UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

June 24, 2005

Charles D. Naslund, Senior Vice
President and Chief Nuclear Officer
Union Electric Company
P.O. Box 620
Fulton, MO 65251

SUBJECT: CALLAWAY PLANT - NRC RADIATION SAFETY TEAM INSPECTION REPORT 05000483/2005011

Dear Mr. Naslund:

On June 5, 2005, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Callaway Plant. The enclosed report documents the inspection findings, which were discussed at the conclusion of the inspection with Mr. C. Younie, General Manager, Operations and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The team reviewed selected procedures and records, observed activities, and interviewed personnel. Specifically, the team evaluated the inspection areas within the Radiation Protection Strategic Performance Area that are scheduled for review every two years. These areas are:

- Radiation Monitoring Instrumentation
- Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems
- Radioactive Material Processing and Transportation
- Radiological Environmental Monitoring Program and Radioactive Material Control Program

This inspection report documents one NRC-identified violation of very low safety significance (Green). This finding was determined to involve a violation of NRC requirements. However, because of the very low safety significance and because it was entered into your corrective action program, the NRC is treating this finding as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy. If you contest the noncited violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011-4005; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001; and the NRC Resident Inspector at the Callaway facility.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

**//RA//**

Michael P. Shannon, Chief
Plant Support Branch
Division of Reactor Safety

Docket: 50-483
License: NPF-30

Enclosure:
NRC Inspection Report
05000483/2005011
w/attachment: Supplemental Information

cc w/enclosure:
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Team Leader, DRP/TSS **(RLN1)**
RITS Coordinator **(KEG)**

Only inspection reports to the following:
DRS STA **(DAP)**
J. Dixon-Herrity, OEDO RIV Coordinator **(JLD)**
**RidsNrrDipmlipb**
CWY Site Secretary **(DVY)**

SISP Review Completed: Yes ADAMS: Yes ☐ No Initials: _LC2__
Publicly Available ☐ Non-Publicly Available ☐ Sensitive Non-Sensitive

R:_CW\2005\CW2005011RP-Team-lc2.wpd

| RIV:PSB\SHP | PSB\HP | PSB\HP | PSB\HP | C:PSB |
|---|---|---|---|---|
| LCCarsonII | BDBaca | DRCarter | DLStearns | MPShannon |
| /RA/ | LC2 for | /RA/ | LC2 for | /RA/ |
| 6/17/05 | 6/21/05 | 6/20/05 | 6/21/05 | 6/21/05 |

| DRP\B | C:PSB | | | |
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| WBJones | MPShannon | | | |
| /RA/ | /RA/ | | | |
| 6/22/05 | 6/24/05 | | | |

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**U.S. NUCLEAR REGULATORY COMMISSION**
**REGION IV**

| | |
|---|---|
| Dockets: | 50-483 |
| Licenses: | NPF-30 |
| Report: | 05000483/2005011 |
| Licensee: | Union Electric Company |
| Facility: | Callaway Plant |
| Location: | Junction Highway CC and Highway O<br>Fulton, Missouri |
| Dates: | May 14, through June 2, 2005 |
| Inspectors: | Louis C. Carson II, Senior Health Physicist, Plant Support Branch<br>Bernadette D. Baca, Health Physicist, Plant Support Branch<br>Daniel R. Carter, Health Physicist, Plant Support Branch<br>Donald L. Stearns, Health Physicist, Plant Support Branch |
| Approved By: | Michael P. Shannon, Chief, Plant Support Branch<br>Division of Reactor Safety |

Enclosure

## SUMMARY OF FINDINGS

Callaway Plant
NRC Inspection Report 05000483/2005-011

IR 05000483/2005-011; Union Electric Co; 05/16 - 06/02/2005; Callaway Plant; Occupational Radiation Safety involving access control to radiologically significant areas.

The report covered a one week period of inspection on site by a team of four region-based health physics inspectors. One finding of very low safety significance (Green) was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609, "Significance Determination Process," (SDP). Findings for which the SDP does not apply may be "Green" or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

NRC-Identified and Self-Revealing Findings

Cornerstone: Occupational Radiation Safety

- Green. The team identified a non-cited violation of 10 CFR 20.1201(f) because the licensee failed to reduce the dose that individuals may be allowed to receive in the current year by the amount of occupational dose received at other facilities. Specifically, on May 16, 2005, the licensee failed to enter inspectors' year-to-date exposure into the PRORAD computer system and subsequently reduce their allowable exposure margin.

