 1.1	< 0.7
3rd Quarter	-6207	< 151	< 1.0	< 0.5
4th Quarter	-8106	368 ± 99	< 1.3	< 0.6
K-14b				
1st Quarter	KSW -1308	< 147	< 1.1	< 0.6
2nd Quarter	-3831	< 147	< 1.2	< 0.5
3rd Quarter	-6208	< 151	< 0.9	< 0.4
4th Quarter	-8107	336 ± 98	< 1.3	< 0.5
K-1k				
1st Quarter	KSW -1304	< 147	< 1.0	< 0.5
2nd Quarter	-3827	201 ± 87	< 1.0	< 0.5
3rd Quarter	-6204	< 151	< 1.0	< 0.4
4th Quarter	-8103	< 138	< 1.2	< 0.5
Control				
K-9				
1st Quarter	KSW -1305 (Raw)	< 147	< 1.0	< 0.6
	-1306 (Tap)	< 147	< 1.2	< 0.6
2nd Quarter	KSW -3828 (Raw)	< 147	< 1.6	< 0.5
	-3829 (Tap)	< 147	< 1.3	< 0.8
3rd Quarter	KSW -6205 (Raw)	< 151	< 1.3	< 0.6
	-6206 (Tap)	< 151	< 1.2	< 0.6
4th Quarter	KSW -8104 (Raw)	< 138	< 1.2	< 0.5
	-8105 (Tap)	< 138	< 1.4	< 0.6

[c] The analysis for tritium was repeated, result of reanalysis: < 149 pCi/L.

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

Sample Description and Concentration (pCi/g wet)

Collected	05-18-12		07-13-12	
Lab Code	KF- 3406		KF- 4804	
Type	Lake Trout		Sucker	
Portion	Flesh	Bones	Flesh	Bones
Gross beta	1.78 ± 0.06	3.45 ± 1.26	2.65 ± 0.06	3.13 ± 0.88
Sr-89	NA[a]	< 0.26	NA[a]	< 0.35
Sr-90	NA	0.13 ± 0.04	NA	0.25 ± 0.08
K-40	1.47 ± 0.47	NA[a]	2.16 ± 0.31	NA[a]
Mn-54	< 0.029	NA	< 0.013	NA
Fe-59	< 0.119	NA	< 0.028	NA
Co-58	< 0.058	NA	< 0.020	NA
Co-60	< 0.031	NA	< 0.009	NA
Cs-134	< 0.028	NA	< 0.014	NA
Cs-137	< 0.037	NA	< 0.016	NA

Collected	10-05-12	
Lab Code	KF- 7079	
Type	Carp	
Portion	Flesh	Bones
Gross beta	2.13 ± 0.05	5.56 ± 0.83
Sr-89	NA[a]	< 0.40
Sr-90	NA	0.15 ± 0.05
K-40	1.79 ± 0.31	NA[a]
Mn-54	< 0.016	NA
Fe-59	< 0.045	NA
Co-58	< 0.036	NA
Co-60	< 0.012	NA
Cs-134	< 0.011	NA
Cs-137	< 0.016	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 (pCi/g wet)

	Indicators			Control
Location	K-1a	K-1b	K-1d	K-9
Date Collected	06-04-12	06-04-12	06-04-12	06-04-12
Lab Code	KSL- 3426	KSL- 3427	KSL- 3428	KSL- 3431
Gross beta	5.06 ± 0.15	5.34 ± 0.16	3.52 ± 0.19	6.39 ± 0.18
Sr-89	< 0.006	< 0.008	< 0.052	< 0.013
Sr-90	< 0.003	< 0.004	< 0.021	< 0.006
Be-7	0.36 ± 0.13	0.21 ± 0.115	1.21 ± 0.10	< 0.13
K-40	4.56 ± 0.37	4.03 ± 0.39	1.87 ± 0.11	5.69 ± 0.44
Mn-54	< 0.010	< 0.010	< 0.003	< 0.014
Co-58	< 0.009	< 0.010	< 0.006	< 0.006
Co-60	< 0.009	< 0.005	0.010 ± 0.003	< 0.010
Nb-95	< 0.016	< 0.011	< 0.010	< 0.008
Zr-95	< 0.020	< 0.015	< 0.006	< 0.012
Ru-103	< 0.012	< 0.009	< 0.005	< 0.014
Ru-106	< 0.114	< 0.078	< 0.030	< 0.091
Cs-134	< 0.011	< 0.012	< 0.004	< 0.011
Cs-137	< 0.007	< 0.010	0.030 ± 0.006	< 0.011
Ce-141	< 0.024	< 0.017	< 0.021	< 0.022
Ce-144	< 0.094	< 0.071	< 0.049	< 0.063

Location	K-1e	K-1k	K-14
Date Collected	06-04-12	06-04-12	04-02-12
Lab Code	KSL- 3429	KSL- 3430	KSL- 1652
Gross beta	3.86 ± 0.20	5.24 ± 0.13	3.59 ± 0.25
Sr-89	< 0.036	< 0.009	< 0.033
Sr-90	< 0.015	< 0.004	< 0.010
Be-7	1.48 ± 0.10	< 0.10	0.21 ± 0.06
K-40	2.01 ± 0.11	4.20 ± 0.34	1.59 ± 0.15
Mn-54	< 0.004	< 0.011	< 0.006
Co-58	0.015 ± 0.006	< 0.006	< 0.006
Co-60	0.012 ± 0.003	< 0.008	< 0.005
Nb-95	< 0.008	< 0.008	< 0.007
Zr-95	< 0.009	< 0.018	< 0.009
Ru-103	< 0.006	< 0.009	< 0.005
Ru-106	< 0.024	< 0.055	< 0.028
Cs-134	< 0.003	< 0.007	< 0.006
Cs-137	0.030 ± 0.006	< 0.010	0.012 ± 0.006
Ce-141	< 0.015	< 0.021	< 0.010
Ce-144	< 0.040	< 0.070	< 0.034

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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 (pCi/g wet)

	Indicators			Control
Location	K-1a	K-1b	K-1d	K-9
Date Collected	08-01-12	09-04-12	08-01-12	09-05-12
Lab Code	KSL- 4802	KSL- 5609	KSL- 4803	KSL- 5612
Gross beta	7.91 ± 0.83	4.75 ± 0.11	5.35 ± 0.51	4.08 ± 0.09
Sr-89	< 0.36	< 0.009	< 0.25	< 0.006
Sr-90	0.15 ± 0.061	< 0.004	< 0.065	< 0.003
Be-7	0.79 ± 0.14	0.96 ± 0.19	1.44 ± 0.14	< 0.19
K-40	5.12 ± 0.23	3.43 ± 0.36	2.13 ± 0.14	3.67 ± 0.42
Mn-54	< 0.006	< 0.008	< 0.006	< 0.014
Co-58	< 0.007	< 0.008	< 0.008	< 0.015
Co-60	< 0.003	< 0.018	< 0.003	< 0.013
Nb-95	< 0.009	< 0.012	< 0.011	< 0.019
Zr-95	< 0.014	< 0.028	< 0.012	< 0.033
Ru-103	< 0.011	< 0.017	< 0.008	< 0.018
Ru-106	< 0.051	< 0.136	< 0.039	< 0.127
Cs-134	< 0.005	< 0.013	< 0.004	< 0.011
Cs-137	0.022 ± 0.008	< 0.013	0.021 ± 0.006	< 0.014
Ce-141	< 0.028	< 0.025	< 0.035	< 0.021
Ce-144	< 0.051	< 0.088	< 0.062	< 0.108

Location	K-1e	K-1k	K-14
Date Collected	09-04-12	09-04-12	07-05-12
Lab Code	KSL- 5610 [a]	KSL- 5611	KSL- 4082
Gross beta	2.54 ± 0.13	4.88 ± 0.10	5.45 ± 0.70
Sr-89	< 0.042	< 0.006	< 0.11
Sr-90	< 0.014	< 0.003	0.096 ± 0.033
Be-7	0.27 ± 0.05	0.31 ± 0.12	1.32 ± 0.15
K-40	1.82 ± 0.08	3.57 ± 0.34	4.04 ± 0.24
Mn-54	< 0.003	< 0.015	< 0.005
Co-58	< 0.003	< 0.012	< 0.009
Co-60	< 0.003	< 0.010	< 0.005
Nb-95	< 0.007	< 0.015	< 0.018
Zr-95	< 0.010	< 0.020	< 0.017
Ru-103	< 0.005	< 0.014	< 0.009
Ru-106	< 0.018	< 0.082	< 0.058
Cs-134	< 0.003	< 0.012	< 0.007
Cs-137	< 0.004	< 0.015	0.019 ± 0.008
Ce-141	< 0.011	< 0.020	< 0.028
Ce-144	< 0.021	< 0.088	< 0.058

[a] Corrected location.

KEWAUNEE

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

	Sample Description and Concentration (pCi/g dry)				
	Indicator				Control
Location	K-1c	K-1d	K-1j	K-14	K-9
Collection Date	05-01-12	05-01-12	05-01-12	05-01-12	05-01-12
Lab Code	KBS- 2444	KBS- 2445	KBS- 2447	KBS- 2449	KBS- 2448
Gross beta	11.38 ± 1.76	8.92 ± 1.52	10.08 ± 1.56	11.11 ± 1.75	16.75 ± 1.92
Sr-89	< 0.030	< 0.029	< 0.031	< 0.034	< 0.043
Sr-90	< 0.014	< 0.015	< 0.017	< 0.017	< 0.021
K-40	7.82 ± 0.43	5.86 ± 0.38	6.23 ± 0.39	7.73 ± 0.44	7.52 ± 0.90
Co-58	< 0.012	< 0.008	< 0.008	< 0.010	< 0.025
Co-60	< 0.008	< 0.005	< 0.010	< 0.008	< 0.009
Cs-134	< 0.008	< 0.007	< 0.009	< 0.007	< 0.018
Cs-137	< 0.012	< 0.012	< 0.014	0.022 ± 0.011	< 0.022
Location					
Collection Date	11-05-12	11-05-12	11-05-12	11-05-12	11-05-12
Lab Code	KBS- 7090	KBS- 7092	KBS- 7093	KBS- 7095	KBS- 7094
Gross beta	15.67 ± 2.61	15.68 ± 2.49	12.51 ± 2.23	9.33 ± 2.20	18.27 ± 2.62
Sr-89	< 0.076	< 0.071	< 0.084	< 0.083	< 0.062
Sr-90	0.029 ± 0.014	0.024 ± 0.013	< 0.025	< 0.018	0.020 ± 0.011
K-40	8.26 ± 0.46	8.66 ± 0.43	8.37 ± 0.44	6.61 ± 0.49	10.98 ± 0.61
Co-58	< 0.012	< 0.017	< 0.022	< 0.018	< 0.028
Co-60	< 0.007	< 0.009	< 0.016	< 0.012	< 0.014
Cs-134	< 0.013	< 0.009	< 0.009	< 0.011	< 0.011
Cs-137	< 0.015	< 0.013	< 0.017	< 0.015	< 0.019

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Dominion®

2012 Annual Radiological Environmental Operating Report

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

Dominion Energy Kewaunee, Inc.

