

July 9, 2002

Mr. Mark Peifer
Site Vice-President
Duane Arnold Energy Center
Nuclear Management Company, LLC
3277 DAEC Road
Palo, IA 52324

SUBJECT: DUANE ARNOLD ENERGY CENTER
NRC INSPECTION REPORT 50-331/02-05(DRP)

Dear Mr. Peifer:

On June 29, 2002, the NRC completed an inspection at your Duane Arnold Energy Center. The enclosed report documents the inspection findings which were discussed on June 27, 2002, with Mr. R. Anderson and other members of your staff.

This 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 inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. Specifically, this inspection focused on reactor, radiation and safeguards safety.

No findings of significance were identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be 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/

Bruce L. Burgess, Chief
Branch 2
Division of Reactor Projects

Docket No. 50-331
License No. DPR-49

Enclosure: Inspection Report 50-331/02-05(DRP)

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M. Peifer

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cc w/encl: E. Protsch, Executive Vice President -
Energy Delivery, Alliant;
President, IES Utilities, Inc.
Robert G. Anderson, Plant Manager
State Liaison Officer
Chairperson, Iowa Utilities Board
The Honorable Charles W. Larson, Jr.
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REGION III

Docket No: 50-331
License No: DPR-49

Report No: 50-331/02-05(DRP)

Licensee: Alliant, IES Utilities Inc.

Facility: Duane Arnold Energy Center

Location: 3277 DAEC Road
Palo, Iowa 52324-9785

Dates: March 31 through June 29, 2002

Inspectors: P. Prescott, Senior Resident Inspector
M. Kurth, Resident Inspector
G. Pirtle, Physical Security Inspector
R. Schmitt, Radiation Specialist

Approved by: Bruce L. Burgess, Chief
Branch 2
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000331-02-05(DRP), on 03/31-06/29/2002, IES Utilities, Inc., Duane Arnold Energy Center. Routine safety inspection.

This report covers a 6-week routine inspection. The inspection was conducted by resident inspectors, a region-based radiation protection specialist, and a physical security specialist. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609 "Significance Determination Process" (SDP). The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at <http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/index.html>. Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violations.

A. Inspector Identified Findings

No findings of significance were identified.

B. Licensee Identified Findings

No findings of significance were identified.

Report Details

Summary of Plant Status

The plant was operated at essentially full power until May 18, 2002. At 11:39 p.m. on May 18, operators conducted a controlled shutdown to perform a planned repair of a main condenser tube leak. After opening the condenser waterboxes, isolation of a tube leak, and performance of preplanned maintenance, the reactor was taken critical May 22, at 7:59 p.m. and the main generator synchronized to the grid on May 23, at 8:04 a.m.

On May 24, from 12:15 a.m. to 1: 58 p.m., reactor power was lowered with recirculation flow from 83 to 63 percent to allow an unplanned weld repair to be performed on a control valve for the moisture separator reheater drain tank 1T-92A drain to feedwater heater 1E-6A (CV-1056). Following the repair, full operating reactor power was achieved at 5:55 p.m., on May 25. For the remainder of the inspection the plant remained at or near full power.

1. REACTOR SAFETY

Cornerstones: Initiating events, Mitigating Systems, and Emergency Preparedness

1R01 Adverse Weather (71111.01)

a. Inspection Scope

The inspectors performed a walkdown of the licensee's preparations for adverse weather, including conditions that could lead to loss of off-site power and conditions that could result from high temperatures or high winds. The licensee's procedures and preparations for the impending tornado season were reviewed by the inspectors and were verified to be adequate. During the inspection, the inspectors focused on plant specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Safety Analysis Report (USAR) and performance requirements for systems selected for inspection. Operator actions taken to prepare the plant for adverse weather were verified to be appropriate with plant specific procedures.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

The inspectors performed a partial walkdown of the following equipment trains to verify operability and proper equipment lineup. These systems were selected based upon risk

significance, plant configuration, system work or testing, or inoperable or degraded conditions.

- Main Switchyard;
- "A" Core Spray system; and
- "B" Residual Heat Removal (RHR) system

The inspectors also verified the position of critical redundant equipment and looked for any discrepancies between the existing equipment lineup and the lineup required by the Technical Specifications and plant procedures.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

The inspectors walked down the following risk significant areas looking for any fire protection issues. The inspectors selected areas containing systems, structures, or components that the licensee identified as important to reactor safety.

- Area Fire Plan (AFP) 4, "Reactor Building North Control Rod Drive (CRD) Module Area, CRD Repair and CRD Cable Rooms";
- AFP 5, "Reactor Building South CRD Module Area and Offgas Recombiner Rooms and Railroad Airlock";
- AFP 6, "Reactor Building Residual Heat Removal Valve Room";
- AFP 7, "Reactor Building Laydown Area, Corridor and Waste Tank Area, and Spent Resin Tank Room";
- AFP 8, "Reactor Building Standby Gas Treatment System and Motor-Generator Set Rooms"; and
- AFP 9, "Reactor Building Reactor Building Closed Looped Cooling Water Heat Exchanger Area, Equipment Hatch Area and Jungle Room"

The inspectors reviewed the control of transient combustibles and ignition sources, fire detection equipment, manual suppression capabilities, passive suppression capabilities, automatic suppression capabilities, and barriers to fire propagation.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

The inspectors reviewed the licensee's flooding mitigation plans and supporting plant equipment to determine consistency with design requirements and the risk analysis assumptions related to seasonal external flooding. Walkdowns and reviews performed considered design measures, seals, drain systems, contingency equipment condition and availability of temporary equipment and barriers, performance of surveillance tests, procedural adequacy, and compensatory measures.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

a. Inspection Scope

The inspectors observed licensed operator crew performance in mitigating the consequences of events during the May 15, 2002, site training full scale drill. The scenario included a seismic event; reactor core isolation cooling inlet steam valve failure; loss of reactor protection system power, inadvertent rapid insertion of a control rod ultimately leading to fuel failure; a break in reactor vessel piping; and site release of radioactive inventory based on the failure of secondary containment dampers. Areas observed by the inspectors included: clarity and formality of communications, timeliness of actions, prioritization of activities, procedural adequacy and implementation, control board manipulations, managerial oversight, emergency plan execution, and group dynamics.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed and observed emergent work, preventive maintenance, or planning for risk significant maintenance activities. The inspectors observed maintenance or planning for the following activities or risk significant systems undergoing scheduled or emergent maintenance.