  The finding is greater than minor because it was associated with an Occupational Radiation Safety cornerstone attribute (Human Performance) and it affected the associated cornerstone objective. The failure to reduce exposure margins to control personnel exposure decreases the licensee's ability to ensure adequate protection of the worker health and safety from exposure to radiation. The significance of the finding was evaluated using the Occupational Radiation Safety Significance Determination Process because the finding involved an individual worker's potential for unplanned, unintended dose resulting from actions contrary to NRC regulations. The finding was determined to be of very low safety significance because the finding did not involve; (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for an overexposure, or (4) an impaired ability to assess dose. Additionally, this finding had cross-cutting aspects associated with human performance. Licensee personnel directly contributed to the finding when they failed to enter workers' exposure into the licensee's dose tracking computer system. The finding was placed into the licensee's corrective action program as CAR 2005-03354 (Section 2OS1).

## Report Details

## 2. RADIATION SAFETY

### Cornerstone: Occupational Radiation Safety [OS]

2OS1 Access Control To Radiologically Significant Areas (71121.01)

a. Inspection Scope

This area was inspected to assess the licensee's performance in implementing physical and administrative controls for access to radiologically controlled areas. The team used the requirements in 10 CFR Part 20, the technical specifications, and the licensee's procedures required by technical specifications as criteria for determining compliance.

b. Findings

Introduction. The NRC team identified a non-cited violation of 10 CFR 20.1201(f) for failure to reduce the dose that an individual may be allowed to receive in the current year by the amount of occupational dose received at other facilities. The finding was of very low safety significance.

Description. On May 17, 2005, while processing into the radiologically controlled area the inspectors on the team noticed that their available exposure margin recorded in the licensee's PRORAD computer system had not been reduced to reflect year-to-date exposure data. On May 16, 2005, the inspectors' processed into the licensee's dosimetry process which completed NRC Form 4's, and estimates of annual exposures. The licensee failed to enter the inspectors' dose information into the PRORAD computer system due to confusion as to where NRC exposure data was to be entered. In addition the team determined that the licensee assigned NRC inspectors a dose margin 5000 millirem per year. The licensee assigned all other personnel entering the radiologically controlled area a dose margin of 2000 millirem per year. With a dose margin of 5000 millrem and not inputting prior dose into the PRORAD system an NRC inspector could receive exposure while on site that could exceed a federal exposure limit (5000 millirem).

Analysis. The failure to reduce a person's exposure margin in accordance with federal regulations is a performance deficiency. The finding is greater than minor because it was associated with the Occupational Radiation Safety cornerstone attribute (Human Performance) and it affected the cornerstone objective. The failure to reduce exposure margins to control personnel exposure decreases the licensee's ability to ensure adequate protection of the worker health and safety from exposure to radiation. The significance of the finding was evaluated using the Occupational Radiation Safety Significance Determination Process because the finding involved an individual worker's potential for unplanned, unintended dose resulting from actions contrary to NRC regulations. The finding was determined to be of very low safety significance because the finding did not involve; (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for an overexposure, or (4) an impaired ability to assess dose.

Enforcement. 10 CFR 20.1201(f) requires that licensees reduce the dose that an individual may be allowed to receive in the current year by the amount of occupational dose received while employed by any other person. Because this violation was of very low safety significance and was entered into the licensee's corrective action program as CAR 2005-03354, it is being treated as a non-cited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000483/0511-01, Violation of 10 CFR 20.1201(f) for failure to reduce individuals exposure margin.