State Change History

Submit by NASS, DAVID J	**Draft** 2/8/2012 23:52:41 Owner : NASS, DAVID J	**Submit** by NASS, DAVID J	**Supervisor Review** 2/8/2012 23:53:33 Owner : ARNETTE, THOMAS H.	**Complete** by BUSH, CHRISTOPHER S	**O/R Review** 2/9/2012 0:42:57 Owner : FICTUM, HOLLY C	**Complete** by ARNETTE, THOMAS H.	**CRT Review** 2/9/2012 4:13:31 Owner : FICTUM, HOLLY C
To Supervisor by PRIBEK, BARBARA A	**Supervisor Review** 2/9/2012 4:42:56 Owner : ARNETTE, THOMAS H.	**Complete** by ARNETTE, THOMAS H.	**O/R Review** 2/9/2012 4:45:13 Owner : FICTUM, HOLLY C	**Complete** by BUSH, CHRISTOPHER S	**CRT Review** 2/9/2012 4:50:24 Owner : FICTUM, HOLLY C	**CA** by WALESH, DEBRA J	**CRT Assignment Creation** 2/10/2012 11:43:00 Owner : FICTUM, HOLLY C
Complete by WALESH, DEBRA J	**Assignments Pending** 2/10/2012 11:47:45 Owner : FICTUM, HOLLY C	**Return** by KUDICK, JESSICA L	**CRT Assignment Creation** 3/20/2012 11:45:01 Owner : FICTUM, HOLLY C	**Complete** by KUDICK, JESSICA L	**Assignments Pending** 3/20/2012 11:48:14 Owner : FICTUM, HOLLY C	**Assignments Complete** by GADZINSKI, JULIE A	**Trend Review** 8/13/2012 9:53:21 Owner : FICTUM, HOLLY C
Trend Review Complete by FICTUM, HOLLY C	**All Assignments Complete** 8/20/2012 12:53:50 Owner : (None)	**Transfer** by RECORDS MGMT	**Transferred** 8/20/2012 16:04:50 Owner : (None)	**Print** by RECORDS MGMT	**Printed** 8/21/2012 6:16:32 Owner : (None)	**Validate** by RECORDS MGMT	**Validated** 8/21/2012 6:16:44 Owner : (None)

Section 1

Applicable to site:	KEWA
Record #:	CR462084
Revision Number:	0
Submitter:	NASS, DAVID J
Submitter Dept.:	KEWA - Control Ops
Submitter Phone Number:	8200
Submitter Pager Number:	na
One-Line Description:	Supply Bkr. 13504 tripped open, MCC-35B and 35D Power Supply
Description:	Received Report from the AO that the CVC HUT Transfer Pump stopped pumping. The Control Room then Identified that the SFP Supply Fan green light on Mechanical Vertical Panel A was not illuminated. Changed the Green light bulb. The light did not light. EO reported that Bkr. 13504 was tripped, this supply Bkr. Powers MCC-35B and MCC-35D. The AO was then directed by the US to restore the valve lineup from the CVC HUT B transfer to the SFP per NOP-CVC-009. OMOC was notified. Electricians will be notified to investigate the cause of Bkr. 13504 tripping open. This Bkr. tripped open on Friday 2-2-12 while the CVC HUT Transfer pump was operating.
Discovery Date:	2/8/2012
Discovery Time:	22:59:00
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):	40-ELV--480V SUPPLY AND DIST
Equipment Location Display:	**Equipment Location - Critical Component - PRA Flag - Quality Classification - Component Description**
Equipment Location Links:	

13504BKR	1	N	NS	CIRCUIT BREAKER - MCC 1-35B MCC 1-35D

Initial Actions:	notified EO to observe status of Bkr. 13504
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:	ARNETTE, THOMAS 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:	Yes
Question I:	**Does this CR affect plant safety?**
Yes/No I:	No
Question J:	**Does this CR involve plant equipment?**
Yes/No J:	Yes
Question K:	**Is this CR an environmental concern?**
Yes/No K:	Yes
Literal 2:	**Unit Conditions:**
Unit 1% Pwr:	100
Unit 2% Pwr:	NA
Unit 3% Pwr:	NA
Unit 1 Mode:	1
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-1f Environmental Air Sampler is NON-FUNCTIONAL (powered from MCC-35B). The K-1f 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. I agree with the above assessment.
Question L:	**Is an Operability Assessment req'd for an SSC, which is Functional for its TRM function, to demonstrate operability for its TS function?**
Yes / No L:	No
Literal 4:	**The basis for establishing IOD can be documented in the "Basis for Operability" field. An IOD assignment does not necessarily need to be created.**
Is an IOD Assignment Required?:	No
LCO entered:	No
Applicable LCO:	
Non-TS SSC Functionality Assessment.:	Non-Functional
Literal 5:	**NOTE: If a RAS is to be assigned to determine the answer to the next question, select "TBD" (to be determined) for the answer to the next question.**
Does it impact a TS SSC?:	No
Literal 6:	**The basis for establishing Non-TS SSC Functionality may be documented in the "Basis for Operability" field. A RAS assignment does not necessarily need to be created in these instances.**
Is a RAS Assignment Needed?:	No
Literal 7:	**If this Condition Report is addressing an SSC, document the qualification status of the SSC in the following field. Otherwise select N/A. NOTE: An SSC can be Operable or Functional and still not be Fully Qualified.**
SSC Qualification Status:	N/A
Reportable condition?:	No
Text Question 3:	**Reportability Comments:**
Text Answer 3:	
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leak Classification:	(None)
Leakage Severity:	(None)
O/R Comments:	
Significance:	3
Deficiency Type:	Equipment
Potential Repeat:	Yes
Previous Issues (PIs, CRs):	CR search by "13504BKR" identified the following: CR461563 - SFP Supply fan green light not lit (02/03/2012). CR396319 - Found long time on the static trip device for BKR 13504 out of band (09/24/2010). WO KW100722034 (Status 20 - Awaiting Planner Assignment) generated to repair/replace static trip device on breaker removed per WO KW100272952 (PM40-767: Replace/Refurbish Existing (NS) LA600 480V Breaker).
CR FLAGS:	Self-Revealing Event
CRT Report Section(s):	2
Screening Date:	
License Renewal Flags:	(None)
Affected Department:	(None)

CRT Comments:

HI LEVEL

Ref Deficiency Tag na

Reference KW100866471 (Status 80 - Awaiting Close Out) generated per CR461563 on 02/03/2012 to investigate / repair cause of 13504 breaker to trip. WO completed on 02/03/2012. Work completed include a meggar of cables and individual loads form MCCs (SAT), visual inspection for faults (SAT), 13504 Breaker was replaced, and as-found trip test on removed breaker (SAT).

WO KW100867481 generated to troubleshoot/repair cause of 13504BKR tripping open.
CA to Maintenance (EM) (Patterson/Helbing) to evaluate Supply Breaker 13504 tripping open as Rework (RW3) per MA-AA-108 and resolve (Reference WO KW100866471) (Due Date: 03/14/2012)

MRE to Elec/I&C systems (domski/streich) for Supply Bkr. 13504 tripped open, MCC-35B and 35D Power Supply

CA to Programs Eng (Miller/Koehler) to track Supply Bkr. 13504 tripped open, MCC-35B and 35D Power Supply for a Failure of a Critical component

Comments: 3/20/2012 11:45:01 - KUDICK, JESSICA L:
returning to initiate Cause determination and OE review for MRE 14795

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:**	ER.2 - Prevention of Equipment Failures
Secondary INPO criteria:	(None)	**Operations Hot Buttons:**	EAL-Equipment
Engineering Hot Buttons:	ER Failure of Critical Component (FCC) ES - Intolerance for Critical Equip Failures/Degradation	**Maintenance Hot Buttons:**	RW3 – Repeat Maintenance Rework Rework – INPO Indicator
RP Hot Buttons:	(None)	**Chemistry Hot Buttons:**	(None)
EP Hot Buttons:	(None)	**Training Hot Buttons:**	(None)
Security Hot Buttons:	(None)	**OR Hot Buttons:**	(None)
O&P Hot Buttons:	(None)	**NSS Hot Buttons:**	(None)
Supply Chain Hot Buttons:	(None)	**Procedures Hot Buttons:**	(None)
Reactivity Mgmt Hot Buttons:	(None)	**Other Hot Buttons:**	(None)

Section 3

Work Order Number(s): KW100867481
Status Description: CANCELLED
Status Date: 2/22/2012 13:22:23
Actual Finish Date: 2/22/2012 13:22:23
Work Performed Description:

Section 5

CR Completed Date: 8/20/2012 13:53:50 **CR Printed Date:** 8/21/2012 6:16:32

CR Validated Date: 8/21/2012 6:16:44 **CR Who Validated:** RECORDS MGMT

RM Attachment Links:

⊟ Subtasks

⊞ Show Subtasks

Expand All

⊟ Attachments

Principal to: CA226426: KEWA - Evaluate Supply Breaker 13504 tripping open as Rework (RW3) per MA-AA-108re (Inactive) by **WALESH, DEBRA J** (2/10/2012 11:44:10)

Principal to: MRE014795: KEWA - Supply Bkr. 13504 tripped open, MCC-35B and 35D Power Supply (Inactive) by **WALESH, DEBRA J** (2/10/2012 11:45:50)

Principal to: CA226428: KEWA - Track Supply Bkr. 13504 tripped open, MCC-35B and 35D Power Supply for a Failure (Inactive) by **WALESH, DEBRA J** (2/10/2012 11:47:06)

Principal to: CA229977: KEWA - Perform Cause determination and OE review for MRE 14795 (Inactive) by **KUDICK, JESSICA L** (3/20/2012 11:47:45)

⊟ Change History

2/8/2012 23:53:33 by NASS, DAVID J
Owner Changed From NASS, DAVID J To ARNETTE, THOMAS H.
Secondary Owner Changed From ARNETTE, THOMAS H. To AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOFFNER, WILLIAM J, HOLDSWORTH, EDNA K, HOUSE, ALEX J, JORDAN JR, ARNOLD J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZUERCHER, RICHARD R
Last Modified Date Changed From 2/8/2012 23:52:41 To 2/8/2012 23:53:33
Last State Change Date Changed From 2/8/2012 23:52:41 To 2/8/2012 23:53:33
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR462084: KEWA - Supply Bkr. 13504 tripped open, MCC-35B and 35D Power Supply (Inactive)

2/9/2012 0:42:57 by BUSH, CHRISTOPHER S
Yes/No I Changed From Yes To No
Owner Changed From ARNETTE, THOMAS H. To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOFFNER, WILLIAM J, HOLDSWORTH, EDNA K, HOUSE, ALEX J, JORDAN JR, ARNOLD J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZUERCHER, RICHARD R To BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 2/8/2012 23:53:33 To 2/9/2012 0:42:57
Last Modifier Changed From NASS, DAVID J To BUSH, CHRISTOPHER S
Last State Change Date Changed From 2/8/2012 23:53:33 To 2/9/2012 0:42:58
Last State Changer Changed From NASS, DAVID J To BUSH, CHRISTOPHER S

State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

2/9/2012 0:45:30 by BUSH, CHRISTOPHER S
Unit 1% Pwr Changed From " To '100'
Unit 1 Mode Changed From (None) To 1
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-1f Environmental Air Sampler is NON-FUNCTIONAL (powered from MCC-35B). The K-1f Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Manual. Per Table 2.2.1-A if specimens are unobt[...]'
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 2/9/2012 0:42:57 To 2/9/2012 0:45:30

2/9/2012 4:13:31 by ARNETTE, THOMAS H.
Text Answer 2 Changed From '[Original Text]' To '[Appended:] I agree with the above assessment.'
Last Modified Date Changed From 2/9/2012 0:45:30 To 2/9/2012 4:13:31
Last Modifier Changed From BUSH, CHRISTOPHER S To ARNETTE, THOMAS H.
Last State Change Date Changed From 2/9/2012 0:42:58 To 2/9/2012 4:13:31
Last State Changer Changed From BUSH, CHRISTOPHER S To ARNETTE, THOMAS H.
State Changed From O/R Review To CRT Review Via Transition: Complete

2/9/2012 4:42:56 by PRIBEK, BARBARA A
CRT Comments Changed From " To 'Please update equipment location field'
Owner Changed From FICTUM, HOLLY C To ARNETTE, THOMAS H.
Secondary Owner Changed From BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WINKS III, GEORGE F, YEARGIN, BARRY K To AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOFFNER, WILLIAM J, HOLDSWORTH, EDNA K, HOUSE, ALEX J, JORDAN JR, ARNOLD J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZUERCHER, RICHARD R
Last Modified Date Changed From 2/9/2012 4:13:31 To 2/9/2012 4:42:56
Last Modifier Changed From ARNETTE, THOMAS H. To PRIBEK, BARBARA A
Last State Change Date Changed From 2/9/2012 4:13:31 To 2/9/2012 4:42:56
Last State Changer Changed From ARNETTE, THOMAS H. To PRIBEK, BARBARA A
State Changed From CRT Review To Supervisor Review Via Transition: To Supervisor

2/9/2012 4:45:04 by ARNETTE, THOMAS H.
Equipment Location Changed From (None) To 13504BKR
Equipment Location Links Changed From " To '[Appended:]<table width=100% border=1 cellspacing=2 cellpadding=2><tr><td width=30% nowrap>13504BKR</td><td width=5% nowrap>1</td><td width=5% nowrap>N</td><td width=5% nowrap>NS</td><td width=55%>CI[...]'
Last Modified Date Changed From 2/9/2012 4:42:56 To 2/9/2012 4:45:04
Last Modifier Changed From PRIBEK, BARBARA A To ARNETTE, THOMAS H.

