October 27, 2005

Mr. George Vanderheyden
Vice President - Calvert Cliffs Nuclear Power Plant
Constellation Generation Group, LLC
1650 Calvert Cliffs Parkway
Lusby, Maryland 20657-4702

SUBJECT: CALVERT CLIFFS NUCLEAR POWER PLANT - NRC INTEGRATED INSPECTION REPORT 05000317/2005004 AND 05000318/2005004

Dear Mr. Vanderheyden:

On September 30, 2005, the US Nuclear Regulatory Commission (NRC) completed an inspection at your Calvert Cliffs Nuclear Power Plant Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on October 12, 2005, with Mr. Joe Pollock 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 inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents one NRC-identified finding of very low safety significance (Green), which was determined to involve a violation of NRC requirements. However, because of the very low safety significance and because this issue was entered into your corrective action program, the NRC is treating this finding as a non-cited violation (NCV) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest this non-cited violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Calvert Cliffs Nuclear Power Plant.

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 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 Website at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

**/RA/**

James M. Trapp, Chief
Projects Branch 1
Division of Reactor Projects

Docket Nos. 50-317, 50-318
License Nos. DPR-53, DPR-69

Enclosure: Inspection Report 05000317/2005004 and 05000318/2005004
w/Attachment: Supplemental Information

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REGION I

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|---|---|
| Docket Nos. | 50-317, 50-318 |
| License Nos. | DPR-53, DPR-69 |
| Report Nos. | 05000317/2005004 and 05000318/2005004 |
| Licensee: | Constellation Generation Group, LLC |
| Facility: | Calvert Cliffs Nuclear Power Plant, Units 1 and 2 |
| Location: | Lusby, MD |
| Dates: | July 1, 2005 through September 30, 2005 |
| Inspectors: | Mark A. Giles, Senior Resident Inspector<br>Joseph M. O'Hara II, Resident Inspector<br>Joseph M. D'Antonio, Operations Examiner<br>Kevin A. Mangan, Reactor Inspector<br>Jack McFadden, Health Physicist<br>Brian Fuller, Resident Inspector<br>Brice Bickett, Reactor Inspector<br>Jennifer Bobiak, Reactor Inspector<br>Mark Marshfield, Resident Inspector<br>Ryan Treadway, Resident-In-Training |
| Approved by: | James M. Trapp, Chief<br>Projects Branch 1<br>Division of Reactor Projects |

TABLE OF CONTENTS

SUMMARY OF FINDINGS . . . . . iii

REPORT DETAILS . . . . . 1

REACTOR SAFETY . . . . . 1
1R01 Adverse Weather Protection . . . . . 1
1R04 Equipment Alignment . . . . . 2
1R05 Fire Protection . . . . . 3
1R06 Flood Protection Measures . . . . . 4
1R11 Licensed Operator Requalification Program . . . . . 4
1R12 Maintenance Effectiveness . . . . . 5
1R13 Maintenance Risk Assessments and Emergent Work Control . . . . . 6
1R15 Operability Evaluations . . . . . 6
1R16 Operator Workarounds . . . . . 7
1R17 Permanent Plant Modifications . . . . . 7
1R19 Post-Maintenance Testing . . . . . 8
1R22 Surveillance Testing . . . . . 8
1R23 Temporary Plant Modifications . . . . . 9
1EP6 Drill Evaluation . . . . . 9

RADIATION SAFETY . . . . . 10
2PS1 Radioactive Gaseous And Liquid Effluent Treatment and Monitoring Systems 10

OTHER ACTIVITIES . . . . . 11
4OA2 Identification and Resolution of Problems . . . . . 11
4OA5 Other Activities . . . . . 14
4OA6 Meetings, Including Exit . . . . . 15

ATTACHMENT: SUPPLEMENTAL INFORMATION
KEY POINTS OF CONTACT . . . . . A-1
LIST OF ITEMS OPENED, CLOSED AND DISCUSSED . . . . . A-1
LIST OF DOCUMENTS REVIEWED . . . . . A-2
LIST OF ACRONYMS . . . . . A-10

## SUMMARY OF FINDINGS

IR 05000317/2005004, 05000318/2005004; 07/01/2005 - 09/30/2005; Calvert Cliffs Nuclear Plant, Units 1 and 2; Problem Identification & Resolution.