2OS3 Radiation Monitoring Instrumentation and Protective Equipment (71121.03)

a. Inspection Scope

This area was inspected to determine the accuracy and operability of radiation monitoring instruments that are used for the protection of occupational workers and the adequacy of the program to provide self-contained breathing apparatus (SCBA) to workers. The team used the requirements in 10 CFR Part 20 and the licensee's procedures required by technical specifications as criteria for determining compliance. The team interviewed licensee personnel and reviewed:

- Calibration of area radiation monitors associated with transient high and very high radiation areas and post-accident monitors used for remote emergency assessment
- Calibration of portable radiation detection instrumentation, electronic alarming dosimetry, and continuous air monitors used for job coverage
- Calibration of whole body counting equipment and radiation detection instruments utilized for personnel and material release from the radiologically controlled area
- Self-assessments and audits
- Corrective action program reports since the last inspection
- Licensee action in cases of repetitive deficiencies or significant individual deficiencies
- Calibration expiration and source response check currency on radiation detection instruments staged for use
- The licensee's capability for refilling and transporting SCBA air bottles to and from the control room and operations support center during emergency conditions, status of SCBA staged and ready for use in the plant and associated surveillance records, and personnel qualification and training

- Qualification documentation for onsite personnel designated to perform maintenance on the vendor-designated vital components, and the vital component maintenance records for SCBA units

The inspector completed 9 of the required 9 samples.

Either because the conditions did not exist or an event had not occurred, no opportunities were available to review the following items:

- Licensee Event Reports

b. Findings

No findings of significance were identified.

**Cornerstone: Public Radiation Safety [PS]**

2PS1 Radioactive Gaseous And Liquid Effluent Treatment And Monitoring Systems (71122.01)

a. Inspection Scope

This area was inspected to ensure that the gaseous and liquid effluent processing systems are maintained so that radiological releases are properly mitigated, monitored, and evaluated with respect to public exposure. The team used the requirements in 10 CFR Part 20, 10 CFR Part 50 Appendices A and I, the Offsite Dose Calculation Manual, and the licensee's procedures required by technical specifications as criteria for determining compliance. The team interviewed licensee personnel and reviewed:

- The most current radiological effluent release reports, changes to radiation monitor setpoint calculation methodology, anomalous sampling results, effluent radiological occurrence performance indicator incidents, self-assessments, audits, and licensee event reports

- Gaseous and liquid release system component configurations

- Routine processing, sample collection, sample analysis, and release of radioactive liquid and gaseous effluent; including effluent release permit generation and dose projections to members of the public

- Abnormal releases or special reports

- Changes made by the licensee to the ODCM, the liquid or gaseous radioactive waste system design, procedures, or operation since the last inspection

- Monthly, quarterly, and annual dose calculations

- Surveillance test results involving air cleaning systems and stack or vent flow rates

- Instrument calibrations of discharge effluent radiation monitors and flow measurement devices, effluent monitoring system modifications, effluent radiation monitor alarm setpoint values, and counting room instrumentation calibration and quality control

- Interlaboratory comparison program results

- Licensee event reports, special reports, audits, self-assessments and corrective action reports performed since the last inspection

Either because the conditions did not exist or an event had not occurred, no opportunities were available to review the following items:

- Licensee Event Reports

The inspector completed 10 of the required 10 samples.

b. Findings

No findings of significance were identified.

2PS2 Radioactive Material Processing and Transportation (71122.02)

a. Inspection Scope

This area was inspected to verify that the licensee's radioactive material processing and transportation program complies with the requirements of 10 CFR Parts 20, 61, and 71 and Department of Transportation regulations contained in 49 CFR Parts 171-180. The team interviewed licensee personnel and reviewed:

- The radioactive waste system description, recent radiological effluent release reports, and the scope of the licensee's audit program

- Liquid and solid radioactive waste processing systems configurations, the status and control of any radioactive waste process equipment that is not operational or is abandoned in place, changes made to the radioactive waste processing systems since the last inspection, and current processes for transferring radioactive waste resin and sludge discharges

- Radio-chemical sample analysis results for radioactive waste streams and use of scaling factors and calculations to account for difficult-to-measure radionuclides

- Shipment packaging, surveying, labeling, marking, placarding, vehicle checking, driver instructing, and disposal manifesting

- Shipping records for non-excepted package shipments
- Licensee event reports, special reports, audits, state agency reports, self-assessments and corrective action reports performed since the last inspection

Either because the conditions did not exist or an event had not occurred, no opportunities were available to review the following items:

C Licensee event reports and special reports

The inspector completed 6 of the required 6 samples.

b. Findings

No findings of significance were identified.