2/9/2012 4:45:13 by ARNETTE, THOMAS H.
Owner Changed From ARNETTE, THOMAS H. To FICTUM, HOLLY C

Secondary Owner Changed From AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOFFNER, WILLIAM J, HOLDSWORTH, EDNA K, HOUSE, ALEX J, JORDAN JR, ARNOLD J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ,

CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZUERCHER, RICHARD R To BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 2/9/2012 4:45:04 To 2/9/2012 4:45:13
Last State Change Date Changed From 2/9/2012 4:42:56 To 2/9/2012 4:45:13
Last State Changer Changed From PRIBEK, BARBARA A To ARNETTE, THOMAS H.
State Changed From Supervisor Review To O/R Review Via Transition: Complete

2/9/2012 4:49:56 by BUSH, CHRISTOPHER S
Tag Hung Changed From (None) To No
Last Modified Date Changed From 2/9/2012 4:45:13 To 2/9/2012 4:49:56
Last Modifier Changed From ARNETTE, THOMAS H. To BUSH, CHRISTOPHER S

2/9/2012 4:50:24 by BUSH, CHRISTOPHER S
Last Modified Date Changed From 2/9/2012 4:49:56 To 2/9/2012 4:50:24
Last State Change Date Changed From 2/9/2012 4:45:13 To 2/9/2012 4:50:24
Last State Changer Changed From ARNETTE, THOMAS H. To BUSH, CHRISTOPHER S
State Changed From O/R Review To CRT Review Via Transition: Complete

2/9/2012 4:50:55 by PRIBEK, BARBARA A
Tag Number Changed From '' To 'NA'
Last Modified Date Changed From 2/9/2012 4:50:24 To 2/9/2012 4:50:55
Last Modifier Changed From BUSH, CHRISTOPHER S To PRIBEK, BARBARA A
To Work Management Changed From '' To 'Y'

2/9/2012 5:08:08 by PRIBEK, BARBARA A
Significance Changed From (None) To 3
Deficiency Type Changed From (None) To Equipment
Potential Repeat Changed From (None) To Yes
Previous Issues (PIs, CRs) Changed From '' To '[Appended:]CR search by "13504BKR" identified the following: CR461563 - SFP Supply fan green light not lit (02/03/2012). CR396319 - Found long time on the static trip device for BKR 13504 out of band (09/24/2010). WO KW100722034 (Status 20 - Awaiting PI[...]'
CR FLAGS Changed From (None) To Self-Revealing Event
CRT Comments Changed From 'Please update equipment location field' To '[...]Reference KW100866471 (Status 80 - Awaiting Close Out) generated per CR461563 on 02/03/2012 to investigate / repair cause of 13504 breaker to trip. WO completed on 02/03/2012. Work completed include a meggar of cables and individual loads form[more diffs...]'
Last Modified Date Changed From 2/9/2012 4:50:55 To 2/9/2012 5:08:08

2/9/2012 5:11:11 by PRIBEK, BARBARA A
Last Modified Date Changed From 2/9/2012 5:08:08 To 2/9/2012 5:11:11

2/9/2012 5:14:40 by PRIBEK, BARBARA A
CRT Comments Changed From '[...]replacement and As-Found trip test on removed breaker (SAT). WO KW100867481 generated to troubleshoot/repair cause of 13504BKR tripping open.' To '[...]was replaced, and as-found trip test on removed breaker (SAT). WO KW100867481 generated to troubleshoot/repair cause of 13504BKR tripping open. CA to Maintenance (EM) to evaluate Supply Breaker 13504 tripping open as Rework (RW3) per MA-AA-1[more diffs...]'
Last Modified Date Changed From 2/9/2012 5:11:11 To 2/9/2012 5:14:40

2/9/2012 5:18:14 by PRIBEK, BARBARA A
Maintenance Hot Buttons Changed From (None) To Rework, RW3 – Repeat Maintenance, Rework – INPO Indicator
Last Modified Date Changed From 2/9/2012 5:14:40 To 2/9/2012 5:18:14

2/9/2012 5:45:43 by IRION, ROBERT W
Operations Hot Buttons Changed From (None) To EAL-Equipment
Last Modified Date Changed From 2/9/2012 5:18:14 To 2/9/2012 5:45:43
Last Modifier Changed From PRIBEK, BARBARA A To IRION, ROBERT W

2/9/2012 6:20:45 by LANGER JR, JAMES E
CRT Comments Changed From '[Original Text]' To '[Prepended:]*HI LEVEL* Ref Deficiency Tag na.'
Last Modified Date Changed From 2/9/2012 5:45:43 To 2/9/2012 6:20:45
Last Modifier Changed From IRION, ROBERT W To LANGER JR, JAMES E

2/9/2012 10:36:00 by PRIBEK, BARBARA A
CRT Comments Changed From '[...] on removed breaker (SAT). WO KW100867481 generated to troubleshoot/repair cause of 13504BKR tripping open. CA to Maintenance (EM) to evaluate Supply Breaker 13504 tripping open as Rework (RW3) per MA-AA-108 and resolve (Reference WO KW100866471)' To '[...]1 generated to troubleshoot/repair cause of 13504BKR tripping open. CA to Maintenance (EM) (Patterson/Helbing) to evaluate Supply Breaker 13504 tripping open as Rework (RW3) per MA-AA-108 and resolve (Reference WO KW100866471) (Due Date: 03/14/2012)'
Last Modified Date Changed From 2/9/2012 6:20:45 To 2/9/2012 10:36:00
Last Modifier Changed From LANGER JR, JAMES E To PRIBEK, BARBARA A

2/9/2012 10:59:43 by KUDICK, JESSICA L
CRT Report Section(s) Changed From (None) To 1

CRT Comments Changed From '[Original Text]' To '[Appended:] MRE to Elec/I&C systems (domski/streich) for Supply Bkr. 13504 tripped

open, MCC-35B and 35D Power Supply CA to Programs Eng (Miller/Koehler) to track Supply Bkr. 13504 tripped open, MCC-35B and 35D Power Supply for a Failure of a Critica[...]'
Last Modified Date Changed From 2/9/2012 10:36:00 To 2/9/2012 10:59:43
Last Modifier Changed From PRIBEK, BARBARA A To KUDICK, JESSICA L

2/10/2012 11:43:00 by WALESH, DEBRA J
Last Modified Date Changed From 2/9/2012 10:59:43 To 2/10/2012 11:43:00
Last Modifier Changed From KUDICK, JESSICA L To WALESH, DEBRA J
Last State Change Date Changed From 2/9/2012 4:50:24 To 2/10/2012 11:43:00
Last State Changer Changed From BUSH, CHRISTOPHER S To WALESH, DEBRA J
State Changed From CRT Review To CRT Assignment Creation Via Transition: CA

2/10/2012 11:44:10 by WALESH, DEBRA J
Last Modified Date Changed From 2/10/2012 11:43:00 To 2/10/2012 11:44:10
Attachment Added: CA226426: (None) - Evaluate Supply Breaker 13504 tripping open as Rework (RW3) per MA-AA-108re

2/10/2012 11:45:06 by WALESH, DEBRA J
Last Modified Date Changed From 2/10/2012 11:44:10 To 2/10/2012 11:45:06

2/10/2012 11:45:50 by WALESH, DEBRA J
Last Modified Date Changed From 2/10/2012 11:45:06 To 2/10/2012 11:45:50
Attachment Added: MRE014795: (None) - Supply Bkr. 13504 tripped open, MCC-35B and 35D Power Supply

2/10/2012 11:46:22 by WALESH, DEBRA J
Last Modified Date Changed From 2/10/2012 11:45:50 To 2/10/2012 11:46:22

2/10/2012 11:47:06 by WALESH, DEBRA J
Last Modified Date Changed From 2/10/2012 11:46:22 To 2/10/2012 11:47:06
Attachment Added: CA226428: (None) - Track Supply Bkr. 13504 tripped open, MCC-35B and 35D Power Supply for a Failure

2/10/2012 11:47:45 by WALESH, DEBRA J
CRT Report Section(s) Changed From 1 To 2
Secondary Owner Changed From BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WINKS III, GEORGE F, YEARGIN, BARRY K To AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 2/10/2012 11:47:06 To 2/10/2012 11:47:45
Last State Change Date Changed From 2/10/2012 11:43:00 To 2/10/2012 11:47:45
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

2/21/2012 8:08:50 by FICTUM, HOLLY C
Process Code Changed From (None) To UNK (Unknown)
Activity Codes Changed From (None) To UNK(Unknown)
Primary INPO criteria Changed From (None) To ER.1 - Equipment Performance
Secondary Owner Changed From AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K To AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 2/10/2012 11:47:45 To 2/21/2012 8:08:50
Last Modifier Changed From WALESH, DEBRA J To FICTUM, HOLLY C

Comments Changed From " To '[Appended:] returning to initiate Cause determination and OE review for MRE 14795'
Secondary Owner Changed From AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K To BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 2/21/2012 8:08:50 To 3/20/2012 11:45:01
Last Modifier Changed From FICTUM, HOLLY C To KUDICK, JESSICA L
Last State Change Date Changed From 2/10/2012 11:47:45 To 3/20/2012 11:45:01
Last State Changer Changed From WALESH, DEBRA J To KUDICK, JESSICA L
State Changed From Assignments Pending To CRT Assignment Creation Via Transition: Return

3/20/2012 11:45:09 by KUDICK, JESSICA L
Last Modified Date Changed From 3/20/2012 11:45:01 To 3/20/2012 11:45:09

3/20/2012 11:47:45 by KUDICK, JESSICA L
Last Modified Date Changed From 3/20/2012 11:45:09 To 3/20/2012 11:47:45
Attachment Added: CA229977: (None) - Perform Cause determination and OE review for MRE 14795

3/20/2012 11:48:14 by KUDICK, JESSICA L
Secondary Owner Changed From BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K To AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 3/20/2012 11:47:45 To 3/20/2012 11:48:14
Last State Change Date Changed From 3/20/2012 11:45:01 To 3/20/2012 11:48:14
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

4/10/2012 23:27:53 by FICTUM, HOLLY C
Primary INPO criteria Changed From ER.1 - Equipment Performance To ER.2 - Prevention of Equipment Failures

Secondary Owner Changed From AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K To AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R,

VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 3/20/2012 11:48:14 To 4/10/2012 23:27:53
Last Modifier Changed From KUDICK, JESSICA L To FICTUM, HOLLY C

4/11/2012 12:50:23 by KUDICK, JESSICA L
Engineering Hot Buttons Changed From (None) To ES - Intolerance for Critical Equip Failures/Degradation, ER Failure of Critical Component (FCC)
Last Modified Date Changed From 4/10/2012 23:27:53 To 4/11/2012 12:50:23
Last Modifier Changed From FICTUM, HOLLY C To KUDICK, JESSICA L

8/13/2012 9:53:21 by GADZINSKI, JULIE A
Secondary Owner Changed From AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K To AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MILLER, JEANNINE R, MUELLER, JENNIFER L, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, YEARGIN, BARRY K
Last Modified Date Changed From 4/11/2012 12:50:23 To 8/13/2012 9:53:21
Last Modifier Changed From KUDICK, JESSICA L To GADZINSKI, JULIE A
Last State Change Date Changed From 3/20/2012 11:48:14 To 8/13/2012 9:53:21
Last State Changer Changed From KUDICK, JESSICA L To GADZINSKI, JULIE A
State Changed From Assignments Pending To Trend Review Via Transition: Assignments Complete

8/20/2012 12:53:50 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 8/20/2012 13:53:50
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, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, ERICSON, JANICE L, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MILLER, JEANNINE R, MUELLER, JENNIFER L, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, YEARGIN, BARRY K To KASSNER, KIM M, KRCMA, MELISSA MARIE, LACROSSE, TARA LYNN, LEANNA, LORI L, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, RECORDS MGMT, SCHULTZ, SANDRA J, SMIDEL, SARAH A., STAFFORD, JEFFREY T, Teamtrackuser, ZICH, CHRISTY L
Last Modified Date Changed From 8/13/2012 9:53:21 To 8/20/2012 12:53:50
Last Modifier Changed From GADZINSKI, JULIE A To FICTUM, HOLLY C
Close Date Changed From Unassigned To 8/20/2012 12:53:50
Last State Change Date Changed From 8/13/2012 9:53:21 To 8/20/2012 12:53:50
Last State Changer Changed From GADZINSKI, JULIE A 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

8/20/2012 16:04:50 by RECORDS MGMT
Last Modified Date Changed From 8/20/2012 12:53:50 To 8/20/2012 16:04:50
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 8/20/2012 12:53:50 To 8/20/2012 16:04:50
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

8/21/2012 6:16:32 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 8/21/2012 6:16:32
Last Modified Date Changed From 8/20/2012 16:04:50 To 8/21/2012 6:16:32
Last State Change Date Changed From 8/20/2012 16:04:50 To 8/21/2012 6:16:32
State Changed From Transferred To Printed Via Transition: Print

8/21/2012 6:16:44 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 8/21/2012 6:16:44
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, KRCMA, MELISSA MARIE, LACROSSE, TARA LYNN, LEANNA, LORI L, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, RECORDS MGMT, SCHULTZ, SANDRA J, SMIDEL, SARAH A., STAFFORD, JEFFREY T, Teamtrackuser, ZICH, CHRISTY L To (None)

Last State Change Date Changed From 8/21/2012 6:16:32 To 8/21/2012 6:16:44
State Changed From Printed To Validated Via Transition: Validate