- Weekly Scheduling and Planning Meetings; and
- Outage Planning and Emergent Work Review

Specifically, the inspectors reviewed the risk assessment of scheduled maintenance activities associated with work weeks 14, 17, 18 and 21. Work week 14 included work

on the “B” core spray system and the 161 KV switchyard circuit breaker CB5950 and work week 17 involved work on 345 KV switchyard circuit breaker CB2820 and the reactor water cleanup system. Work week 18 involved work on the “A” control building chiller and divers inspecting the river water intake and work week 21 involved a plant shutdown to repair a main condenser tube leak.

The inspectors also reviewed the licensee's evaluation of plant risk, risk management, scheduling, and configuration control for these activities in coordination with other scheduled risk significant work. The inspectors verified that the licensee's control of activities considered assessment of baseline and cumulative risk, management of plant configuration, control of maintenance, and external impacts on risk. In-plant activities were reviewed to ensure that the risk assessment of maintenance or emergent work was complete and adequate, and that the assessment included an evaluation of external factors. Additionally, the inspectors verified that the licensee entered the appropriate risk category for each planned and emergent maintenance activity.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the technical adequacy of the following operability evaluations to determine the impact on Technical Specifications (TS), the significance of the evaluations, and to ensure that adequate justifications for operability were supported in the requisite documentation.

- Action Request (AR) 30562, “One (CV 4327F) of Seven Drywell to Torus Vacuum Breakers Exhibited Position Indication Problems During Performance of the Monthly Surveillance”;
- AR 30690, “Low Sump Lube Oil for Emergency Diesel Generator 1G021 During Monthly Surveillance Run”; and
- AR 30785, “Can the Residual Heat Removal Pump Seals (i.e., IP229A,B,C&D) Operate Under Accident Conditions Without Seal Cooling”

Operability evaluations were selected based upon an understanding of the relationship between safety-related systems, structures, or components and risk.

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (OWA) (71111.16)

a. Inspection Scope

The inspectors reviewed OWA AR 23397, "EMAs A46577 & 78: AN4162A/B (Offgas Hydrogen Analyzers) Replacement." Also, OWA 30779, "Provide Suppression to Eliminate Spurious Alarms Caused by Cycling MO2404 [RCIC Turbine Steam Supply Isolation]," was evaluated. The inspectors review of the offgas hydrogen analyzers replacement included the workaround's potential to impact the operators' ability to ensure that radioactive gases remain as low as reasonably achievable. The review of the workaround associated with MO2404 was ensure that operability of the valve was not impacted.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors selected the following post-maintenance activities for review. Activities were selected based upon the structure, system, or component's ability to impact risk.

- Preventive Work Order (PWO) 1118938, "Overhaul Limatorque Operator for 'B' Core Spray Outboard Isolation Injection Valve MO-2135-O";
- Corrective Work Order (CWO) A53631, for 345 KV Breaker CB0710(T), "Current Transformers are Leaking SF6 Gas. Overhaul Current Transformers.";
- CWO A53320, for 1K4 standby liquid gas treatment (SBGT) instrument air compressor, "Aftercooler on 1K004 is Bulged and has had a Braze Repair to the Shell. Replace Aftercooler with a New One."; and
- CWO A57385, for the standby transformer feeder breaker 1A401, "Refurbish Breaker and Install Breaker into 1A401"

The inspectors verified by witnessing the test or reviewing the test data that post-maintenance testing activities were adequate for the above maintenance activities. The inspectors reviews included, but were not limited to, integration of testing activities, applicability of acceptance criteria, test equipment calibration and control, procedural use and compliance, control of temporary modifications or jumpers required for test performance, documentation of test data, TS applicability, system restoration, and evaluation of test data. Also, the inspectors verified that maintenance and post-maintenance testing activities adequately ensured that the equipment met the licensing basis, TS, and USAR design requirements.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors selected the following surveillance test activities for review. Activities were selected based upon risk significance and the potential risk impact from an unidentified deficiency or performance degradation that a system, structure, or component could impose on the unit if the condition were left unresolved.

- NS 720202, "Offgas Hydrogen Monitor Channel Calibration," Revision 9;
- Surveillance Test Procedure (STP) 3.3.5.1-09, "Functional Test of Drywell Pressure - High Instrumentation," Revision 0;
- STP 3.3.6.1-13, "Reactor Water Cleanup High Differential Flow Channel Calibration," Revision 6;
- STP 3.5.1-05, "HPCI System Operability Test," Revision 15;
- STP 3.7.4-03, "Control Room Positive Pressure Test," Revision 5; and
- STP 3.3.8.1-06, "Essential Bus Degraded Voltage Relays Logic System Functional Test," Revision 0

The inspectors observed the performance of surveillance testing activities, including reviews for preconditioning, integration of testing activities, applicability of acceptance criteria, test equipment calibration and control, procedural use, control of temporary modifications or jumpers required for test performance, documentation of test data, TS applicability, impact of testing relative to performance indicator reporting, and evaluation of test data.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed temporary modification permit (TMP), "Energize K2 Relay Inside 1LUPSB so that Normal Lighting may be Restored to the Control Room." Also, TMP 01-061, "Bypass Voltage Monitoring Relay - The Relay is used to Ensure 250 VDC Circuit Breaker has not Tripped and is Available for MO1909 Power," was reviewed to ensure the relay was used to provide indication only and did not inhibit operation of an RHR shutdown cooling outboard isolation valve. The inspectors reviewed the safety screening, design documents, USAR, and applicable TS to determine that the temporary modification was consistent with modification documents, drawings and procedures. The inspectors also reviewed the post-installation test results to confirm that tests were satisfactory and the actual impact of the temporary modification on the permanent system and interfacing systems were adequately verified.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