2PS3 Radiological Environmental Monitoring Program And Radioactive Material Control Program (71122.03)

a. Inspection Scope

This area was inspected to ensure that the Radiological Environmental Monitoring Program verifies the impact of radioactive effluent releases to the environment and sufficiently validates the integrity of the radioactive gaseous and liquid effluent release program; and that the licensee's surveys and controls are adequate to prevent the inadvertent release of licensed materials into the public domain. The team used the requirements in 10 CFR Part 20, Appendix I of 10 CFR Part 50, the Offsite Dose Calculation Manual, and the licensee's procedures required by technical specifications as criteria for determining compliance. The team interviewed licensee personnel and reviewed:

- Annual environmental monitoring reports
- A sampling of air sampling stations and thermoluminescence dosimeter monitoring stations
- Collection and preparation of environmental samples
- Operability, calibration, and maintenance of meteorological instruments
- Each event documented in the Annual Environmental Monitoring Report which involved a missed sample, inoperable sampler, lost thermoluminescence dosimeter, or anomalous measurement

- Significant changes made by the licensee to the Offsite Dose Calculation Manual as the result of changes to the land census or sampler station modifications since the last inspection

- Calibration and maintenance records for air samplers and composite water samplers; and environmental sample radiation measurement instrumentation quality control program, interlaboratory comparison program results, and vendor audits

- Locations where the licensee monitors potentially contaminated material leaving the radiological controlled area [or controlled access area] and the methods used for control, survey, and release from these areas

- Type of radiation monitoring instrumentation used to monitor items released, survey and release criteria of potentially contaminated material, radiation detection sensitivities, procedural guidance, and material release records

- Audits, self-assessments, special reports, and corrective action reports performed since the last inspection

Either because the conditions did not exist or an event had not occurred, no opportunities were available to review the following items:

- Licensee event reports

The inspector completed 10 of the required 10 samples.

b. Findings

No findings of significance were identified.

## 4. OTHER ACTIVITIES

4OA2 Problem Identification and Resolution

b. Inspection Scope

The team evaluated the effectiveness of the licensee's problem identification and resolution process with respect to the following inspection areas:

- Radiation Monitoring Instrumentation (Section 2OS3)

- Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems (Section 2PS1)

- Radioactive Material Processing and Transportation (Section 2PS2)

- Radiological Environmental Monitoring Program and Radioactive Material Control Program (Section 2PS3)

b. Findings and Observations

No findings of significance were identified.

4OA5 Other

TI 2515/161 - Transportation of Reactor Control Rod Drives in Type A Packages

a. Inspection Scope

This area was inspected to verify that the licensee's radioactive material transportation program complies with specific requirements of 10 CFR Parts 20, 71, and Department of Transportation regulations contained in 49 CFR Part 173. The inspector interviewed licensee personnel and determined the licensee had undergone refueling/defueling activities between January 1, 2002, and present, but it had not shipped irradiated control rod drives in Department of Transportation Specification 7A Type A packages.

b. Findings and Observations

No findings of significance were identified.

4OA6 Meetings

Exit Meeting Summary

The team conducted a telephonic exit of the inspection results to Mr. C. Younie, Manager, Operations and other members of licensee management during an exit meeting conducted on June 2, 2005. The licensee acknowledged the findings presented.

The team asked the licensee whether or not any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

## SUPPLEMENTAL INFORMATION

## PARTIAL LIST OF PERSONS CONTACTED

Licensee

J. Barbour, System Engineer, Meteorological Tower
R. Farnam, Superintendent, Health Physics
J. Hiller, Engineer, Regional Regulatory Affairs
E. Olson, Superintendent, Chemistry & Radwaste
H. Osborn, Senior Health Physicist, Health Physics Operations
M. Reidmeyer, Supervisor, Regional Regulatory Affairs
F. Stuckey, Rad/Chem Supervisor, Health Physics Operations
D. Thompson, Staff HP Instrumentation
C. Younie, Manager, Operations

## ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None.

Opened and Closed During this Inspection

| | | |
|---|---|---|
| 05000483/2005-011 | NCV | Violation of 10 CFR 20.1201(f) for failure to reduce individual's exposure margin (Section 2OS1) |

Previous Items Closed

None

## LIST OF DOCUMENTS REVIEWED

**Section 2OS3: Radiation Monitoring Instrumentation and Protective Equipment**

Procedures
ITL-SD-00R39 I&C Technical Procedure, Area Radiation SD-00R39, Revision 005