The report covered a three-month period of inspection by resident inspectors and announced inspections performed by an operations examiner, reactor inspectors, resident inspectors, and a health physicist. One Green non-cited violation (NCV) was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (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.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green. The inspectors identified an NCV of Technical Specification 5.4.1.a. "..., written procedures shall be established, implemented,.." for the failure to provide an adequate procedure for the operation of the electrical system. Specifically, Operating Procedure OI-27-B, 13.8kV System, provides steps for placing voltage regulators under manual control which makes the associated offsite source to the affected 4 kV busses inoperable. The procedure did not state this, and as a result, when the voltage regulators were placed in manual the associated offsite source was not declared inoperable when it should have been.

  This finding is greater than minor because it is associated with the cornerstone attribute Procedure Quality and affects the objective of the Mitigating Systems Cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding was determined to be a finding of very low safety significance because the finding did not represent an actual loss of a safety function and was not potentially risk significant due to an external initiating event. (Section 4OA2)

B. Licensee-Identified Violations

None

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period at 100 percent reactor power and remained unchanged with the exception of planned waterbox cleaning activities and also for turbine valve testing. For these events, reactor power was reduced to between 89 and 97 percent for a brief period of time. Following successful completion of these activities, reactor power was returned to 100 percent in a timely manner and remained there for the rest of the inspection period.

Unit 2 began the inspection period at 100 percent reactor power and remained unchanged with the exception of planned waterbox cleaning activities, turbine valve testing, and the inadvertent tripping of the 24 circulating water pump. For the first two events, reactor power was reduced to between 90 and 97 percent for a brief period of time. Reactor power was reduced to 98 percent following the inadvertent tripping of the 24 circulating water pump. Following these events, reactor power was restored to 100 percent and remained there for the remainder of the inspection period.

## 1. REACTOR SAFETY

### Cornerstone: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection (71111.01 - Adverse Weather Preparations - 2 samples)

a. Inspection Scope

The inspectors reviewed the adverse weather preparations and mitigating strategies for potential hot weather events and hurricane events. This review included an assessment of station procedures Emergency Response Plan Implementation Procedure (ERPIP) 3.0, “Immediate Actions,” Attachment 20, “Severe Weather,” ERPIP 3.0, “Immediate Actions,” Attachment 21, “Personnel Recall for Severe Weather,” and Operations Administrative Policy OAP 00-01, “Severe Weather Operations.” Three risk significant systems were selected for this inspection, the 1A emergency diesel generator, and the Unit 1 and Unit 2 service water systems. The inspectors conducted discussions with control room operators and system engineers to understand protective features applicable to these systems, and performed partial field walkdowns of these systems to verify hot weather and hurricane protection mitigating strategies and measures were functioning properly prior to anticipated adverse weather events.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

1. Partial Walkdown (71111.04Q - 4 samples)

a. Inspection Scope

The inspectors verified that selected equipment trains of safety-related and risk significant systems were properly aligned. The inspectors reviewed plant documents to determine the correct system and power alignments, as well as the required positions of critical valves and breakers. The inspectors verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or potentially impact the availability of associated mitigating systems. The applicable documents used for this inspection are located in the Attachment. The inspectors performed a partial walkdown of the following four systems:

- 12 component cooling water heat exchanger during 11 component cooling water heat exchanger cleaning
- Unit 1 13000-2 13kV transformer and bus maintenance
- 21 CC HX SW outlet valve replacement
- 21 saltwater pump replacement activity

b. Findings

No findings of significance were identified

2. Complete Walkdown (71111.04S - 1 sample)

a. Inspection Scope

The inspectors conducted one complete walkdown of the accessible portions of the Unit 1 low pressure coolant injection system (LPCI). Components in the 27' W penetration locked high radiation area were observed by video camera. The inspector determined the correct system lineup using OI-3A, Attachment 1, “Safety Injection System Valve Alignment” and Attachment 2, “Safety Injection System Instrument Valve Alignment,” as well as the appropriate piping and instrument drawings. Additionally, the inspectors reviewed outstanding design issues, temporary modifications, maintenance rule status, operator workarounds, and outstanding maintenance deficiencies that could affect the ability of the system to perform its functions. During the walkdown inspection, the inspectors verified the following: valves were correctly positioned and did not exhibit conditions which would impact their function; electrical power was available as required; labeling was correct; support systems were operational; valves required to be locked were properly locked; and there were no objects located such that they would interfere with system operation. The inspectors also reviewed the most recently completed surveillances related to this system and spot checked a selection of components for inclusion in the in-service testing program.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05Q - 12 samples)