A simulator-based emergency preparedness drill and training evolution was observed by the resident inspectors to evaluate drill conduct and the adequacy of the licensee's critique of performance results in identifying weaknesses and deficiencies. The implementation of the emergency operating procedures, event classification and reporting actions were also observed. The May 15, 2002, training drill included a seismic event; reactor core isolation cooling inlet steam valve failure; loss of reactor protection system power; inadvertent rapid insertion of a control rod ultimately leading to fuel failure; a break in reactor vessel piping; and site release of radioactive inventory based on the failure of secondary containment dampers. This simulator scenario resulted in an unusual event, alert, site area emergency, and general emergency classifications. The inspectors verified that the drill evolution was of an appropriate scope and that no discrepancies existed between observed performance results and reported performance indicator statistics.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety (OS)

2OS1 Access Control to Radiologically Significant Areas (71121.01)

.1 Plant Walkdowns, Radiological Boundary Verifications, and Radiation Work Permit Reviews

a. Inspection Scope

The inspector conducted walkdowns of the radiologically protected area to verify the adequacy of radiological area boundaries and postings. Specifically, the inspector walked down radiologically significant work area boundaries (i.e., radiation, high and locked high radiation areas) in the Reactor Building, Radwaste Building, Spent Fuel Pool area, and the Turbine Building. The inspector performed confirmatory radiation surveys in selected portions of these areas to verify that they were properly posted and controlled in accordance with 10 CFR Part 20, licensee procedures, and Technical Specifications. The inspector also examined the radiological conditions of work areas within radiation and high radiation areas to assess contamination controls. Additionally, the inspector reviewed radiation work permits (RWPs) for general tours and access to

high radiation /locked high radiation areas (HRA/LHRAs), to verify that work instructions and controls had been adequately specified and that electronic dosimeter set points were in conformity with survey indications.

b. Findings

No findings of significance were identified.

.2 Reviews of Licensee's Programmatic Controls for Highly Activated/Contaminated Materials

a. Inspection Scope

The inspector performed walkdowns of the spent fuel pool and cask pool to verify adequate physical controls of highly activated or contaminated materials. The inspector reviewed procedure ACP 1407.2, "Material Control in the Spent Fuel Pool and Cask Pool," to ensure the licensee was in compliance with procedural storage and control requirements. The inspectors also discussed with the Radiation Protection Manager the licensee's programmatic controls over the highly activated or contaminated materials.

b. Findings

No findings of significance were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The inspector reviewed licensee Action Requests (ARs), written since the last assessment (February 2001) to the date of the current assessment, which focused on access control to radiologically significant areas (i.e., problems concerning activities in HRAs, radiation protection technicians performance, and radiation worker practices). The inspector reviewed these documents to verify the licensee's ability to identify repetitive problems, contributing causes, the extent of conditions, and then implement other corrective actions in order to achieve lasting results.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety (PS)

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

.1 Offsite Dose Assessment Manual (ODAM), Dose Calculations, and Changes to The O DAM

a. Inspection Scope

The inspector reviewed a selection of monthly, quarterly, and annual dose calculations from the 2001 ODAM (Revision 16) to ensure that the licensee had properly calculated the offsite dose from radiological effluent releases and to determine if any annual Technical Specifications or ODAM limits (i.e., Appendix I to 10 CFR Part 50 values) were exceeded. Additionally, the inspector reviewed the ODAM for changes made by the licensee to the liquid or gaseous radioactive waste system design, procedures, or operation since the last inspection. For each ODAM revision that impacted effluent monitoring or release controls, the inspector reviewed the licensee's technical justifications for the changes and determined if the changes were made in accordance with the requirements of the Technical Specifications.

b. Findings

No findings of significance were identified.

.2 Radioactive Effluent Release Data

a. Inspection Scope

The inspector reviewed the calendar year (CY) 2000 Annual Radioactive Materials Release Report to verify that the radioactive effluent program was implemented as described in the Updated Final Safety Analysis Report (UFSAR) and ODAM and to ensure that any anomalies in the release data were adequately understood by the licensee.

b. Findings

No findings of significance were identified.

.3 Gaseous and Liquid Releases

a. Inspection Scope

There were no liquid releases or gaseous batch releases during the inspection period (i.e., only continuous releases of gaseous effluent). However, the inspector reviewed the staff assessments and analyses of the continuous gaseous release, including the projected doses to members of the public, to verify that appropriate treatment equipment was operational and that the radioactive gaseous effluents were processed and released in accordance with ODAM requirements.

b. Findings

No findings of significance were identified.

.4 Liquid and Gaseous Release Systems Walkdowns

a. Inspection Scope

Prior to commencing walkdowns, the inspector interviewed members of the licensee's chemistry staff responsible for implementing the liquid and gaseous radioactive waste effluent treatment and monitoring program and the system engineers responsible for maintaining the safety-related (and non-safety related) ventilation systems. The interviews were conducted to assess staff knowledge in their areas of responsibility and to obtain system performance information. The inspector performed walkdowns of the major components of the liquid effluent treatment and monitoring system (e.g., radiation and flow monitors, tanks, and pumps) to verify that the current system configuration was as described in the UFSAR and the ODAM. Specifically, the inspector reviewed the material condition of the point of discharge radiation monitors and the condition of equipment in the following areas:

- the liquid radwaste discharge transfer valve;
- turbine building waste sump pump discharge valve;
- surge volume holding tanks;
- chemical waste and detergent holding tank room;
- chemical waste filter collector tank room;
- waste collector tank room;
- condensate phase separator room; and
- clean-up phase separator room.