HTP-ZZ-04177, Eberline PCM-2 Operation, Revision 000

HTP-ZZ-04176, Eberline Model GTM Small Articles Monitor Operation, Revision 001

HTP-ZZ-04175, Eberline Model PM-7 Portal Monitor Operation, Revision 001

HTP-ZZ-04102, Operation of the Eberline RO-2(X) Series Ion Chamber, Revision 007

HTP-ZZ-04106, Operation of the Ludlum Model 14C, Revision 005

HTP-ZZ-04108, Operation of the Ludlum Model 3 Portable Rate Meter, Revision 005,

HTP-ZZ-04101, Operation of the Ludlum Model 177 Series Alarm RateMeter, Revision 007

HDP-ZZ-04000, Health Physics Instrumentation Program, Revision 018

Surveillance Tests
ISL-GT-00R59, Revision 012, I&C Loop Calibration Surveillance Procedure, CTMT High Range Area Rad Monitor

ISL-GT-0R21B, I&C Loop Calibration Surveillance Procedure, Plant Unit Vent Effluent Radiation Detector, Performed 04/06/2005

ISL-HB-00R18, I&C Loop Calibration Surveillance Procedure, Liquid Radwaste Discharge Radiation Detector, Performed 03/14/2005

Surveillance Task Sheet S699109, ISL-GT-00R60 - Channel Source Cal

Surveillance Task Sheet S699107, ISL-GT-00R59 - Channel Source Cal

PM Task Sheet P699287, Loop Calibration, Seal Table Area Rad Hi

Condition Reports
CAR's; 200400195, 200402320, 200404826, 200408432, 200405582, 200405948

Self-Assessments, Quality Audit Reports
Focused Self-Assessment on INPO AFI RP.4.1, Contamination Detection, dated February 9,2004,

Self Assessment Report; Callaway Plant Health Physics Instrumentation Program, dated March 29, 2004.

Quality Assurance Audit of Radiation Protection AP05-001, dated March 11, 2005

Calculation HPCI-05-03, Release of radioactive material, Revision 0

**Section 2PS1: Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems**

Procedures

| | |
|---|---|
| APA-ZZ-00345 | Fuel Reliability Program, Revision 8 |
| CDP-ZZ-00900 | NPDES Monitoring, Revision 20 |
| CTP-ZZ-01114 | Primary and Radwaste Bomb Sampling, Revision 31 |
| HDP-ZZ-04700 | Count Room Quality Control Program, Revision 13 |
| HSP-ZZ-00005 | Radioactive Gaseous Effluents Dose Rate, Revision 14 |
| HTP-ZZ-02012 | Gaseous Radwaste Release Permit (Containment) Revision 39 |

| | |
|---|---|
| HTP-ZZ-02006 | Liquid Radwaste Release Permit (Batch) Revision 58 |
| HTP-ZZ-02021 | Gaseous Radwaste Release Permit [Miscellaneous] Revision 10 |
| HTP-ZZ-02012 | Gaseous Radwaste Release Permit (Containment) Revision 39 |
| ESP-GG-03005 | FGG02B In-Place Bypass Leakage Test, Revision 10 |
| ETP-ZZ-03005 | In Place Bypass Leakage Testing of HEPA Filters, Revision 5 |
| ETP-ZZ-03004 | In-Place Bypass Leakage Testing of Adsorber Stage, Revision 4 |
| MSE-GG-QG003 | Emergency Exhaust System Flow Rates - "B" Train, Revision 2 |
| RTN-HB-01000 | Operation of the Liquid Radwaste Discharge Monitor Tanks, Revision 20 |

Radiological Effluent Monitoring Program Callaway Action Requests:
2005-0214, 2005-0609,2005-1730,2005- 2962
2004-0079, 2004-0757, 2004-0764,2004-0795, 2004-1042, 2004-1858, 2004-2149, 2004-2526, 2004-2897, 2004-3212, 2004-3911, 2004-5033, 2004-5604, 2004-7623, 2004-9065, 2004-6023, 2004-6122, 2004-6139, 2004-6391, 2004-7427, 2004-8875, 2004-9000, 2004-9546
2003-6808, 2003-7430, 2003-4400, 2003-4519, 2003-4613, 2003-4802, 2003-8661, 2003-9297,