State Change History

Submit by NASS, DAVID J	**Draft** 3/2/2012 22:14:41 Owner: NASS, DAVID J	**Submit** by NASS, DAVID J	**Supervisor Review** 3/2/2012 22:16:41 Owner: GOOLSBEY, MARK W	**Complete** by BUSH, CHRISTOPHER S	**O/R Review** 3/2/2012 23:21:09 Owner: FICTUM, HOLLY C	**Return** by BUSH, CHRISTOPHER S	**Supervisor Review** 3/2/2012 23:22:22 Owner: GOOLSBEY, MARK W
Complete by BUSH, CHRISTOPHER S	**O/R Review** 3/2/2012 23:24:10 Owner: FICTUM, HOLLY C	**Complete** by GOOLSBEY, MARK W	**CRT Review** 3/3/2012 0:49:49 Owner: FICTUM, HOLLY C	**To O/R** by BUSH, CHRISTOPHER S	**O/R Review** 3/3/2012 1:40:22 Owner: FICTUM, HOLLY C	**Complete** by GOOLSBEY, MARK W	**CRT Review** 3/3/2012 3:20:56 Owner: FICTUM, HOLLY C
MRE by WALESH, DEBRA J	**CRT Assignment Creation** 3/6/2012 10:38:21 Owner: FICTUM, HOLLY C	**Complete** by WALESH, DEBRA J	**Assignments Pending** 3/6/2012 10:41:52 Owner: FICTUM, HOLLY C				

Section 1

Applicable to site:	KEWA
Record #:	CR464794
Revision Number:	0
Submitter:	NASS, DAVID J
Submitter Dept.:	KEWA - Control Ops
Submitter Phone Number:	8200
Submitter Pager Number:	na
One-Line Description:	Bkr. 13504 Tripped Open
Description:	The Control Room Identified the Spent Fuel Pool Supply Fan Red indicating Light was off, the light bulb was changed with No affect. The EO was dispatched to report the status of Bkr. 13504 which is the supply for MCC-35B and MCC-35D. The EO reports Bkr. 13504 is tripped open, Electricians and Operations Management were Notified. Bkr. 13504 was being investigated during this period of time due to a number of previous trips of the Bkr.
Discovery Date:	3/2/2012
Discovery Time:	19:56:00
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):	40-ELV--480V SUPPLY AND DIST
Equipment Location Display:	**Equipment Location - Critical Component - PRA Flag - Quality Classification - Component Description**
Equipment Location Links:	

13504BKR	1	N	NS	CIRCUIT BREAKER - MCC 1-35B MCC 1-35D

Initial Actions:	notified EO to Check status of Bkr 13504
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:	GOOLSBEY, MARK W
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:	Yes
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
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-1f Environmental Air Sampler is NON-FUNCTIONAL (powered from MCC-35B). The K-1f Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Manual. Per Table 2.2.1-A if specimens are unobtainable due to sampling equipment malfunction, reasonable efforts shall be made to correct the problem prior to the end of the next sampling period. Per Table 2.2.1-B of the REMM, samples for Airborne Particulate are required weekly.
Question L:	**Is an Operability Assessment req'd for an SSC, which is Functional for its TRM function, to demonstrate operability for its TS function?**
Yes / No L:	No
Literal 4:	**The basis for establishing IOD can be documented in the "Basis for Operability" field. An IOD assignment does not necessarily need to be created.**

Is an IOD Assignment Required?:	No
LCO entered:	No
Applicable LCO:	
Non-TS SSC Functionality Assessment.:	Non-Functional
Literal 5:	**NOTE: If a RAS is to be assigned to determine the answer to the next question, select "TBD" (to be determined) for the answer to the next question.**
Does it impact a TS SSC?:	No
Literal 6:	**The basis for establishing Non-TS SSC Functionality may be documented in the "Basis for Operability" field. A RAS assignment does not necessarily need to be created in these instances.**
Is a RAS Assignment Needed?:	No
Literal 7:	**If this Condition Report is addressing an SSC, document the qualification status of the SSC in the following field. Otherwise select N/A. NOTE: An SSC can be Operable or Functional and still not be Fully Qualified.**
SSC Qualification Status:	N/A
Reportable condition?:	No
Text Question 3:	**Reportability Comments:**
Text Answer 3:	
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leak Classification:	(None)
Leakage Severity:	(None)
O/R Comments:	returned for equipment location. I agree with the operability assessment made by Mr. Bush.
Significance:	3
Deficiency Type:	Equipment
Potential Repeat:	Yes
Previous Issues (PIs, CRs):	CR search by "13504BKR" identified the following: CR462084 - Supply Bkr. 13504 tripped open, MCC-35B and 35D Power Supply (02/08/2012). WO KW100867481 canceled to WO KW100866471 generated per C"R461563. CR461563 - SFP Supply fan green light not lit (02/03/2012). Work completed included a meggar of cables and individual loads form MCCs (SAT), visual inspection for faults (SAT), 13504 Breaker was replaced, and as-found trip test on removed breaker (SAT) on 02/03/2012 per WO KW100866471 (Status 48 - Work In Progress). CR396319 - Found long time on the static trip device for BKR 13504 out of band (09/24/2010). WO KW100722034 (Status 20 - Awaiting Planner Assignment) generated to repair/replace static trip device on breaker removed per WO KW100272952 (PM40-767: Replace/Refurbish Existing (NS) LA600 480V Breaker).
CR FLAGS:	Radiological Controls Self-Revealing Event
CRT Report Section(s):	2
Screening Date:	
License Renewal Flags:	(None)
Affected Department:	(None)

CRT Comments:

HI LEVEL

Reference the following generated per CR461563 on 02/03/2012:
- WO KW100866471 (Status 48 - Work In Progress) generated to troubleshoot/repair cause of Bkr 13504 tripping.
- CA226426 generated for Maintenance (EM) to evaluate Supply Breaker 13504 tripping open as Rework (RW3) per MA-AA-108 and resolve (Reference WO KW100866471) (Due Date: 03/14/2012)
- CA226428 generated for Engineering to track Supply Bkr. 13504 tripped open, MCC-35B and 35D Power Supply for a Failure of a Critical component (Due Date: 05/11/2012)

MRE to Elec/I&C systems (domski/streich) for Bkr. 13504 Tripped Open
CA to Programs Eng (miller/koehler0 to track Bkr. 13504 Tripped Open for a failure of a critical component (FCC)

CA to RP to ensure Annual Radiological Environmental Operating Report (for 2012) properly accounts for this period of non-operation of the sampling location.

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:**	Fundamentals-Strength-Monitoring
Engineering Hot Buttons:	ER Failure of Critical Component (FCC) ES - Intolerance for Critical Equip Failures/Degradation	**Maintenance Hot Buttons:**	(None)
RP Hot Buttons:	(None)	**Chemistry Hot Buttons:**	(None)
EP Hot Buttons:	(None)	**Training Hot Buttons:**	(None)
Security Hot Buttons:	(None)	**OR Hot Buttons:**	(None)
O&P Hot Buttons:	(None)	**NSS Hot Buttons:**	(None)
Supply Chain Hot Buttons:	(None)	**Procedures Hot Buttons:**	(None)
Reactivity Mgmt Hot Buttons:	(None)	**Other Hot Buttons:**	(None)

Section 3

Work Order Number(s):

Status Description:

Status Date:

Actual Finish Date:

Work Performed Description:

Section 5

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

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

RM Attachment Links:

Subtasks

Show Subtasks
Expand All

Attachments

Principal to: MRE014865: KEWA - Bkr. 13504 Tripped Open (Inactive) by **WALESH, DEBRA J** (3/6/2012 10:39:04)

Principal to: CA228675: KEWA - Track Bkr. 13504 Tripped Open for a failure of a critical component (FCC) (Inactive) by **WALESH, DEBRA J** (3/6/2012 10:40:15)

Principal to: CA228676: KEWA - Ensure Annual Radiological Environmental Operating Report (for 2012) properly by **WALESH, DEBRA J** (3/6/2012 10:41:27)

Change History

3/2/2012 22:16:30 by NASS, DAVID J
One-Line Description Changed From 'Bkr. 13504 Tripped Open Again' To 'Bkr. 13504 Tripped Open'
Last Modified Date Changed From 3/2/2012 22:14:41 To 3/2/2012 22:16:30

3/2/2012 22:16:41 by NASS, DAVID J
Owner Changed From NASS, DAVID J To GOOLSBEY, MARK W
Secondary Owner Changed From GOOLSBEY, MARK W To AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOFFNER, WILLIAM J, HOLDSWORTH, EDNA K, HOUSE, ALEX J, JORDAN JR, ARNOLD J, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZUERCHER, RICHARD R
Last Modified Date Changed From 3/2/2012 22:16:30 To 3/2/2012 22:16:41
Last State Change Date Changed From 3/2/2012 22:14:41 To 3/2/2012 22:16:41
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR464794: KEWA - Bkr. 13504 Tripped Open

3/2/2012 23:21:09 by BUSH, CHRISTOPHER S
Yes/No H Changed From Yes To No
Yes/No I Changed From Yes To No
Yes/No K Changed From Yes To No
Owner Changed From GOOLSBEY, MARK W To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOFFNER, WILLIAM J, HOLDSWORTH, EDNA K, HOUSE, ALEX J, JORDAN JR, ARNOLD J, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZUERCHER, RICHARD R To BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 3/2/2012 22:16:41 To 3/2/2012 23:21:09
Last Modifier Changed From NASS, DAVID J To BUSH, CHRISTOPHER S
Last State Change Date Changed From 3/2/2012 22:16:41 To 3/2/2012 23:21:09
Last State Changer Changed From NASS, DAVID J To BUSH, CHRISTOPHER S
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

3/2/2012 23:22:22 by BUSH, CHRISTOPHER S
O/R Comments Changed From " To 'returned for equipment location.'
Owner Changed From FICTUM, HOLLY C To GOOLSBEY, MARK W

Secondary Owner Changed From BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD,

BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K To AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOFFNER, WILLIAM J, HOLDSWORTH, EDNA K, HOUSE, ALEX J, JORDAN JR, ARNOLD J, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZUERCHER, RICHARD R
Last Modified Date Changed From 3/2/2012 23:21:09 To 3/2/2012 23:22:22
Last State Change Date Changed From 3/2/2012 23:21:09 To 3/2/2012 23:22:22
State Changed From O/R Review To Supervisor Review Via Transition: Return

3/2/2012 23:23:12 by BUSH, CHRISTOPHER S
Equipment Location Changed From (None) To 13504BKR
Equipment Location Links Changed From '' To '[Appended:]<table width=100% border=1 cellspacing=2 cellpadding=2><tr><td width=30% nowrap>13504BKR</td><td width=5% nowrap>1</td><td width=5% nowrap>N</td><td width=5% nowrap>NS</td><td width=55%>CI[...]'
Last Modified Date Changed From 3/2/2012 23:22:22 To 3/2/2012 23:23:12

3/2/2012 23:24:10 by BUSH, CHRISTOPHER S
Owner Changed From GOOLSBEY, MARK W To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOFFNER, WILLIAM J, HOLDSWORTH, EDNA K, HOUSE, ALEX J, JORDAN JR, ARNOLD J, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZUERCHER, RICHARD R To BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 3/2/2012 23:23:12 To 3/2/2012 23:24:10
Last State Change Date Changed From 3/2/2012 23:22:22 To 3/2/2012 23:24:10
State Changed From Supervisor Review To O/R Review Via Transition: Complete

3/3/2012 0:49:49 by GOOLSBEY, MARK W
Unit 1% Pwr Changed From '' To '100'
Unit 1 Mode Changed From (None) To 1
OP-AA-102 Review Req'd? Changed From (None) To No
Is a TS SSC Affected? Changed From (None) To No
TS SSC Operability Assessment Changed From (None) To N/A
Text Answer 2 Changed From '' To 'N/A'
Yes / No L Changed From (None) To No
Is an IOD Assignment Required? Changed From (None) To No
LCO entered Changed From (None) To No
Non-TS SSC Functionality Assessment. Changed From (None) To N/A
Does it impact a TS SSC? Changed From (None) To N/A
Is a RAS Assignment Needed? Changed From (None) To No
SSC Qualification Status Changed From (None) To N/A
Reportable condition? Changed From (None) To No
Last Modified Date Changed From 3/2/2012 23:24:10 To 3/3/2012 0:49:49
Last Modifier Changed From BUSH, CHRISTOPHER S To GOOLSBEY, MARK W
Last State Change Date Changed From 3/2/2012 23:24:10 To 3/3/2012 0:49:49
Last State Changer Changed From BUSH, CHRISTOPHER S To GOOLSBEY, MARK W
State Changed From O/R Review To CRT Review Via Transition: Complete

3/3/2012 1:40:22 by BUSH, CHRISTOPHER S
CRT Comments Changed From '' To 'returned per OR request'
Last Modified Date Changed From 3/3/2012 0:49:49 To 3/3/2012 1:40:22

Last State Change Date Changed From 3/3/2012 0:49:49 To 3/3/2012 1:40:22
Last State Changer Changed From GOOLSBEY, MARK W To BUSH, CHRISTOPHER S
State Changed From CRT Review To O/R Review Via Transition: To O/R

3/3/2012 1:41:42 by BUSH, CHRISTOPHER S
OP-AA-102 Review Req'd? Changed From No To Yes
Text Answer 2 Changed From 'N/A' To '[...]NON-FUNCTIONAL. K-1f Environmental Air Sampler is NON-FUNCTIONAL (powered from MCC-35B). The K-1f Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Manual. Per Table 2.2.1-A if specimens are unobt[more diffs...]'
Non-TS SSC Functionality Assessment. Changed From N/A To Non-Functional
Does it impact a TS SSC? Changed From N/A To No
Last Modified Date Changed From 3/3/2012 1:40:22 To 3/3/2012 1:41:42