Additionally, the configurations of the liquid and gaseous radioactive waste collection and processing equipment and the filter housings for the control room emergency filtration/pressurization system and the plant's ventilation system were inspected to verify conformance with the licensee's UFSAR. The inspector also evaluated the material condition of the gaseous treatment and monitoring system to ensure that the equipment was as described in the UFSAR and ODAM. In particular, the following filtration and monitoring system components were inspected:

- SBT system ventilation, "A" and "B" trains;
- control room standby filter unit (SFU) system ventilation, "A" and "B" trains;
- technical support center SFU system ventilation;
- low-level Radwaste processing and storage facility (LLRPSF) ventilation exhaust stack, normal range digital radiation monitoring system (DRMS);
- turbine building ventilation exhaust with normal and accident range DRMS;
- reactor building ventilation exhausts #1, #2, and #3, with normal and accident range DRMS; and
- offgas stack with normal and accident range DRMS.

The inspector also observed ongoing activities, including observations of chemistry technicians performing weekly change-outs of the particulate filters and silver zeolite (i.e., iodine) cartridges on each of the plant's monitoring systems from the Turbine Building Kaman #2 (K2) effluent monitor, the Reactor Building Kaman (K4, K6, and K8) effluent monitors, and the Off-Gas stack Kaman (K10) effluent monitor to verify that the

samples had been collected in compliance with station procedures. Additionally, the inspector reviewed liquid effluent sampling procedures, analysis results from the most recent liquid effluent sample (i.e., shutdown service water), and conducted a tour of the plant areas where chemistry technicians would sample shutdown service water to verify plant personnel could properly collect samples and demonstrate adequate analytical practices to ensure that effluents were properly quantified.

b. Findings

No findings of significance were identified.

.5 Air Cleaning Systems

a. Inspection Scope

The inspector reviewed the most recent results of the in-place filter testing of high efficiency particulate air filters and charcoal absorbers for the control room ventilation system SFU, the SBT system, and technical support center SFU ventilation systems. The inspector also reviewed the results of the laboratory tests performed on charcoal absorbers sampled from the control room ventilation system SFU, the SBT system, and technical support center SFU ventilation system, as well as charcoal adsorber material in the warehouse stock system, to verify that the air cleaning systems were tested in compliance with Technical Specifications and that test results met acceptance criteria. The inspector also reviewed surveillance test results for the stack and vent flow rates to verify that the flow rates and periodicity of testing were consistent with the UFSAR.

b. Findings

No findings of significance were identified.

.6 Liquid and Gaseous Effluent Monitor Calibrations

a. Inspection Scope

The inspector reviewed records of instrument calibrations or maintenance performed since the last inspection for selected point of discharge effluent radiation monitors (including the associated flow rate instrumentation) to verify that these instruments had been calibrated consistent with industry standards and in accordance with station procedures. Specifically, the inspector reviewed the calibration records for:

- Main Steam Line radiation monitor (RM-4448A);
- Residual Heat Removal Service Water (RHRSW) radiation monitor (RM-1997);
- Reactor Building Exhaust Shaft radiation monitor (RIM-7606A);
- Off-Gas Vent Stack radiation monitor (RIM-4116A/B);
- KAMAN Reactor Building Vent Shaft 2 normal range (1C330B); and
- RHRSW/ESW Rupture Disk radiation monitor (RM-4268)

Additionally, the inspector reviewed recent modifications to effluent monitoring systems and the current effluent radiation monitor alarm set-point values for these monitors to assess compliance with ODAM requirements. The inspector also examined the licensee's data for CY 2000 - 2002 for trending and tracking the reliability and maintenance of selected point of discharge effluent radiation monitors. The inspector performed this review to assess the adequacy of the licensee's efforts to improve the overall effectiveness of the effluent and process radiation monitoring system.

b. Findings

No findings of significance were identified.

.7 Analytical Instrumentation Quality Control (QC)

a. Inspection Scope

The inspector reviewed the quality control data and charts for the radio-chemistry instrumentation systems used to identify and quantify effluent release and environmental samples, to verify the equipment was properly maintained consistent with station procedures and to ensure that effluent concentrations were accurately calculated. This included a review of the licensee's gamma spectroscopy/spectrometry systems, liquid scintillation instruments, and associated instrument control charts.

b. Findings

No findings of significance were identified.

.8 Interlaboratory Comparison Program

a. Inspection Scope

The inspector reviewed the results of the CY 2000 and First Quarter 2001 Inter-Laboratory Comparison Program in order to assess the quality of radioactive effluent sample analyses performed by the licensee. The inspector reviewed the licensee's quality control evaluation of the Inter-Laboratory Comparison Program and associated corrective actions for any deficiencies identified.

b. Findings

No findings of significance were identified.

.9 Identification and Resolution of Problems

a. Inspection Scope

The inspector reviewed selected CY 2000 to 2002 licensee quality assurance audits, chemistry/radiation protection departments self-assessments, and an independent nuclear industry audit which were used to evaluate, identify, characterize and prioritize

problems with the radioactive waste effluent treatment and monitoring program. The reviews were conducted to verify that radiological effluent issues were adequately addressed.

The inspector also reviewed ARs that related to the liquid and gaseous radioactive waste effluent program, which were written during the last assessment period. The inspector reviewed these documents to assess the licensee's ability to enter identified problems into their corrective action program, note repetitive problems, identify contributing causes, and assess the extent of conditions. The inspector also reviewed these documents to verify that deficiencies were appropriately resolved in a timely manner and that the licensee's corrective action program would achieve long-lasting results.

b. Findings

No findings of significance were identified.

3. SAFEGUARDS

Cornerstone: Physical Protection

3PP1 Access Authorization (AA) Program (Behavior Observation Only) (71130.01)

a. Inspection Scope

The inspector interviewed five supervisors and five non-supervisors (both licensee and contractor employees) to determine their knowledge level and practice for implementing the licensee's behavior observation program responsibilities. Selected procedures pertaining to the Behavior Observation Program and associated training activities were reviewed. Also, licensee fitness-for-duty semi-annual test results were reviewed. In addition, the inspector reviewed a sample of licensee self-assessments and security logged events. The inspector also interviewed security managers to evaluate their knowledge and use of the licensee's corrective action program.

b. Findings

No findings of significance were identified.