1. Fire Protection - Tours

a. Inspection Scope

The inspectors conducted a tour of accessible portions of the twelve areas listed below to assess the licensee's control of transient combustible material and ignition sources, fire detection and suppression capabilities, fire barriers, and related compensatory measures when required. The inspectors assessed the material condition of fire protection suppression and detection equipment to determine whether any conditions or deficiencies existed which could impair the availability of that equipment. The inspectors also reviewed administrative procedure SA-1-100, "Fire Prevention," during the conduct of this inspection.

- Unit 1 service water pump room
- Unit 1 45 foot elevation 4160 volt vital switchgear room
- Unit 2 45 foot elevation 4160 volt vital switchgear room
- Unit 1 cable spreading room
- Unit 2 cable spreading room
- 11 125 vdc battery room
- 12 125 vdc battery room
- 21 125 vdc battery room
- 22 125 vdc battery room
- 1B emergency diesel generator room
- 2A emergency diesel generator room
- 1A emergency diesel generator room

b. Findings

No findings of significance were identified.

2. Fire Protection - Drill Observation (71111.05A - 1 sample)

l. Inspection Scope

The inspectors observed one fire brigade drill which was conducted on September 7, 2005, involving a simulated fire in a paint storage cage located on the 12' elevation of the Unit 2 Turbine Building. The inspectors observed the brigade members donning protective equipment, transitioning to the scene of the simulated fire, and fighting the simulated fire. The inspectors also observed the fire brigade leader performing an assessment of the fire, evaluating the need for off-site assistance, communicating with team members and the control room supervisor, and directing the actions of the brigade

to extinguish the fire. Following the drill, the inspectors attended the post drill debriefing conducted between the assessment team and the fire brigade members. Constellation procedure SA-1-101, Fire Fighting, and the Fire Fighting Strategies Manual were referenced for this inspection activity.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06 - 1 External Sample)

External Flooding

a. Inspection Scope

The inspectors reviewed flood protection measures associated with potential external flood events specific to roof leaks that could potentially affect safety-related systems and components. The inspectors walked down several areas where roof leaks had been identified by the licensee and entered into their corrective action program and also performed additional walkdowns of other compartment spaces to evaluate the comprehensiveness of the licensee's identification efforts and the adequacy of the licensee's implemented compensatory measures for identified leaks. External flood events were described in the UFSAR and the individual plant examination of external events (IPEEE). Flooding is also addressed by the Emergency Response Plan Implementation Procedures (ERPIP) 3.0, Attachment 20.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11 - 2 samples)

Resident Inspector Quarterly Review

a. Inspection Scope

The inspectors observed a licensed operator simulator training scenario conducted on August 10, 2005, and August 11, 2005, in order to assess operator performance and the adequacy of operator requalification training. This training scenario involved the crew's evaluation of a loss of reactor coolant system inventory due to a level indication failure, a 100 gpm leak inside containment, an inadvertent safety injection actuation signal and containment isolation signal actuation, and the rupturing of the low pressure safety injection header. Based on these occurrences, the reactor was manually tripped by licensed operators since forced flow in the reactor coolant system could not be maintained via the reactor coolant pumps following the loss of cooling water. During this inspection, the inspectors focused on high-risk operator actions performed during implementation of the emergency operation procedures, emergency plan

implementation, and classification of the simulated event. The inspectors evaluated the clarity and formality of communications, the implementation of appropriate actions in response to alarms, the performance of timely control board operations and manipulations, and the oversight and direction provided by the shift supervisor. The inspectors also reviewed simulator fidelity to evaluate the degree of similarity to the actual control room, especially regarding recent control board modifications. The inspectors noted that the licensee training staff identified several weaknesses including interpreting system parameters, utilizing safety function status checks with the EOP diagnostic flowchart, and calculating a leak rate in accordance with AOP-2A, RCS Leakage. As a result of these weaknesses, the licensee performed remedial training and the crew successfully completed a remedial scenario performed on August 11, 2005. This scenario adequately challenged the operators in the identified weak areas. Throughout the remedial scenario, the inspectors observed operator actions during implementation of the emergency operation procedures and emergency plans. The inspectors noted that the classification of the event was made correctly and all required communications protocols were met.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12Q - 4 samples)

a. Inspection Scope

The inspectors reviewed the licensee effectiveness in performing routine maintenance activities. This review included an assessment of the licensee's practices pertaining to the identification, scoping, and handling of degraded equipment conditions, as well as common cause failure evaluations, and the resolution of historical equipment problems. For those systems, structures, and components (SSC) scoped in the maintenance rule per 10 CFR 50.65, the inspectors verified that reliability and unavailability were properly monitored and that 10 CFR 50.65 (a)(1) and (a)(2) classifications were justified in light of the reviewed degraded equipment condition. The inspectors conducted this inspection for the following equipment issues:

- Power supply failure associated with 2-LT-1124D AFAS wide range level indication on "ZG" channel for 22 S/G level.
- Channel head leakage associated with 22 ECCS pump room air cooler
- Unit 2 RE/RI-5280, containment particulate monitor failure
- Unit 1 RE/RI-5280, containment particulate monitor failure

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 - 9 samples)

a. Inspection Scope

The inspectors reviewed the licensee's assessments concerning the risk impact of removing from service those components associated with the work items listed below. This review primarily focused on activities determined to be risk significant within the maintenance rule. The inspectors compared the risk assessments and risk management actions performed by station procedure NO-1-117, "Integrated Risk Management," to the requirements of 10 CFR 50.65(a)(4), the recommendations of NUMARC 93-01, Revision 2, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," Section 11, "Evaluation of Systems to Be Removed From Service," and approved station procedures. The inspectors compared the assessed risk configuration to actual plant conditions to evaluate whether the assessment was accurate and comprehensive. In addition, the inspectors assessed the adequacy of the licensee's identification and resolution of problems associated with maintenance risk assessments and emergent work activities. The inspectors reviewed the following selected work activities:

- 1A emergency diesel generator radiator fan #13 handswitch replacement
- 21 auxiliary feedwater pump governor speed oscillations
- 23 auxiliary feedwater pump high motor bearing temperature trip
- 11 13.8kv service bus breaker 252-1106 site feeder breaker inspections
- 23 salt water pump preventive maintenance
- 13 motor-driven AFW pump controller 1-FIC-4525A reading erroneously high
- 21 saltwater pump upper alignment bearing high temperature
- 11 vital 125 vdc battery preventive maintenance
- 11A service water heat exchanger cleaning

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15 - 6 samples)

a. Inspection Scope

The inspectors reviewed six operability determinations to verify that the operability of systems important to safety were properly established and that affected components or systems remained capable of performing their intended safety function. The inspectors reviewed the selected operability determinations to verify they were performed in accordance with NO-1-106, "Functional Evaluation - Operability Determination," and QL-2-100, "Issue Reporting and Assessment." The following operability evaluations were reviewed:

- 1A emergency diesel generator radiator fan #13 handswitch contact is intermittently reclosing when the handswitch is moved from the ON to AUTO position
- 21 auxiliary feedwater pump governor speed oscillations
- Unit 2 noble gas monitoring with 2RIC5415 inoperable
- 2-CV-5171 failed open with supply air
- Unit 1 containment sump (Generic Safety Issue - 191)
- Unit 2 containment sump (Generic Safety Issue - 191)

b. Findings

No findings of significance were identified

1R16 Operator Workarounds (71111.16A - 2 detailed samples)

a. Inspection Scope

The inspectors evaluated the effects of two specific operator workarounds. This assessment evaluated the potential impact on the functionality of mitigating systems, as well as operator performance during postulated transient events in light of the identified workarounds. The selected workarounds are listed below and were assessed in light of the licensee's requirements for handling workarounds in accordance with Operations Administrative Policy (OAP) 04-01, "Managing Operator Impacts." The workarounds were reviewed to determine: (1) if the functional capability of the system or human reliability in responding to an initiating event was affected; (2) the effect on the operator's ability to implement abnormal or emergency procedures; and (3) if operator workaround problems were captured in the licensee's corrective action program.