3/3/2012 3:20:56 by GOOLSBEY, MARK W
O/R Comments Changed From 'returned for equipment location.' To 'returned for equipment location. I agree with the operability assessment made by Mr. Bush.'
Last Modified Date Changed From 3/3/2012 1:41:42 To 3/3/2012 3:20:56
Last Modifier Changed From BUSH, CHRISTOPHER S To GOOLSBEY, MARK W
Last State Change Date Changed From 3/3/2012 1:40:22 To 3/3/2012 3:20:56
Last State Changer Changed From BUSH, CHRISTOPHER S To GOOLSBEY, MARK W
State Changed From O/R Review To CRT Review Via Transition: Complete

3/3/2012 20:28:05 by PRIBEK, BARBARA A
Significance Changed From (None) To 3
Deficiency Type Changed From (None) To Equipment
Potential Repeat Changed From (None) To Yes
Previous Issues (PIs, CRs) Changed From '' To '[Appended:]CR search by "13504BKR" identified the following: CR462084 - Supply Bkr. 13504 tripped open, MCC-35B and 35D Power Supply (02/08/2012). WO KW100867481 canceled to WO KW100866471 generated per C"R461563. CR461563 - SFP Supply fan green light n[...]'
CR FLAGS Changed From (None) To Self-Revealing Event
CRT Comments Changed From 'returned per OR request' To 'Reference WO KW100866471 (Status 48 - Work In Progress) generated per CR461563 on 02/03/2012 to troubleshoot/repair cause of Bkr 13504 tripping.'
Last Modified Date Changed From 3/3/2012 3:20:56 To 3/3/2012 20:28:05
Last Modifier Changed From GOOLSBEY, MARK W To PRIBEK, BARBARA A

3/3/2012 20:28:48 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 3/3/2012 20:28:05 To 3/3/2012 20:28:48

3/3/2012 20:30:45 by PRIBEK, BARBARA A
CRT Comments Changed From 'Reference WO KW100866471 (Status 48 - Work In Progress) generated per CR461563 on 02/03/2012 to troubleshoot/repair cause of Bkr 13504 tripping.' To '[...]the following generated per CR461563 on 02/03/2012: - WO KW100866471 (Status 48 - Work In Progress) generated to troubleshoot/repair cause of Bkr 13504 tripping. - CA226426 generated for Maintenance (EM) to evaluate Supply Breaker 13504 trip[more diffs...]'
Last Modified Date Changed From 3/3/2012 20:28:48 To 3/3/2012 20:30:45

3/5/2012 5:17:57 by FICTUM, HOLLY C
CRT Report Section(s) Changed From (None) To 3
CRT Comments Changed From '[Original Text]' To '[Prepended:]**HI LEVEL** '
Last Modified Date Changed From 3/3/2012 20:30:45 To 3/5/2012 5:17:57
Last Modifier Changed From PRIBEK, BARBARA A To FICTUM, HOLLY C

3/5/2012 5:44:44 by PRIBEK, BARBARA A
CRT Comments Changed From '[Original Text]' To '[Appended:] - CA226428 generated for Engineering to track Supply Bkr. 13504 tripped open, MCC-35B and 35D Power Supply for a Failure of a Critical component (Due Date: 05/11/2012)'
Last Modified Date Changed From 3/5/2012 5:17:57 To 3/5/2012 5:44:44
Last Modifier Changed From FICTUM, HOLLY C To PRIBEK, BARBARA A

3/5/2012 6:44:23 by IRION, ROBERT W
Operations Hot Buttons Changed From (None) To Fundamentals-Strength-Monitoring
Last Modified Date Changed From 3/5/2012 5:44:44 To 3/5/2012 6:44:23
Last Modifier Changed From PRIBEK, BARBARA A To IRION, ROBERT W

3/5/2012 10:26:22 by KUDICK, JESSICA L
CRT Comments Changed From '[Original Text]' To '[Appended:] MRE to Elec/I&C systems (domski/streich) for Bkr. 13504 Tripped Open CA to Programs Eng (miller/koehler0 to track Bkr. 13504 Tripped Open for a failure of a critical component (FCC)'

Secondary Owner Changed From BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K To BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, GAUGER, BRAD R, GRAU, JOHN R,

GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 3/5/2012 6:44:23 To 3/5/2012 10:26:22
Last Modifier Changed From IRION, ROBERT W To KUDICK, JESSICA L

3/5/2012 10:26:41 by KUDICK, JESSICA L
Engineering Hot Buttons Changed From (None) To ES - Intolerance for Critical Equip Failures/Degradation
Last Modified Date Changed From 3/5/2012 10:26:22 To 3/5/2012 10:26:41

3/5/2012 14:22:57 by PRIBEK, BARBARA A
CRT Report Section(s) Changed From 3 To 1
Last Modified Date Changed From 3/5/2012 10:26:41 To 3/5/2012 14:22:57
Last Modifier Changed From KUDICK, JESSICA L To PRIBEK, BARBARA A

3/6/2012 6:22:17 by FICTUM, HOLLY C
Primary INPO criteria Changed From (None) To ER.1 - Equipment Performance
Last Modified Date Changed From 3/5/2012 14:22:57 To 3/6/2012 6:22:17
Last Modifier Changed From PRIBEK, BARBARA A To FICTUM, HOLLY C

3/6/2012 6:44:02 by ADAMS, RICHARD W
CR FLAGS Changed From Self-Revealing Event To Self-Revealing Event, Radiological Controls
CRT Comments Changed From '[Original Text]' To '[Appended:] CA to RP to ensure Annual Radiological Environmental Operating Report (for 2012) properly accounts for this period of non-operation of the sampling location.'
Last Modified Date Changed From 3/6/2012 6:22:17 To 3/6/2012 6:44:02
Last Modifier Changed From FICTUM, HOLLY C To ADAMS, RICHARD W

3/6/2012 10:38:21 by WALESH, DEBRA J
Last Modified Date Changed From 3/6/2012 6:44:02 To 3/6/2012 10:38:21
Last Modifier Changed From ADAMS, RICHARD W To WALESH, DEBRA J
Last State Change Date Changed From 3/3/2012 3:20:56 To 3/6/2012 10:38:21
Last State Changer Changed From GOOLSBEY, MARK W To WALESH, DEBRA J
State Changed From CRT Review To CRT Assignment Creation Via Transition: MRE

3/6/2012 10:39:04 by WALESH, DEBRA J
Last Modified Date Changed From 3/6/2012 10:38:21 To 3/6/2012 10:39:04
Attachment Added: MRE014865: (None) - Bkr. 13504 Tripped Open

3/6/2012 10:39:31 by WALESH, DEBRA J
Last Modified Date Changed From 3/6/2012 10:39:04 To 3/6/2012 10:39:31

3/6/2012 10:40:15 by WALESH, DEBRA J
Last Modified Date Changed From 3/6/2012 10:39:31 To 3/6/2012 10:40:15
Attachment Added: CA228675: (None) - Track Bkr. 13504 Tripped Open for a failure of a critical component (FCC)

3/6/2012 10:40:33 by WALESH, DEBRA J
Last Modified Date Changed From 3/6/2012 10:40:15 To 3/6/2012 10:40:33

3/6/2012 10:41:27 by WALESH, DEBRA J
Last Modified Date Changed From 3/6/2012 10:40:33 To 3/6/2012 10:41:27
Attachment Added: CA228676: (None) - Ensure Annual Radiological Environmental Operating Report (for 2012) properly

3/6/2012 10:41:52 by WALESH, DEBRA J
CRT Report Section(s) Changed From 1 To 2
Secondary Owner Changed From BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K To AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 3/6/2012 10:41:27 To 3/6/2012 10:41:52
Last State Change Date Changed From 3/6/2012 10:38:21 To 3/6/2012 10:41:52
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

4/7/2012 23:30:35 by FICTUM, HOLLY C
Primary INPO criteria Changed From ER.1 - Equipment Performance To (None)

JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K To AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 3/6/2012 10:41:52 To 4/7/2012 23:30:35
Last Modifier Changed From WALESH, DEBRA J To FICTUM, HOLLY C

4/11/2012 12:47:46 by KUDICK, JESSICA L
Engineering Hot Buttons Changed From ES - Intolerance for Critical Equip Failures/Degradation To ES - Intolerance for Critical Equip Failures/Degradation, ER Failure of Critical Component (FCC)
Last Modified Date Changed From 4/7/2012 23:30:35 To 4/11/2012 12:47:46
Last Modifier Changed From FICTUM, HOLLY C To KUDICK, JESSICA L

State Change History

Submit by HENDRICKSON, CHAD M	**Draft** 3/27/2012 15:05:20 Owner : HENDRICKSON, CHAD M	**Submit** by HENDRICKSON, CHAD M	**Supervisor Review** 3/27/2012 15:05:58 Owner : BERNSDORF, MIKE A	**Complete** by GOOLSBEY, MARK W	**O/R Review** 3/27/2012 15:48:34 Owner : FICTUM, HOLLY C	**Complete** by GOOLSBEY, MARK W	**CRT Review** 3/27/2012 15:50:21 Owner : FICTUM, HOLLY C
Complete by WALESH, DEBRA J	**Trend Review** 3/29/2012 9:59:26 Owner : FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 4/3/2012 20:55:36 Owner : (None)	**Transfer** by RECORDS MGMT	**Transferred** 4/4/2012 16:51:26 Owner : (None)	**Print** by RECORDS MGMT	**Printed** 4/5/2012 11:31:04 Owner : (None)
Validate by RECORDS MGMT	**Validated** 4/5/2012 11:31:17 Owner : (None)						

Section 1

Applicable to site:	KEWA
Record #:	CR468050
Revision Number:	0
Submitter:	HENDRICKSON, CHAD M
Submitter Dept.:	KEWA - Chemistry
Submitter Phone Number:	8214
Submitter Pager Number:	704-0500
One-Line Description:	Run time on Environmental air sampler K-1f less than expected
Description:	During 3/27/12 performance of SP-63-164 , Environmental Sample Collection, the Indicated Total Run time on air sampler K-1f was less than expected. The air sampler was found with no power and run Time indicated was 138 hours 35 minutes. The cause for this was the breaker 13504 trip identified in CR467913. Chemistry was notified on 3/26/12 that power to the air sampler had been lost. This CR is to document reason for run time hours being less than expected.
Discovery Date:	3/26/2012
Discovery Time:	8:50:00
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?:	Yes
System(s):	63-MET--METEOROLOGICAL/ENV
Equipment Location Display:	**Equipment Location - Critical Component - PRA Flag - Quality Classification - Component Description**
Equipment Location Links:	
Initial Actions:	Notified chemistry supervisor. Wrote CR. Verified that air sampler was operating on 3/27/12@1430 after breaker was returned to service.
Additional C/A processes req'd?:	N/A
Text Question 1:	**Provide details for any Additional C/A processes needed:**

Text Answer 1:	
C/As Initiated (REA, WR, ETC):	
Tag Hung:	No
Tag Number:	
Additional Contacts:	
Supervisor - CR Review:	BERNSDORF, MIKE A
Question G:	**Is this CR an Operability/Reportability Issue Requiring O/R Review?**
Yes/No G:	Yes
Question H:	**Does this CR affect personnel safety?**
Yes/No H:	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
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-1f Environmental Air Sampler is NON-FUNCTIONAL (powered from MCC-35B). The K-1f 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. Power has now been restored to K-1f Environmental Air Sampler and it is now functional.
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:
Leak Classification:	(None)
Leakage Severity:	(None)
O/R Comments:	
Significance:	3
Deficiency Type:	Equipment
Potential Repeat:	Yes
Previous Issues (PIs, CRs):	CR342128 - K-7 Environmental sample (air filter) electrical power off 1 hour per WPS CR350028 - K-7 Environmental Air Sampler discovered not running. CR352454 - K-7 Environmental Air Sampler Found Off CR353663 - K-7 Environmental Air Sampler Found Off CR369046 - K-7 Air Sampler-Unexpected Run Hours Found during Air Filter Collection CR369878 - Run time reading value less than expected CR370747 - k-8 air sampler hours not equal to time sample being taken CR433298 - Air sampler K-41 is outside range of 27-33 LPM. CR435700 - K-1f Air Sampler Totalizer Display not working CR436515 - K-41 air sampler digital flow indication flashing zero CR442747 - K-41 air sampler digital display flashing 0 (zero). CR442749 - K-43 air sampler reading outside range of 27-33 lpm. CR449852 - K-41 (EOF) Air Sampler Cartridge Found Disconnected from Air Sampler
CR FLAGS:	Self-Identified
CRT Report Section(s):	2
Screening Date:	3/28/2012
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	*HI LEVEL* Initial Actions taken: "Notified chemistry supervisor. Wrote CR. Verified that air sampler was operating on 3/27/12@1430 after breaker was returned to service. " Ref Deficiency Tag na Close to CA 228676 being updated to include ensuring this situation is appropriately noted in the 2012 Annual Operating Report as needed.