3PP2 Access Control (Identification, Authorization and Search of Personnel, Packages, and Vehicles) (71130.02)

a. Inspection Scope

The inspector reviewed the licensee's protected area access control equipment testing and maintenance procedures. The inspector observed licensee testing of all access control equipment to determine if testing and maintenance practices were performance based. On two occasions, during peak ingress periods, the inspector observed in-

processing search of personnel and packages to determine if search practices were conducted in accordance with regulatory requirements. Interviews were conducted and records were reviewed to verify that security staffing levels were consistently and appropriately implemented. Also, the inspector reviewed the licensee's process for limiting access to the protected area and vital equipment to only authorized personnel. The inspector reviewed the licensee's program to control security keys and security related computer data.

The inspector reviewed a sample of licensee self-assessments, maintenance request records, and security logged events for identification and resolution of problems. In addition, the inspector interviewed security managers to evaluate their knowledge and use of the licensee's corrective action system.

b. Findings

No findings of significance were identified.

3PP4 Security Plan Changes (71130.04)

a. Inspection Scope

The inspector reviewed Revision 44 (dated August 1, 2001) to the Duane Arnold Energy Center Physical Security Plan. The review was conducted to verify that the changes did not decrease the effectiveness of the security plan. The referenced revision was submitted in accordance with 10 CFR 50.54(p).

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

Cornerstone: Public Radiation Safety, Initiating Events, Mitigating Systems, and Physical Protection

.1 Radiological Effluent Technical Specification (RETS)/Offsite Dose Calculation Manual (ODCM) Radiological Effluent Occurrence Performance Indicator

a. Inspection Scope

The inspector reviewed the licensee's ARs for CYs 2000-2002 and offsite dose calculations (January 2001 through December 2001) to identify any occurrences that were not identified by the licensee and verify that the licensee had accurately reported the performance indicator for the public radiation safety cornerstone. The inspector discussed the RETS/ODCM performance indicator data collection and analysis process

with the data steward for this indicator, to verify that the program was implemented consistent with industry guidelines provided in Nuclear Energy Institute (NEI) 99-02 and licensee procedures.

b. Findings

No findings of significance were identified.

.2 Scrams with Loss of Normal Heat Removal

a. Inspection Scope

The inspectors verified the accuracy and completeness of the “Scrams with Loss of Normal Heat Removal” performance indicator data submitted by the licensee for the fourth quarter of 2001 (October through December of 2001). The inspectors reviewed data reported to the NRC since the last verification. The review was accomplished, in part, through evaluation of the TS requirements, plant records, procedural reviews, and reactor coolant sample data.

b. Findings

No findings of significance were identified.

.3 Safety System Unavailability

a. Inspection Scope

The inspectors verified the accuracy and completeness of the “Safety System Unavailability - Standby Diesel Generators” performance indicator data submitted by the licensee for the fourth quarter of 2001 (October through December of 2001). The inspectors reviewed data reported to the NRC since the last verification. The review was accomplished, in part, through evaluation of the TS requirements, plant records, procedural reviews, and reactor coolant sample data.

b. Findings

No findings of significance were identified.

.4 Physical Protection Performance Indicators

a. Inspection Scope

The inspector verified the data for the Physical Protection Performance Indicators (PI) pertaining to Fitness-For-Duty Personnel Reliability, Personnel Screening Program, and Protected Area Security Equipment. Specifically, a sample of plant reports related to security events, security shift activity logs, fitness-for-duty reports, and other applicable security records were reviewed for the period between April 1, 2001, and March 31, 2002.

b. Findings

No findings of significance were identified.

4OA2 Problem Identification and Resolution

Action Request 30860: "D" Residual Heat Removal Service Water (RHRSW) Pump Failed to Trip from the Control Room

a. Inspection Scope

The inspectors reviewed circumstances involving the "D" RHRSW pump failing to trip from the control room. The pump was in operation during the performance of routine surveillance STP NS540002, "Emergency Service Water Operability Test." The inspectors reviewed the licensee's corrective actions associated with the following attributes: complete and accurate identification of the problem in a timely manner commensurate with its significance and ease of discovery; evaluations and disposition of performance issues associated with maintenance effectiveness; evaluation and disposition of operability/reportability issues; consideration of extent of condition, generic implications, common cause, and previous occurrences; classification and prioritization of the resolution of the problem commensurate with its safety significance; identification of root and contributing causes of the problem; identification of corrective actions which are appropriately focused to correct the problem; and completion of corrective actions in a timely manner commensurate with the safety significance of the issue.

b. Findings

The licensee determined that the breaker position switch was not fully engaged therefore, the electrical circuit was incomplete. The device is located at the rear of the breaker cubicle and is mechanically operated by the breaker racking mechanism. The breaker racking mechanism toggles the position switch into normal plant control scheme when the breaker is elevated to the racked-in position. During this occurrence the breaker position switch was not fully toggled resulting in a disconnect from normal plant control circuitry.

Corrective actions include removal of the breaker position switch and modifications to breaker control circuitry. The licensee plans to complete the corrective actions during the upcoming refueling outages when the electrical busses will be taken out of service for maintenance. The licensee's review determined that the modification applies to all 4160 volt breakers in service at the plant.

No findings were identified.

4OA6 Meeting

Exit Meeting

The inspectors presented the inspection results to Mr. R. Anderson and other members of licensee management on June 27, 2002. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

An interim exit related to the public radiation safety, and radioactive gaseous and liquid effluent treatment and monitoring systems inspection was conducted on April 5, 2002 with Mr. R. Anderson. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

The results of the Safeguards inspection were presented to Mr. G. Van Middlesworth and other members of the licensee management at the conclusion of the inspection on April 19, 2002. The licensee acknowledged the findings presented. The inspector asked the licensee whether any materials examined during the inspection should be considered safeguards or proprietary information. No safeguards or proprietary information was identified.