Release Permits
RP09-2004-L0137, RP12-2004-G0001, RP13-2004-G0002, RP14-2003-L0141
RP14-2004-L0063, RP14-2004-G0047, UR04-2004-G0009, UR03-2004-G0036
RP10-2005-L0018, RP11A-2005-G0021, RP13-2005-G0002

Surveillance Tests
S705621: FGK01B Filter Unit Testing (Control Room Filter)
S703816: FGK02B Filter Unit Testing (Control Room Pressurization)
S690976: FGH01 Filter Unit Testing (Radwaste Building)
S691097: FGG02B Filter Unit Testing (Auxiliary/Fuel Building Emergency Filter)

Surveillance Packages
S709701, S711088, S711777, S713344, S713659, S716981, S716761
S718686, S719735, S720113, S721135, S721137, S723153

Annual Self-Assessments, Quality Audit Reports, and Special Reports
2003 and 2004 Callaway Plant Radioactive Effluent Release Reports
Callaway Plant Off-Site Dose Calculation Manual dated December 9, 2004
Special Report ULNRC05089 dated November 10, 2004

Effluents Interlaboratory Comparisons:
2003 and 2004 Analytics Radiochemistry Cross Check Program Results
2003 and 2004 Radiological Environmental Monitoring Program for Callaway Plant

**Section 2PS3: Radiological Environmental Monitoring Program and Radioactive Material Control Program**

Audits and Self-Assessments
NUPIC Audit/Survey Number 18558; Environmental, Inc., Revision 0
NUPIC Audit/Survey Number 18558; Environmental, Inc., Revision 1
NUPIC Audit/Survey Number 18822; Framatome ANP, Inc.
NUPIC Audit/Survey Number 18822; Framatome ANP, Inc., Revision 1
NUPIC Audit/Survey Number 18822; Framatome ANP, Inc., Findings Close Out
SA03-HP-S05; NVLAP On-site Assessment of Dosimetry Processing Laboratory 100502-0

Condition Reports
2003-4877, 2003-5410, 2003-8265, 2003-8622, 2003-8728, 2004-0343, 2004-0500, 2004-1138, 2004-1468, 2004-1470, 2004-2348, 2004-2633, 2004-3284, 2004-3826, 2004-3839, 2004-4102, 2004-5305, 2004-5482, 2004-5938, 2004-6027, 2004-6662, 2004-7427, 2004-7907, 2004-8140, 2004-8756, 2004-9513, 2005-0653, 2005-0687, 2005-1616, 2005-2314, 2005-3541, 2005-3542

Procedures

| | |
|---|---|
| APA-ZZ-01003 | Callaway Plant Offsite Dose Calculation Manual, Revision 15 |
| APA-ZZ-01022 | Radiological Environmental Monitoring, Revision 6 |
| HTP-ZZ-02023 | Unconditional Release of Radioactive Material, Revision 1 |
| HTP-ZZ-02024 | Conditional Release of Radioactive Material, Revision 0 |
| HTP-ZZ-07001 | Collection and Shipping of Environmental Samples, Revision 42 |
| HTP-ZZ-07100 | Land Use Census Program, Revision 3 |
| HTP-ZZ-07101 | Radiological Environmental Monitoring Program (REMP), Revision 7 |
| HTP-ZZ-07101 | Appendix A, REMP Sampling Locations, Revision 3 |
| HTP-ZZ-07103 | Evaluation and Reporting of REMP Data, Revision 5 |

Cross Checks and Instrument Calibrations
2003 and 2004 Analytics Radiochemistry Cross Check Program Results
Calibration Record for Instrument Numbers: LAS-4094, LAS-4095, LAS-4097, and LAS-4100

Surveillances
P683146, P711182, P715024, P715026, P715587, P715883, P721978, P721979, P721980, P722474, P731396, P731414, P731416, P731417, S714833, S714856, S714857, S714858, S714968, S721311, S721312, S721475, S721476, S721477, S731006, S731007, S731042, S731044, S731097