Comments:

Old Record #:

Section 2

Trend Review Complete?:	No		
Process Code:	UNK (Unknown)	**Activity Codes:**	UNK(Unknown)
Human Error Types:	(None)	**Process Related Failure:**	(None)
Org. & Mgmt Failure mode:	(None)	**HU Failure modes:**	(None)
Equipment Failure Modes:	(None)	**Primary INPO criteria:**	(None)
Secondary INPO criteria:	(None)	**Operations Hot Buttons:**	EAL-Equipment
Engineering Hot Buttons:	(None)	**Maintenance Hot Buttons:**	(None)
RP Hot Buttons:	Environmental Monitoring (REMP)	**Chemistry Hot Buttons:**	(None)
EP Hot Buttons:	(None)	**Training Hot Buttons:**	(None)
Security Hot Buttons:	(None)	**OR Hot Buttons:**	(None)
O&P Hot Buttons:	(None)	**NSS Hot Buttons:**	(None)
Supply Chain Hot Buttons:	(None)	**Procedures Hot Buttons:**	(None)
Reactivity Mgmt Hot Buttons:	(None)	**Other Hot Buttons:**	(None)

Section 3

Work Order Number(s):

Status Description:

Status Date:

Actual Finish Date:

Work Performed Description:

Section 5

CR Completed Date: 4/3/2012 21:55:36 **CR Printed Date:** 4/5/2012 11:31:04

CR Validated Date: 4/5/2012 11:31:17 **CR Who Validated:** RECORDS MGMT

RM Attachment Links:

Change History

3/27/2012 15:05:58 by HENDRICKSON, CHAD M
Associated w/ Equipment Location? Changed From (None) To Yes
Owner Changed From HENDRICKSON, CHAD M To BERNSDORF, MIKE A
Secondary Owner Changed From BERNSDORF, MIKE A To AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOFFNER, WILLIAM J, HOLDSWORTH, EDNA K, HOUSE, ALEX J, JORDAN JR, ARNOLD J, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZUERCHER, RICHARD R
Last Modified Date Changed From 3/27/2012 15:05:20 To 3/27/2012 15:05:58
Last State Change Date Changed From 3/27/2012 15:05:20 To 3/27/2012 15:05:58
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR468050: KEWA - Run time on Environmental air sampler K-1f less than expected (Inactive)

3/27/2012 15:48:34 by GOOLSBEY, MARK W
Yes/No H Changed From Yes To No
Yes/No I Changed From Yes To No
Yes/No J Changed From Yes To No
Owner Changed From BERNSDORF, MIKE A To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L,

FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOFFNER, WILLIAM J, HOLDSWORTH, EDNA K, HOUSE, ALEX J, JORDAN JR, ARNOLD J, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRESL, BRIAN G, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZUERCHER, RICHARD R To BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 3/27/2012 15:05:58 To 3/27/2012 15:48:34
Last Modifier Changed From HENDRICKSON, CHAD M To GOOLSBEY, MARK W
Last State Change Date Changed From 3/27/2012 15:05:58 To 3/27/2012 15:48:34
Last State Changer Changed From HENDRICKSON, CHAD M To GOOLSBEY, MARK W
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

3/27/2012 15:50:21 by GOOLSBEY, MARK W
Unit 1% Pwr Changed From " To '100'
Unit 1 Mode Changed From (None) To 1
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-1f Environmental Air Sampler is NON-FUNCTIONAL (powered from MCC-35B). The K-1f Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Manual. Per Table 2.2.1-A if specimens are unobt[...]'
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 3/27/2012 15:48:34 To 3/27/2012 15:50:21
Last State Change Date Changed From 3/27/2012 15:48:34 To 3/27/2012 15:50:21
State Changed From O/R Review To CRT Review Via Transition: Complete

3/28/2012 3:56:44 by IRION, ROBERT W
Operations Hot Buttons Changed From (None) To EAL-Equipment
Last Modified Date Changed From 3/27/2012 15:50:21 To 3/28/2012 3:56:44
Last Modifier Changed From GOOLSBEY, MARK W To IRION, ROBERT W

3/28/2012 5:20:48 by LANGER JR, JAMES E
CRT Comments Changed From " To '*HI LEVEL* Initial Actions taken: "Notified chemistry supervisor. Wrote CR. Verified that air sampler was operating on 3/27/12@1430 after breaker was returned to service. " Ref Deficiency Tag na'
Last Modified Date Changed From 3/28/2012 3:56:44 To 3/28/2012 5:20:48
Last Modifier Changed From IRION, ROBERT W To LANGER JR, JAMES E

3/28/2012 10:35:53 by GAUTHIER, HEIDI
Significance Changed From (None) To 3
Deficiency Type Changed From (None) To Equipment
Potential Repeat Changed From (None) To Yes
Previous Issues (PIs, CRs) Changed From " To '[Appended:]CR342128 - K-7 Environmental sample (air filter) electrical power off 1 hour per WPS CR350028 - K-7 Environmental Air Sampler discovered not running. CR352454 - K-7 Environmental Air Sampler Found Off CR353663 - K-7 Environmenta[...]'
CR FLAGS Changed From (None) To Self-Identified
CRT Report Section(s) Changed From (None) To 1
Screening Date Changed From Unassigned To 3/28/2012
CRT Comments Changed From '*HI LEVEL* Initial Actions taken: "Notified chemistry supervisor. Wrote CR. Verified that air sampler was operating on 3/27/12@1430 after breaker was returned to service. " Ref Deficiency Tag na' To '*HI LEVEL* Initial Actions taken: "Notified chemistry supervisor. Wrote CR. Verified that air sampler was operating on 3/27/12@1430 after breaker was returned to service. " Ref Deficiency Tag na Close to trend.'
Last Modified Date Changed From 3/28/2012 5:20:48 To 3/28/2012 10:35:53
Last Modifier Changed From LANGER JR, JAMES E To GAUTHIER, HEIDI

3/29/2012 5:39:55 by ADAMS, RICHARD W
CRT Comments Changed From '[...]*HI LEVEL* Initial Actions taken: "Notified chemistry supervisor. Wrote CR. Verified that air sampler was operating on 3/27/12@1430 after breaker was returned to service. " Ref Deficiency Tag na Close to trend.' To '[...]t air sampler was operating on 3/27/12@1430 after breaker was returned to service. " Ref Deficiency Tag na Close to CA 228676 being updated to include ensuring this situation is appropriately noted in the 2012 Annual Operating Report as needed.'
Last Modified Date Changed From 3/28/2012 10:35:53 To 3/29/2012 5:39:55

3/29/2012 5:40:26 by ADAMS, RICHARD W
RP Hot Buttons Changed From (None) To Environmental Monitoring (REMP)
Last Modified Date Changed From 3/29/2012 5:39:55 To 3/29/2012 5:40:26

3/29/2012 6:08:45 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 3/29/2012 5:40:26 To 3/29/2012 6:08:45
Last Modifier Changed From ADAMS, RICHARD W To FICTUM, HOLLY C

3/29/2012 9:58:57 by WALESH, DEBRA J
CRT Report Section(s) Changed From 1 To 2
Last Modified Date Changed From 3/29/2012 6:08:45 To 3/29/2012 9:58:57
Last Modifier Changed From FICTUM, HOLLY C To WALESH, DEBRA J

3/29/2012 9:59:26 by WALESH, DEBRA J
Secondary Owner Changed From BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K To AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 3/29/2012 9:58:57 To 3/29/2012 9:59:26
Last State Change Date Changed From 3/27/2012 15:50:21 To 3/29/2012 9:59:26
Last State Changer Changed From GOOLSBEY, MARK W To WALESH, DEBRA J
State Changed From CRT Review To Trend Review Via Transition: Complete

4/3/2012 20:55:36 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 4/3/2012 21:55:36
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, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K To KASSNER, KIM M, KRCMA, MELISSA MARIE, LACROSSE, TARA LYNN, LEANNA, LORI L, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, RECORDS MGMT, SCHULTZ, SANDRA J, SMIDEL, SARAH A., STAFFORD, JEFFREY T, Teamtrackuser, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 3/29/2012 9:59:26 To 4/3/2012 20:55:36
Last Modifier Changed From WALESH, DEBRA J To FICTUM, HOLLY C
Close Date Changed From Unassigned To 4/3/2012 20:55:36
Last State Change Date Changed From 3/29/2012 9:59:26 To 4/3/2012 20:55:36
Last State Changer Changed From WALESH, DEBRA J To FICTUM, HOLLY C
Active/Inactive Changed From Active To Inactive
State Changed From Trend Review To All Assignments Complete Via Transition: Trend Review Complete

4/4/2012 16:51:26 by RECORDS MGMT
Last Modified Date Changed From 4/3/2012 20:55:36 To 4/4/2012 16:51:26
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 4/3/2012 20:55:36 To 4/4/2012 16:51:26
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

4/5/2012 11:31:04 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 4/5/2012 11:31:04
Last Modified Date Changed From 4/4/2012 16:51:26 To 4/5/2012 11:31:04
Last State Change Date Changed From 4/4/2012 16:51:26 To 4/5/2012 11:31:04
State Changed From Transferred To Printed Via Transition: Print

4/5/2012 11:31:17 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 4/5/2012 11:31:17
CR Who Validated Changed From (None) To RECORDS MGMT

SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, RECORDS MGMT, SCHULTZ, SANDRA J, SMIDEL, SARAH A., STAFFORD, JEFFREY T, Teamtrackuser, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)

Last Modified Date Changed From 4/5/2012 11:31:04 To 4/5/2012 11:31:17
Last State Change Date Changed From 4/5/2012 11:31:04 To 4/5/2012 11:31:17
State Changed From Printed To Validated Via Transition: Validate

State Change History

Submit by JOHNSON, MICHAEL JOHN	**Draft** 2/3/2012 11:58:45 Owner : JOHNSON, MICHAEL JOHN	**Submit** by JOHNSON, MICHAEL JOHN	**Supervisor Review** 2/3/2012 11:59:01 Owner : BROWN, DAN	**Complete** by BROWN, DAN	**O/R Review** 2/3/2012 12:39:50 Owner : FICTUM, HOLLY C	**Complete** by IRLBECK, DAVID E	**CRT Review** 2/4/2012 2:47:05 Owner : FICTUM, HOLLY C
To O/R by STODOLA, JOSEPH O	**O/R Review** 2/4/2012 3:28:40 Owner : FICTUM, HOLLY C	**Complete** by STODOLA, JOSEPH O	**CRT Review** 2/4/2012 3:29:52 Owner : FICTUM, HOLLY C	**To Supervisor** by PRIBEK, BARBARA A	**Supervisor Review** 2/4/2012 6:11:42 Owner : BROWN, DAN	**Complete** by STODOLA, JOSEPH O	**O/R Review** 2/4/2012 21:09:44 Owner : FICTUM, HOLLY C
Complete by STODOLA, JOSEPH O	**CRT Review** 2/4/2012 21:09:57 Owner : FICTUM, HOLLY C	**MRE** by WALESH, DEBRA J	**CRT Assignment Creation** 2/7/2012 9:58:05 Owner : FICTUM, HOLLY C	**Complete** by WALESH, DEBRA J	**Assignments Pending** 2/7/2012 9:59:05 Owner : FICTUM, HOLLY C	**Return** by KUDICK, JESSICA L	**CRT Assignment Creation** 4/4/2012 10:15:23 Owner : FICTUM, HOLLY C
Complete by KUDICK, JESSICA L	**Assignments Pending** 4/4/2012 10:18:22 Owner : FICTUM, HOLLY C	**Assignments Complete** by GADZINSKI, JULIE A	**Trend Review** 6/14/2012 11:29:12 Owner : FICTUM, HOLLY C	**Trend Review Complete** by FICTUM, HOLLY C	**All Assignments Complete** 6/21/2012 11:40:21 Owner : (None)	**Transfer** by RECORDS MGMT	**Transferred** 6/21/2012 16:11:00 Owner : (None)
Print by RECORDS MGMT	**Printed** 6/22/2012 8:01:02 Owner : (None)	**Validate** by RECORDS MGMT	**Validated** 6/22/2012 8:01:14 Owner : (None)				

Section 1

Applicable to site:	KEWA
Record #:	CR461563
Revision Number:	0
Submitter:	JOHNSON, MICHAEL JOHN
Submitter Dept.:	KEWA - Operations
Submitter Phone Number:	8202
Submitter Pager Number:	8202
One-Line Description:	SFP Supply fan green light not lit.
Description:	Identified that the SFP Supply fan green light on mechanical vertical panel A was not illuminated. Changed the light bulb. The light did not light. Electrical maintenance contacted to investigate. Operations investigating also. SFP supply fan is powered from MCC-35D (A3). Further investigation indicates that MCC-35B and MCC-35D are not energized. Identified BKR 13504 is open. Continuing to investigate
Discovery Date:	2/3/2012
Discovery Time:	11:15:00
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?:	Yes
System(s):	40-ELV--480V SUPPLY AND DIST
Equipment Location Display:	**Equipment Location - Critical Component - PRA Flag - Quality Classification - Component Description**
Equipment Location Links:	