KEY POINTS OF CONTACT

Licensee

R. Anderson, Plant Manager
B. Bernier, System Engineer Supervisor
J. Bjorseth, Manager, Engineering
D. Brigl, Long Term Program Engineer
R. Brown, Nuclear Oversight Manager
E. Christopher, Program Engineer
D. Curtland, Site Support Manager
K. Dunlap, Emergency Preparedness Planner
J. Ertman, Team Leader-Engineer
T. Evans, Operations Manager
S. Funk, Radiological Effluents Coordinator
L. Gibney, Emergency Preparedness Planner
H. Giorgio, Manager, Radiation Protection
A. Johnson, Operations Training Supervisor
R. Johnson, Emergency Preparedness Scenario Developer
D. Johnson, Emergency Preparedness Specialist
J. Karrick, Licensing
B. Kindred, Security Manager
L. Kriege, Chemistry Supervisor
J. Lohman, Communications Manager
S. McVay, System Engineer
S. Nelson, Health Physics Supervisor
J. Newman, Radiological Engineering Supervisor
K. Putnam, Licensing Manager
A. Roderick, Principal Mechanical Engineer
B. Roland, Security Operations Supervisor
W. Simmons, Maintenance Superintendent
P. Sullivan, Emergency Planning Manager
R. Titus, Emergency Preparedness Planner
G. Van Middlesworth, Site Vice-President Nuclear
C. Vogeler, Emergency Preparedness Specialist
G. Whittier, RHR System Engineer
K. Williams, Senior Emergency Planning Specialist

NRC

P. Prescott, Senior Resident Inspector
B. Burgess, Chief, Branch 2, DRP

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LIST OF ACRONYMS USED

ADAMS	NRC's Document System
AFP	Area Fire Plan
ALARA	As Low As Reasonably Achievable
AR	Action Request
CFR	Code of Federal Regulations
CRD	Control Rod Drive
CWO	Corrective Work Order
CY	Calender Year
DAEC	Duane Arnold Energy Center
DRMS	Digital Radiation Monitoring System
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
EMA	Engineered Maintenance Action
EP	Emergency Preparedness
HPCI	High Pressure Coolant Injection
HRA	High Radiation Area
K2	Kaman #2
LHRA	Locked High Radiation Area
LLRPSF	Low Level Radwaste Processing and Storage Facility
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
ODAM	Off-site Dose Assessment Manual
ODCM	Off-site Dose Calculation Manual
OI	Operating Instruction
OS	Occupational Radiation Safety
OWA	Operator Workaround
P&IDs	Piping and Instrumentation Drawings
PARS	Public Availability Records
PI	Performance Indicator
PS	Public Radiation Safety
PWO	Preventive Work Order
RCIC	Reactor Core Isolation Cooling
RETS	Radioactive Effluents Technical Specification
RHRSW	Residual Heat Removal Service Water
RHRSW/ESW	Residual Heat Removal Service Water/Essential Service Water
ROP	Reactor Oversight Process
RP	Radiation Protection
RWP	Radiation Work Permit
SBGT	Stand-by Gas Treatment
SDP	Significance Determination Process
SFU	Stand-by Filter Unit
STP	Surveillance Test Procedure
TMP	Temporary Modification Permit
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report

LIST OF DOCUMENTS REVIEWED

The following documents were selected and reviewed by the inspectors to accomplish the objectives and scope of the inspection and to support any findings.

1R01 Adverse Weather

IPOI 6, Attachment 2	Plant Return to Normal Operation Checklist	Revision 21
	Individual Plant Examination of External Events (IPEEE)	November 1995

1R04 Equipment Alignment

P&ID	DAEC Substation	Revision 4
P&ID	DAEC Switchyard Schematic	Revision 3
Operating Instruction (OI) 151	Core Spray System	Revision 35
P&ID M119	Residual Heat Removal System	Revision 73
P&ID M120	Residual Heat Removal System	Revision 57
OI 149	Residual Heat Removal System	Revision 74

1R05 Fire Protection

Area Fire Plan (AFP) 4	Reactor Building North Control Rod Drive (CRD) Module Area, CRD Repair and CRD Cable Rooms	Revision 23
AFP 5	Reactor Building South CRD Module Area and Offgas Recombiner Rooms and Railroad Airlock	Revision 22
AFP 6	Reactor Building Residual Heat Removal Valve Room	Revision 22
AFP 7	Reactor Building Laydown Area, Corridor and Waste Tank Area, and Spent Resin Tank Room	Revision 22
AFP 8	Reactor Building Standby Gas Treatment System and Motor-Generator Set Rooms	Revision 22
AFP 9	Reactor Building Reactor Building Closed Loop Cooling Water Heat Exchanger Area, Equipment Hatch Area and Jungle Room	Revision 23
Fire Plan	Volume II - Fire Brigade Organization	Revision 32

1R11 Licensed Operator Requalification Program

2002 "Red" Training Full Scale I Drill Revision 0

1R13 Maintenance Risk Assessments and Emergent Work Control

Online Look-Ahead Agenda (Week 14) March 28, 2002
Level "A" and Other Significant Activities
Summary - Week 9214 February 12, 2002
Online Look-Ahead Agenda (Week 18) April 18, 2002
Level "A" and Other Significant Activities
Summary - Week 9218 March 19, 2002
Online Look-Ahead Agenda (Week 21) May 16, 2002
Level "A" and Other Significant Activities
Summary - Week 9221 April 9, 2002

1R15 Operability Evaluations

AR 30562 One (CV 4327F) of Seven Drywell to Torus Vacuum Breakers Exhibited Position Indication Problems During Performance of the Monthly Surveillance April 11, 2002
AR 30690 Low Sump Lube Oil for Emergency Diesel Generator 1G021 During Monthly Surveillance Run April 22, 2002
AR 30785 Can the RHR Pump Seals (i.e., 1P229A,B,C&D) Operate Under Accident Conditions Without Seal Cooling April 29, 2002
Atomic Energy of Canada Limited Letter Residual Heat Removal (RHR) and Core Spray (CS) Pump Seals April 30, 2002
Evaluation of RHR/CS Pump Room Temperature Following a DBA LOCA Without Loss-of-Offsite Power May 16, 2002

1R16 Operator Workarounds

AR 23397 EMAs A46577 & 78: AN4162A/B (Offgas Hydrogen Analyzers) Replacement December 11, 2000
CWO A46577 Replace Offgas Hydrogen Analyzer December 10, 2001
CWO A46578 Replace Offgas Hydrogen Analyzer April 8, 2002