Miscellaneous
2003 and 2004 Callaway Meteorological Data Validation Final Report and Data Summaries
2003 and 2004 Callaway Plant Annual Radiological Environmental Operating Report
2003 and 2004 Callaway Plant Land Use Census Report
2003 and 2004 Radiological Environmental Monitoring Program for Callaway Plant,
Environmental, Inc. Midwest Laboratory Quality Assurance Program, QAP-1, Revision 1
Special Report ULNRC04982 dated April 13, 2004
Special Report ULNRC04992 dated May 3, 2004
Special Report ULNRC05033 dated July 28, 2004
Special Report ULNRC05051 dated September 3, 2004

**Section 2PS2: Radioactive Material Processing and Transportation**

Procedures

| | |
|---|---|
| APA-ZZ-00833 | Hazardous Material Transportation Security Plan, Revision 0 |
| APA-ZZ-01011 | Process Control Program Manual, Revision 6 |
| HDP-ZZ-08000 | Respiratory Protection Program, Revision 14 |
| HTP-ZZ-01433 | Personnel Exposure Records, Revision 37 |
| HTP-ZZ-08002 | Respiratory Protection Issue and Use, Revision 23 |
| HTP-ZZ-08203 | Testing Mine Safety Appliances Regulators and Respirators Using the Biosystems Posichek-3 Tester, Revision 12 |
| HTP-ZZ-08300 | Respirator, Supplied Air Hood, and SCBA Inspection and Storage, Revision 23 |
| HTP-ZZ-08510 | Testing of Breathing Air, Revision 8 |
| RTN-HB-00130 | Operation of the ALPS System, Revision 8 |
| RTN-HC-01100 | Shipment of Radioactive Materials, Revision 18 |
| RTS-HC-01130 | 10 CFR 61 Sampling Program, Revision 7 |
| RTS-HC-01160 | Shipment of Radioactive Wastes, Revision 16 |
| TR-OP-035 | Handling Procedure for Duratek Transport Cask Model CNS 8-120B, Revision 18 |

Audits and Self Assessments

| | |
|---|---|
| AP04-012 | Quality Assurance Audit of Radwaste |

Training Records
T64.0340 8 Shipping & Packaging Radioactive Material, 20041222
T64.0650 8 Highway Transport and Disposal Criteria for RAM, 20040811
T64.0650 8 Shipping RAM, 20040811

Corrective Action Documents
200404243, 200407486, 200404729, 200404074, 200401865, 200306975, 200404172, 200409088, 200408875, 200405729, 200404871, 200403566

Shipping Packages
03-0032, 03-0049, 03-0062, 04-0020, 04-0060

Certificates of Compliance
9168 8-120B Package
9208 10-142 Package

Radioactive Material Licenses
R-86011-K06 Studsvik Processing Facility
R-73006-F13 Duratek Services Inc.

**SUMMARY OF FINDINGS**
Callaway Nuclear Generating Station
NRC Inspection Report 05000483/2005011
**INSPECTION PERIOD 05/16-06/02/05**

**Cornerstone: Occupational Radiation Safety**

**D. Carter(4640)**
**PIM NRC NCV ORS June 02, 2005 71121.01 Human Performance Flag**
**Violation of 10 CFR 20.1201(f) for failure to reduce individuals exposure margin**

- Green. The team identified a non-cited violation of 10 CFR 20.1201(f) because, the licensee failed to reduce the dose that individuals may be allowed to receive in the current year by the amount of occupational dose received at other facilities. Specifically, on May 16, 2005, the licensee failed to enter inspectors' year-to-date exposure into the PRORAD computer system and subsequently reduce their allowable exposure margin.

  The finding is greater than minor because it was associated with a Occupational Radiation Safety cornerstone attribute (Human Performance) and it affected the associated cornerstone objective. The failure to reduce exposure margins to control personnel exposure decreases the licensee's ability to ensure adequate protection of the worker health and safety from exposure to radiation. The significance of the finding was evaluated using the Occupational Radiation Safety Significance Determination Process because the finding involved an individual worker's potential for unplanned, unintended dose resulting from actions contrary to NRC regulations. The finding was determined to be of very low safety significance because the finding did not involve; (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for an overexposure, or (4) an impaired ability to assess dose. Additionally, this finding had cross-cutting aspects associated with human performance. Licensee personnel directly contributed to the finding when they failed to enter workers' exposure into the licensee's dose tracking computer system. The finding was placed into the licensee's corrective action program as CAR 2005-03354 (Section 2OS1).