13504BKR	1	N	NS	CIRCUIT BREAKER - MCC 1-35B MCC 1-35D

Initial Actions:	Inform supervision. Continue investigating. Initiate CR.
Additional C/A processes req'd?:	Other
Text Question 1:	**Provide details for any Additional C/A processes needed:**
Text Answer 1:	to be determined.
C/As Initiated (REA, WR, ETC):	
Tag Hung:	No
Tag Number:	N/A
Additional Contacts:	
Supervisor - CR Review:	BROWN, DAN
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
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-1f Environmental Air Sampler is NON-FUNCTIONAL (powered from MCC-35B). The K-1f 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. (NOTE: Power was restored to K-1f at 1900 on 02/03/2012.)
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:	
Can IOD be established?:	(None)
Literal 3:	**If this CR is associated with any system leakage, provide answers to the following:**
Leak Classification:	(None)
Leakage Severity:	(None)
O/R Comments:	MODE Restraint per TRM 8.9.6, Spent Fuel Pool Sweep System, based on APPLICABILITY, the SFP Supply Fan must be returned to FUNCTIONAL prior to moving irradiated fuel that has decayed less than 30 days. (NOTE: Power was restored to SFP Supply Fan at 1900 on 02/03/2012.) Mode Restraint is no longer required. I agree with the above assessment
Significance:	3
Deficiency Type:	Equipment
Potential Repeat:	No
Previous Issues (PIs, CRs):	CR search by "13504BKR" identified the following: CR396319 - Found long time on the static trip device for BKR 13504 out of band (09/24/2010). WO KW100722034 (Status 20 - Awaiting Planner Assignment) generated to repair/replace static trip device on breaker removed per WO KW100272952 (PM40-767: Replace/Refurbish Existing (NS) LA600

480V Breaker).

CR FLAGS:	Self-Identified
CRT Report Section(s):	2
Screening Date:	
License Renewal Flags:	(None)
Affected Department:	(None)
CRT Comments:	*HI LEVEL*

Ref Deficiency Tag na

[Ref info from O/R Comments field:
-MODE Restraint per TRM 8.9.6, Spent Fuel Pool Sweep System, based on APPLICABILITY, the SFP Supply Fan must be returned to FUNCTIONAL prior to moving irradiated fuel that has decayed less than 30 days.
-(NOTE: Power was restored to SFP Supply Fan at 1900 on 02/03/2012.) Mode Restraint is no longer required.]

WO KW100866471 generated to replace Existing 480V Circuit Breaker - MCC 1-35B MCC 1-35D, 13504BKR. WO completed on 02/03/2012.

MRE to Elec/I&C systems (domski/streich) for SFP Supply fan green light not lit

Comments:	4/4/2012 10:15:23 - KUDICK, JESSICA L: returning to initiate CA for FCC 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:**	ER.2 - Prevention of Equipment Failures
Secondary INPO criteria:	(None)	**Operations Hot Buttons:**	EAL-Equipment Fundamentals-Strength-Monitoring
Engineering Hot Buttons:	ER Failure of Critical Component (FCC)	**Maintenance Hot Buttons:**	(None)
RP Hot Buttons:	(None)	**Chemistry Hot Buttons:**	(None)
EP Hot Buttons:	(None)	**Training Hot Buttons:**	(None)
Security Hot Buttons:	(None)	**OR Hot Buttons:**	(None)
O&P Hot Buttons:	(None)	**NSS Hot Buttons:**	(None)
Supply Chain Hot Buttons:	(None)	**Procedures Hot Buttons:**	(None)
Reactivity Mgmt Hot Buttons:	(None)	**Other Hot Buttons:**	(None)

Section 3

Work Order Number(s):	KW100866471
Status Description:	CLOSED
Status Date:	6/7/2012 7:57:26
Actual Finish Date:	5/18/2012 9:55:36
Work Performed Description:	PERFORMED CUBICLE MAINTENANCE. INSTALLED REFURBI

Section 5

CR Completed Date: 6/21/2012 12:40:21 **CR Printed Date:** 6/22/2012 8:01:02

CR Validated Date: 6/22/2012 8:01:14 **CR Who Validated:** RECORDS MGMT

RM Attachment Links:

Subtasks

Show Subtasks

Expand All

Attachments

Principal to: MRE014773: KEWA - SFP Supply fan green light not lit (Inactive) by **WALESH, DEBRA J** (2/7/2012 9:58:37)

Principal to: CA231414: KEWA - CA to track Breaker 13504 being open as a Failure of Critical Component (FCC) (Inactive) by **KUDICK, JESSICA L** (4/4/2012 10:17:11)

Change History

2/3/2012 11:59:01 by JOHNSON, MICHAEL JOHN
Owner Changed From JOHNSON, MICHAEL JOHN To BROWN, DAN
Secondary Owner Changed From BROWN, DAN To AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOFFNER, WILLIAM J, HOLDSWORTH, EDNA K, HOUSE, ALEX J, JORDAN JR, ARNOLD J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZUERCHER, RICHARD R
Last Modified Date Changed From 2/3/2012 11:58:45 To 2/3/2012 11:59:01
Last State Change Date Changed From 2/3/2012 11:58:45 To 2/3/2012 11:59:01
State Changed From Draft To Supervisor Review Via Transition: Submit
Parent CR Changed From (None) To CR461563: KEWA - SFP Supply fan green light not lit. (Inactive)

2/3/2012 12:39:50 by BROWN, DAN
Owner Changed From BROWN, DAN To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOFFNER, WILLIAM J, HOLDSWORTH, EDNA K, HOUSE, ALEX J, JORDAN JR, ARNOLD J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZUERCHER, RICHARD R To BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 2/3/2012 11:59:01 To 2/3/2012 12:39:50
Last Modifier Changed From JOHNSON, MICHAEL JOHN To BROWN, DAN
Last State Change Date Changed From 2/3/2012 11:59:01 To 2/3/2012 12:39:50
Last State Changer Changed From JOHNSON, MICHAEL JOHN To BROWN, DAN
State Changed From Supervisor Review To O/R Review Via Transition: Complete
NewCR Changed From Yes To No

2/3/2012 12:40:25 by BROWN, DAN
Last Modified Date Changed From 2/3/2012 12:39:50 To 2/3/2012 12:40:25
To Work Management Changed From " To 'Y'

2/3/2012 16:16:47 by LESTER, GEORGE L
Unit 1% Pwr Changed From " To '100'
Unit 1 Mode Changed From (None) To 1

OP-AA-102 Review Req'd? Changed From (None) To No
Is a TS SSC Affected? Changed From (None) To No
TS SSC Operability Assessment Changed From (None) To N/A
Text Answer 2 Changed From " To 'N/A'
Yes / No L Changed From (None) To No
Is an IOD Assignment Required? Changed From (None) To No
LCO entered Changed From (None) To No
Non-TS SSC Functionality Assessment. Changed From (None) To N/A
Does it impact a TS SSC? Changed From (None) To N/A
Is a RAS Assignment Needed? Changed From (None) To No
SSC Qualification Status Changed From (None) To N/A
Reportable condition? Changed From (None) To No
Text Answer 3 Changed From " To 'N/A'
O/R Comments Changed From " To 'MODE Restraint per TRM 8.9.6, Spent Fuel Pool Sweep System, based on APPLICABILITY, the SFP Supply Fan must be returned to FUNCTIONAL prior to moving irradiated fuel that has decayed less than 30 days.'
Last Modified Date Changed From 2/3/2012 12:40:25 To 2/3/2012 16:16:47
Last Modifier Changed From BROWN, DAN To LESTER, GEORGE L

2/3/2012 20:08:24 by STODOLA, JOSEPH O
Text Answer 2 Changed From 'N/A' To '[...]NON-FUNCTIONAL. K-1f Environmental Air Sampler is NON-FUNCTIONAL (powered from MCC-35B). The K-1f Environmental Air Sampler is required per Table 2.2.1-A, Radiological Environmental Monitoring Manual. Per Table 2.2.1-A if specimens are unobt[more diffs...]'
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 Not Fully Qualified
Text Answer 3 Changed From 'N/A' To "
O/R Comments Changed From '[Original Text]' To '[Appended:] (NOTE: Power was restored to SFP Supply Fan at 1900 on 02/03/2012.) Mode Restraint is no longer required.'
Last Modified Date Changed From 2/3/2012 16:16:47 To 2/3/2012 20:08:24
Last Modifier Changed From LESTER, GEORGE L To STODOLA, JOSEPH O

2/4/2012 2:47:05 by IRLBECK, DAVID E
Non-TS SSC Functionality Assessment. Changed From Non-Functional To N/A
Does it impact a TS SSC? Changed From No To N/A
SSC Qualification Status Changed From Not Fully Qualified To N/A
O/R Comments Changed From '[Original Text]' To '[Appended:] I agree with the above assessment'
Last Modified Date Changed From 2/3/2012 20:08:24 To 2/4/2012 2:47:05
Last Modifier Changed From STODOLA, JOSEPH O To IRLBECK, DAVID E
Last State Change Date Changed From 2/3/2012 12:39:50 To 2/4/2012 2:47:05
Last State Changer Changed From BROWN, DAN To IRLBECK, DAVID E
State Changed From O/R Review To CRT Review Via Transition: Complete

2/4/2012 3:28:40 by STODOLA, JOSEPH O
CRT Comments Changed From " To 'Returned for corrections.'
Last Modified Date Changed From 2/4/2012 2:47:05 To 2/4/2012 3:28:40
Last Modifier Changed From IRLBECK, DAVID E To STODOLA, JOSEPH O
Last State Change Date Changed From 2/4/2012 2:47:05 To 2/4/2012 3:28:40
Last State Changer Changed From IRLBECK, DAVID E To STODOLA, JOSEPH O
State Changed From CRT Review To O/R Review Via Transition: To O/R

2/4/2012 3:29:52 by STODOLA, JOSEPH O
OP-AA-102 Review Req'd? Changed From No To Yes
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 Not Fully Qualified
Last Modified Date Changed From 2/4/2012 3:28:40 To 2/4/2012 3:29:52
Last State Change Date Changed From 2/4/2012 3:28:40 To 2/4/2012 3:29:52
State Changed From O/R Review To CRT Review Via Transition: Complete

2/4/2012 5:44:54 by IRION, ROBERT W
Operations Hot Buttons Changed From (None) To Fundamentals-Strength-Monitoring, EAL-Equipment
Last Modified Date Changed From 2/4/2012 3:29:52 To 2/4/2012 5:44:54
Last Modifier Changed From STODOLA, JOSEPH O To IRION, ROBERT W

2/4/2012 6:11:42 by PRIBEK, BARBARA A
CRT Comments Changed From 'Returned for corrections.' To 'Returned for corrections. Please update Equipment Location field'
Owner Changed From FICTUM, HOLLY C To BROWN, DAN

Secondary Owner Changed From BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WINKS III, GEORGE F, YEARGIN, BARRY K To AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GRAU, JOHN R, GUINAN,

PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOFFNER, WILLIAM J, HOLDSWORTH, EDNA K, HOUSE, ALEX J, JORDAN JR, ARNOLD J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZUERCHER, RICHARD R
Last Modified Date Changed From 2/4/2012 5:44:54 To 2/4/2012 6:11:42
Last Modifier Changed From IRION, ROBERT W To PRIBEK, BARBARA A
Last State Change Date Changed From 2/4/2012 3:29:52 To 2/4/2012 6:11:42
Last State Changer Changed From STODOLA, JOSEPH O To PRIBEK, BARBARA A
State Changed From CRT Review To Supervisor Review Via Transition: To Supervisor