AR 30779	Provide Suppression to Eliminate Spurious Alarms Caused by Cycling MO2404	April 29, 2002
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1R19 Post-Maintenance Testing

PWO 1118938	Overhaul Limitorque Operator for 'B' Core Spray Outboard Isolation Injection Valve MO-2135-O	April 2, 2002
CWO A53631	Current Transformers are Leaking SF6 Gas. Overhaul Current Transformers	April 15, 2002
CWO A53320	The Aftercooler on 1K004 is Bulged and has had a Braze Repair to the Shell. Replace Aftercooler with a New One.	June 6, 2002
EMA A45562	During Replacement of 1F608B and the Installation of 3/4" inch OD Stainless Steel Tubing Evaluated Under Generic EMA A45562 in 1K4, an Undocumented Check Valve was Found on the Inlet Air Piping to the Aftercooler	Revision 1
Memo	Performance of the Revision to WO A53320 for 1K4 did not Proceed as Expected	June 6, 2002
EMA A53319	EMA will Replace the Aftercoolers Located on the CB/SBGTS Instrument Air Compressor Skids	February 4, 2002
CWO A57385	Refurbish Spare Breaker and Install Breaker into 1A401	June 4, 2002
CKTBKR-G080-07	Breaker Overhaul	Revision 6

1R22 Surveillance Testing

NS 720202	Offgas Hydrogen Monitor Channel Calibration	Revision 9
STP 3.3.5.1-09	Functional Test of Drywell Pressure - High Instrumentation	Revision 0
STP 3.3.6.1-13	Reactor Water Cleanup High Differential Flow Channel Calibration	Revision 6
STP 3.5.1-05	HPCI System Operability Test	Revision 15
STP 3.7.4-03	Control Room Positive Pressure Test	Revision 5
AR 31169	STP 3.7.4-03 (Control Building Positive Pressure Test) Issues	June 1, 2002
	DAEC Technical Specifications	
STP 3.3.8.1-06	Essential Bus Degraded Voltage Relays Logic System Functional Test	Revision 0

1R23 Temporary Plant Modifications

TMP 02-015	Energize K2 Relay Inside 1LUPSB so that Normal Lighting may be Restored to the Control Room	March 25, 2002
CWO A57890	Positive Battery Position Cell A-3 & B-3 are Shearing on Cell B-3. There Appears to be a Crack on the Top Connection Plate Inside the Cell	April 9, 2002
UFSAR 9.5.3.2.2	Appendix R Control Room Lighting	
TMP 01-061	Bypass Voltage Monitoring Relay. Relay is used to Ensure 250 VDC Circuit Breaker has not Tripped and is Available for MO1909 Power	May 22, 2002

2OS1 Access Control to Radiologically Significant Areas

Action Request Items

AR 29962	Failure to Attend Pre-job Briefing for HRA Work, Prior to RCIC Run	February 21, 2002
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Procedures

HPP 3110.27	Calibration Sheet for ED #176820, Failed Test Results	April 3, 2002
ACP 1407.2	Material Control in the Spent Fuel Pool and Cask Pool	Revision 9

Miscellaneous Data

NG-130K	Spent Fuel/Cask Pool Material Storage Log Routine NRC Tours and Surveillance	Revision 1 Revision 12
RWP 32	DAEC Week 9213/9214, On-line Schedule Defective Dosimetry Report, ED #176820 "Daily Focus," DAEC Plant Status Report Spent Fuel Pool and Cask Pool Storage Location Drawing	March 29, 2002 April 3, 2002 April 4, 2002

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

Action Request items

AR 16125	Inconsistent Alarm Set-points Between Ops Procedures, EALs, and ODAM	March 17, 2000
AR 26438	Marginal Particulate and Iodine Sampling at Reactor Building Vent Stacks	July 13, 2001

AR 27728	KAMAN 4 Computer Locked-up	September 24, 2001
AR 29099	Determine Criteria Necessary to Meet Time Requirements for Compensatory Sampling	December 6, 2001
AR 29439	Alarm Malfunction on KAMAN 12	January 28, 2002
AR 29482	Failed RHRSW Radiation Monitor Calibration	January 1, 2002
AR 30488	“Under-identifying” of Cs-134 in DAEC HPGe Isotopic Analysis System	April 4, 2002

Procedures

ODAM	Offsite Dose Assessment Manual	November 30, 2001
PCP 1.2	DAEC Chemistry Quality Assurance Program	Revision 17
PCP 2.6	Offgas Pretreatment and Post-treatment Sampling	Revision 10
PCP 2.7	Gram sampling of Offgas stack, Reactor, Turbine, and LLRPSF Vent Stacks	Revision 11
PCP 2.8	Collection and Analysis of Particulate and Iodine Filters from the Gaseous Effluent Monitors	Revision 11
PCP 8.2	KAMAN Effluent Monitoring System Operating Procedures	Revision 12
PCP 8.3	Alarm Set-points and Background Determination for KAMAN Normal Range Monitors	Revision 15
PCP 8.4	Alarm Set-points and Efficiency for GE Offgas Stack Radiation Monitor	Revision 6
PCP 8.5	Alarm Set-points and Efficiency for OG Post-treatment	Revision 7
PCP 8.6	Alarm Set-points and Efficiency for OG Pre-treatment	Revision 13
PCP 8.7	Alarm Set-points and Efficiency for Liquid Radiation Monitors	Revision 11
STP-NS 290201	TSC Standby Filter Unit HEPA and Charcoal Testing, W/ Test Results (12-11-01)	Revision 2