2/4/2012 21:09:44 by STODOLA, JOSEPH O
Associated w/ Equipment Location? Changed From No To Yes
Equipment Location Changed From (None) To 13504BKR
Owner Changed From BROWN, DAN To FICTUM, HOLLY C
Secondary Owner Changed From AITKEN, PAUL C, ANDERSON, PAMELA J, BAILEY, JEFFREY NOEL, BERKEY, BONITA M, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CURFMAN, LAWRENCE J, DOERING JR, BARRY J, EVANS, WENDY L, FARINHOLT III, LUTHER, FASENMYER, TED IRA, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GUTNER, SOPHIE, GWYNN, GLENN ROXY, HANLEY, ROBERT J, HARRIS, BRIAN LLOYD, HENRY, ERNEST R, HOFFNER, WILLIAM J, HOLDSWORTH, EDNA K, HOUSE, ALEX J, JORDAN JR, ARNOLD J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MORRIS JR, KENNETH BRUCE, NELSON, THOMAS M, NICHOLAS, CANDACE G, NICHOLS, MICHAEL A, O'CONNER, THOMAS R, PIETRYK, CAROL L, PORTER, ROBERT J, PRIBEK, BARBARA A, ROTH, JAMES R, SCACE, STEPHEN E, SIMMONS JR, ROY L, SOMMERS, DAVID ARTHUR, STAFFORD, JEFFREY T, STECKLER, BART R, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VOMASTEK, ANDREW J, WALLEN, CLIFFORD S, WILSON, MICHAEL J, YEARGIN, BARRY K, ZUERCHER, RICHARD R To BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HELING, DEBRA A, HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WINKS III, GEORGE F, YEARGIN, BARRY K
Equipment Location Links Changed From " To '[Appended:]<table width=100% border=1 cellspacing=2 cellpadding=2><tr><td width=30% nowrap>13504BKR</td><td width=5% nowrap>1</td><td width=5% nowrap>N</td><td width=5% nowrap>NS</td><td width=55%>CI[...]'
Last Modified Date Changed From 2/4/2012 6:11:42 To 2/4/2012 21:09:44
Last Modifier Changed From PRIBEK, BARBARA A To STODOLA, JOSEPH O
Last State Change Date Changed From 2/4/2012 6:11:42 To 2/4/2012 21:09:44
Last State Changer Changed From PRIBEK, BARBARA A To STODOLA, JOSEPH O
State Changed From Supervisor Review To O/R Review Via Transition: Complete

2/4/2012 21:09:57 by STODOLA, JOSEPH O
Last Modified Date Changed From 2/4/2012 21:09:44 To 2/4/2012 21:09:57
Last State Change Date Changed From 2/4/2012 21:09:44 To 2/4/2012 21:09:57
State Changed From O/R Review To CRT Review Via Transition: Complete

2/5/2012 5:42:34 by PRIBEK, BARBARA A
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:]CR search by "13504BKR" identified the following: CR396319 - Found long time on the static trip device for BKR 13504 out of band (09/24/2010). WO KW100722034 (Status 20 - Awaiting Planner Assignment) generated to repair/replace static trip devi[...]'
CR FLAGS Changed From (None) To Self-Identified
CRT Comments Changed From 'Returned for corrections. Please update Equipment Location field' To 'WO KW100866471 generated to replace Existing 480V Circuit Breaker - MCC 1-35B MCC 1-35D, 13504BKR. WO completed on 02/03/2012.'
Last Modified Date Changed From 2/4/2012 21:09:57 To 2/5/2012 5:42:34
Last Modifier Changed From STODOLA, JOSEPH O To PRIBEK, BARBARA A

2/5/2012 5:43:47 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 2/5/2012 5:42:34 To 2/5/2012 5:43:47

2/6/2012 6:09:32 by LANGER JR, JAMES E
CRT Comments Changed From '[Original Text]' To '[Prepended:]*HI LEVEL* Ref Deficiency Tag na [Ref info from O/R Comments field: - MODE Restraint per TRM 8.9.6, Spent Fuel Pool Sweep System, based on APPLICABILITY, the SFP Supply Fan must be returned to FUNCTIONAL prior to moving irradiated fuel [...]'
Last Modified Date Changed From 2/5/2012 5:43:47 To 2/6/2012 6:09:32
Last Modifier Changed From PRIBEK, BARBARA A To LANGER JR, JAMES E

2/6/2012 13:15:14 by KUDICK, JESSICA L
CRT Report Section(s) Changed From (None) To 1

not lit'

Last Modified Date Changed From 2/6/2012 6:09:32 To 2/6/2012 13:15:14
Last Modifier Changed From LANGER JR, JAMES E To KUDICK, JESSICA L

2/7/2012 6:14:44 by FICTUM, HOLLY C
Primary INPO criteria Changed From (None) To ER.1 - Equipment Performance
Secondary Owner Changed From BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WINKS III, GEORGE F, YEARGIN, BARRY K To BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 2/6/2012 13:15:14 To 2/7/2012 6:14:44
Last Modifier Changed From KUDICK, JESSICA L To FICTUM, HOLLY C

2/7/2012 9:58:05 by WALESH, DEBRA J
Last Modified Date Changed From 2/7/2012 6:14:44 To 2/7/2012 9:58:05
Last Modifier Changed From FICTUM, HOLLY C To WALESH, DEBRA J
Last State Change Date Changed From 2/4/2012 21:09:57 To 2/7/2012 9:58:05
Last State Changer Changed From STODOLA, JOSEPH O To WALESH, DEBRA J
State Changed From CRT Review To CRT Assignment Creation Via Transition: MRE

2/7/2012 9:58:37 by WALESH, DEBRA J
Last Modified Date Changed From 2/7/2012 9:58:05 To 2/7/2012 9:58:37
Attachment Added: MRE014773: (None) - SFP Supply fan green light not lit

2/7/2012 9:59:05 by WALESH, DEBRA J
CRT Report Section(s) Changed From 1 To 2
Secondary Owner Changed From BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, FRANSON, DALE M, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, MIELKE, DAVID D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WINKS III, GEORGE F, YEARGIN, BARRY K To AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 2/7/2012 9:58:37 To 2/7/2012 9:59:05
Last State Change Date Changed From 2/7/2012 9:58:05 To 2/7/2012 9:59:05
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

4/4/2012 10:15:23 by KUDICK, JESSICA L
Comments Changed From " To '[Appended:] returning to initiate CA for FCC review'

Secondary Owner Changed From AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CAMPBELL, DWIGHT D, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KASTNER, ROBERT J, KOEHLER, BRIAN L, KULTERMAN, TIMOTHY W, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K To BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS,

WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 2/7/2012 9:59:05 To 4/4/2012 10:15:23
Last Modifier Changed From WALESH, DEBRA J To KUDICK, JESSICA L
Last State Change Date Changed From 2/7/2012 9:59:05 To 4/4/2012 10:15:23
Last State Changer Changed From WALESH, DEBRA J To KUDICK, JESSICA L
State Changed From Assignments Pending To CRT Assignment Creation Via Transition: Return

4/4/2012 10:16:06 by KUDICK, JESSICA L
Last Modified Date Changed From 4/4/2012 10:15:23 To 4/4/2012 10:16:06

4/4/2012 10:17:11 by KUDICK, JESSICA L
Last Modified Date Changed From 4/4/2012 10:16:06 To 4/4/2012 10:17:11
Attachment Added: CA231414: (None) - CA to track Breaker 13504 being open as a Failure of Critical Component (FCC)

4/4/2012 10:18:22 by KUDICK, JESSICA L
Secondary Owner Changed From BAILEY, JEFFREY NOEL, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, BRINKMAN, CHARLES A, BROWN, DAN, BUSH, CHRISTOPHER S, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, DYKSTRA, DALE E, EDWARDS, CHARLES K, EVANS, WENDY L, EVERITT, CHAD A, FARINHOLT III, LUTHER, FITZWATER, DAVID I, GAUGER, BRAD R, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HELING, DEBRA A., HOUSE, ALEX J, IRLBECK, DAVID E, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCKENNA, JOANNE M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NEUSER, CRAIG J, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, STAFFORD, JEFFREY T, TERRY, MICHAEL E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K To AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 4/4/2012 10:17:11 To 4/4/2012 10:18:22
Last State Change Date Changed From 4/4/2012 10:15:23 To 4/4/2012 10:18:22
State Changed From CRT Assignment Creation To Assignments Pending Via Transition: Complete

4/10/2012 23:27:11 by FICTUM, HOLLY C
Primary INPO criteria Changed From ER.1 - Equipment Performance To ER.2 - Prevention of Equipment Failures
Secondary Owner Changed From AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BAUSCH, JAMES, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K To AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 4/4/2012 10:18:22 To 4/10/2012 23:27:11
Last Modifier Changed From KUDICK, JESSICA L To FICTUM, HOLLY C

4/11/2012 12:59:08 by KUDICK, JESSICA L
Engineering Hot Buttons Changed From (None) To ER Failure of Critical Component (FCC)
Last Modified Date Changed From 4/10/2012 23:27:11 To 4/11/2012 12:59:08
Last Modifier Changed From FICTUM, HOLLY C To KUDICK, JESSICA L

6/14/2012 11:29:12 by GADZINSKI, JULIE A

Secondary Owner Changed From AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASPER, JAMES MICHAEL, KASTNER,

ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K To AHRENS, GARY M, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K
Last Modified Date Changed From 4/11/2012 12:59:08 To 6/14/2012 11:29:12
Last Modifier Changed From KUDICK, JESSICA L To GADZINSKI, JULIE A
Last State Change Date Changed From 4/4/2012 10:18:22 To 6/14/2012 11:29:12
Last State Changer Changed From KUDICK, JESSICA L To GADZINSKI, JULIE A
State Changed From Assignments Pending To Trend Review Via Transition: Assignments Complete

6/21/2012 11:40:21 by FICTUM, HOLLY C
CR Completed Date Changed From Unassigned To 6/21/2012 12:40:21
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, ASBEL, DENNIS C, BAILEY, JEFFREY NOEL, BENNETT, JANETH L, BOUCHE, DANNY L, BRADLEY, DEBRA A, BRENNAN JR, EDWARD, CHRISTENSEN, ALAN R, CRIST, MICHAEL D, CURFMAN, LAWRENCE J, DILANDRO, ERIC WARREN, EDWARDS, CHARLES K, EVANS, WENDY L, FARINHOLT III, LUTHER, FICTUM, HOLLY C, FITZWATER, DAVID I, GRAU, JOHN R, GUINAN, PATRICIA B, GWYNN, GLENN ROXY, HALE, JAMES M., HELING, DEBRA A., HOUSE, ALEX J, JEANQUART, DARIN A, JORDAN JR, ARNOLD J, KARST JR, DAVID A, KASPER, JAMES MICHAEL, KASTNER, ROBERT J, KOEHLER, BRIAN L, LANGAN, JEFFRY A, LAWRENCE, DOUGLAS C, LLEWELLYN, DAVID T, MATHEWS, BRIAN M, MCMAHON, BRADLY J, MCMAHON, DARRYL D, NISSEL, THOMAS E, O'CONNER, THOMAS R, PATTERSON, DALE A, POWELL, HEATHER S, PRESL, BRIAN G, PRIBEK, BARBARA A, RENNERT, CHERYL L, SHIELDS, DAVID F, SIMMONS JR, ROY L, SMITH, JACQUELINE K, STAFFORD, JEFFREY T, STREICH, ERIC E, TURNER, ANTHONY JEROME, VIEITEZ, CARL R, VORPAHL, DWIGHT J., WALESH, DEBRA J, WINKS III, GEORGE F, YEARGIN, BARRY K To KASSNER, KIM M, KRCMA, MELISSA MARIE, LACROSSE, TARA LYNN, LEANNA, LORI L, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, RECORDS MGMT, SCHULTZ, SANDRA J, SMIDEL, SARAH A., STAFFORD, JEFFREY T, Teamtrackuser, WILSON, MICHAEL J, ZICH, CHRISTY L
Last Modified Date Changed From 6/14/2012 11:29:12 To 6/21/2012 11:40:21
Last Modifier Changed From GADZINSKI, JULIE A To FICTUM, HOLLY C
Close Date Changed From Unassigned To 6/21/2012 11:40:21
Last State Change Date Changed From 6/14/2012 11:29:12 To 6/21/2012 11:40:21
Last State Changer Changed From GADZINSKI, JULIE A 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

6/21/2012 16:11:00 by RECORDS MGMT
Last Modified Date Changed From 6/21/2012 11:40:21 To 6/21/2012 16:11:00
Last Modifier Changed From FICTUM, HOLLY C To RECORDS MGMT
Last State Change Date Changed From 6/21/2012 11:40:21 To 6/21/2012 16:11:00
Last State Changer Changed From FICTUM, HOLLY C To RECORDS MGMT
State Changed From All Assignments Complete To Transferred Via Transition: Transfer

6/22/2012 8:01:02 by RECORDS MGMT
CR Printed Date Changed From Unassigned To 6/22/2012 8:01:02
Last Modified Date Changed From 6/21/2012 16:11:00 To 6/22/2012 8:01:02
Last State Change Date Changed From 6/21/2012 16:11:00 To 6/22/2012 8:01:02
State Changed From Transferred To Printed Via Transition: Print

6/22/2012 8:01:14 by RECORDS MGMT
CR Validated Date Changed From Unassigned To 6/22/2012 8:01:14
CR Who Validated Changed From (None) To RECORDS MGMT
Secondary Owner Changed From KASSNER, KIM M, KRCMA, MELISSA MARIE, LACROSSE, TARA LYNN, LEANNA, LORI L, MIJAL, SHELLEY A, OTTO, KATHLEEN A., RECORDS MGMT, RECORDS MGMT, SCHULTZ, SANDRA J, SMIDEL, SARAH A., STAFFORD, JEFFREY T, Teamtrackuser, WILSON, MICHAEL J, ZICH, CHRISTY L To (None)
Last Modified Date Changed From 6/22/2012 8:01:02 To 6/22/2012 8:01:14
Last State Change Date Changed From 6/22/2012 8:01:02 To 6/22/2012 8:01:14
State Changed From Printed To Validated Via Transition: Validate