STP-NS 790201	Offgas Post-treatment Radiation Monitor Calibration, W/ Test Results (12-3-01)	Revision 4
STP-NS 790202	Pretreatment Offgas Sample Radiation Monitor Calibration, W/ Test Results (12-4-01)	Revision 2
STP-NS 790301	GSW Radiation Monitor Calibration	Revision 4
STP-NS 790303	RHRSW/ESW Rupture Disc Radiation Monitor Calibration, W/ Test Results (10-23-2000)	Revision 4
STP- NS 790305	RHRSW Radiation Monitor Calibration, W/Test Results (1-9-02)	Revision 2
STP- NS 790601	Effluent P & I Sampling and Analysis	Revision 4
STP- NS 790702	Continuous Service Water Release Sampling & Analysis, W/ Test Results (4-1-02)	Revision 5
STP- NS 791009	K6 Calibration, W/ Test Results (10-18-00)	Revision 3
STP-NS 791011	K8 Calibration, W/ Test Results (9-17-01)	Revision 4
STP- NS 791013	K 10 Calibration, W/ Test Results (9-6-01)	Revision 3
STP- NS 791013	K 10 Calibration	Revision 5
STP-NS 791016	KAMAN Monitor Inoperable, with Compensatory Sampling Data (7-11-01 and 9-9-01)	Revision 0
STP- 3.3.6.1-23	Reactor Building Exhaust Shaft Radiation Monitor Channel Calibration, W/ Test Results (1-3-02)	Revision 3
STP- 3.3.6.1-26	Offgas Vent Stack Radiation Monitor Channel Calibration, W/ Quarterly Test Results (Second Quarter, 2001 to First Quarter, 2002)	Revision 3
STP- 3.3.6.1-36	Main Steam Line Radiation Monitor Channel Calibration, W/ Test Results (2-7-02)	Revision 4
STP- 3.3.6.1-38	Radiation Monitor Sensor Checks, W/ Test Results (3-30-02)	Revision 7
STP- 3.6.4.3-03	Standby Gas Treatment System HEPA & CHARCOAL FILTER EFFICIENCY TESTS, W/ TEST RESULTS FOR "A" and "B" Units (12-10-01 and 12-13-01)	Revision 7

STP- 3.6.4.3-03	Standby Gas Treatment System HEPA & Charcoal Filter Efficiency Tests, W/Test Results for Warehouse Charcoal Supply (12-10-01)	Revision 7
STP 3.7.4-02	Main Control Room Ventilation Standby Filter Unit Test, W/ Test Results (12-11-01)	Revision 4
STP- 3.7.6-01	Pretreatment Offgas Sample-Noble Gases Activity Determination	Revision 0

Self -Assessments

RP6i	Effluents Controls Program: Spring 02' Focused Self-assessment	March 28, 2002
	Nuclear Oversight Audit, Offsite Dose Assessment Manual (ODAM) Technical Requirements and Implementing Procedures	Second quarter, CY 2000
	Nuclear Oversight Audit, Offsite Dose Assessment Manual (ODAM) Assessment	May-June, 2000

Miscellaneous Data

Calibration Response Charts, Offgas Stack Vent, "A"and "B" Monitor	January, 1993 to April, 2002
Control Charts for Chemistry Lab Detectors #1, 2, and 3	December, 2001 to April, 2002
DAEC 2000, Annual Radioactive Materials Release Report	
Daily Chemistry Lab Detector Background Readouts	April 2, 2002
Listing of ODAM Monitor, P.A.M. Monitors, Tech. Spec. Monitors, and Charcoal Filtering Units	
Memorandum on Calibration Frequency, "Counting Instrument Calibration"	January 2, 2000
Nuclear Insurers Inspection Report	December, 2000
Particulate and Iodine Log Sheets for K2,K4,K6,K8, K10, K12, and 1C-132	Second Quarter, 2002
Printouts of Process Flow Trend Displays, Gaseous and Liquid Effluent Readouts	April 2, 2002

	Radio-chemistry Cross Check Program Results, Analytics	1st, 2nd, 3rd, and 4th quarters, CYs 2000 and 2001
<u>3PP Plant Protection</u>		
ACP 101.6	Fitness-For-Duty	Revision 7
ACP 101.7	Continued Behavioral Observation Program	Revision 2
ACP 101.8	Access Authorization Program	Revision 0
ACP 1402.4	NRC Performance Indicator Collection and Reporting	Revision 3
ACP 1413.4	Access Authorization and Site Visitor Requirements	Revision 15
Action Report No. 2657	Continued Behavior Observation Program	July 16, 2002
	Card History Printouts for Eight Randomly Selected Personnel	Between September 2001 through March 2002
	DAEC Security Daily Shift Log and Surveillance Logs	September 2001 through February 2002
	Master Listing of Security Related Action Requests	May 25, 2001 to March 1, 2002
	Monthly Security Status Reports	September 2001 through February 2002
	Performance Indicator Calculation, Review, and Approval	Second Quarter 2001 through First Quarter 2002
SD-4	Explosive Detectors	Revision 13
SD-5	Metal Detector	Revision 10
SD-7	X-Ray Inspection System	Revision 10
SD-9	Keycard/Security Access Badge Issuance	Revision 13
SD-15	Security Preventive Maintenance	Revision 21

	Security Event Reports	April 1, 2001 through March 30, 2002
	Semi Annual FFD Reports	January 1,2001 to December 31,2001
SP-4	Control of Personnel and Visitors	Revision 39
SP-5	Vehicle Access and Control	Revision 24
SP-9	Locks, Keys, and Cards	Revision 21
	Testing and Maintenance Requirements for Security Equipment	September 2001 through March 2002
	Vital and Protected Area Key and Core Inventory	June 28, 2000 and June 27, 2001

40A1 Performance Indicator Verification

Action Request Items

AR 20761	Inadequate Procedure for KAMAN Calibration	July 5, 2000
AR 26783	Filter Media Re-installed Improperly for KAMAN 2	September 13, 2001
AR 29683	Detector Failure on KAMAN 9, Off-gas Stack Accident Range	January 28, 2002
AR 23280	Effluent Monitoring System History Process Stopped Unexpectedly	November 30, 2000

Procedures

ACP 1402.4	NRC Performance Indicator Collection and Reporting. Attachment 1, PI Data Calculation, Review and Approval. First, Second, Third and Fourth Quarters, 2001 Data.	Revision 0
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Miscellaneous

Memo	DAEC 4 th Quarter 2001 NRC PI Summary	January 25, 2002
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