- 12A safety Injection tank (SIT) check valve leakage causes tank level increase
- 11/12 MSIV hydraulic oil level indication

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17 - 1 sample)

a. Inspection Scope

The inspectors reviewed the engineering service packages (ESP) for the replacement of air regulators for 2-CC-3823. These consisted of ES1999602093P for the generic replacement of older Fisher air regulators with newer models from the same manufacturer, and ES200000975-004 for the replacement of the particular regulators supplying instrument air to 2-CC-3823. These ESPs evaluated the new regulators as functionally equivalent to the old.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19 - 7 samples)

a. Inspection Scope

The inspectors observed and/or reviewed post-maintenance tests associated with the following seven work activities to verify that equipment was properly returned to service, and that appropriate testing was specified and conducted to ensure that the equipment was operable and could perform its intended safety function following the completion of maintenance. Post-maintenance testing activities were conducted as specified in station procedure MN-1-101, "Control Of Maintenance Activities." Post-maintenance test results associated with the maintenance activities listed below were reviewed.

- 1-CVC-512-CV, volume control tank isolation valve air leak repairs
- Replacement of 1HS10082, 1A emergency diesel generator radiator fan handswitch
- 22 high pressure safety injection pump handswitch replacement activity
- 23 salt water pump, motor and breaker maintenance
- 13 motor-driven AFW pump controller indication at 1-FIC-4525A repairs
- 21 component cooling water heat exchanger cleaning
- 21 saltwater pump replacement

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 - 6 samples)

a. Inspection Scope

The inspectors observed and/or reviewed the six surveillance tests listed below associated with selected risk-significant SSCs to verify that TS were properly complied with, and that test acceptance criteria was properly specified. The inspectors also verified that proper test conditions were established as specified in the procedures, no equipment preconditioning activities occurred, and that acceptance criteria had been satisfied.

- STP-152-2 - #21 station battery weekly check
- STP-150-2 - #22 station battery weekly check
- STP-O-5A-2 - #21 auxiliary feedwater pump quarterly surveillance test
- STP-O-5A-2 - #23 auxiliary feedwater pump quarterly surveillance test
- STP-O-90-2 - AC sources and onsite power distribution systems 7 day operability verification
- STP O-8B-1, test of 1B DG and 14 kv bus LOCI sequencer

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23 - 2 samples)

a. Inspection Scope

The inspectors reviewed two temporary modifications to determine whether system operability and availability were affected during and after the completion of the modifications. The inspectors verified that proper configuration control was maintained, appropriate operator briefings were planned, design modification packages were technically adequate, and post-installation testing was performed satisfactorily to ensure continued operability. The temporary plant modifications listed below were also reviewed against the licensee's criteria in MD-1-100, "Temporary Alterations."

- Temporary alteration No. 1-05-0043, jumpering out 1A1 EDG manual start function for 13 radiator fan
- 2-CV-5171 manually failed open

b. Findings

No findings of significance were identified.

**Cornerstone: Emergency Preparedness (EP)**

1EP6 Drill Evaluation (71114.06 - 3 samples - 1 drill and 2 training evolutions)

1. Simulator Exercises

a. Inspection Scope

The inspectors observed control room simulator training exercises conducted on August 10, 2005, and August 11, 2005, to assess licensed operators' performance in the area of emergency preparedness. These training exercises focused on equipment failures and operator challenges that would typically exist during RCS leakage events followed by inadvertent SIAS and CAS events. The required procedural transitions and associated event classifications were observed and evaluated by the inspectors.

b. Findings

No findings of significance were identified.

2. Annual Emergency Preparedness Drill

a. Inspection Scope

The resident inspectors observed and evaluated the licensee's performance in an emergency preparedness exercise conducted on September 27, 2005. The exercise was also evaluated by several inspectors from the Region I, Division of Reactor Safety, in accordance with NRC Inspection Procedure 71114.01, "Exercise Evaluation."

b. Findings

Findings associated with this exercise will be documented in NRC Inspection Report 2005010.

## 2. RADIATION SAFETY

**Cornerstone: Public Radiation Safety (PS)**

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

a. Inspection Scope (10 samples)

The inspector reviewed radioactive effluent treatment and monitoring equipment, work activities, practices, and procedural implementation during observations and tours of the facilities and inspected procedures, records, and other program documents to evaluate the effectiveness of the licensee's radioactive gaseous and liquid effluent treatment and monitoring systems with respect to public exposure. This inspection activity represents the completion of 10 samples relative to this inspection area (i.e., inspection procedure sections 02.01.a thru d (1), 02.02.a thru k (8), and 02.03.a thru c (1)) in complete fulfillment of the biennial inspection requirements.

Inspection Planning and In-Office Inspection (02.01.a thru d)

The inspector selectively reviewed the Annual Radiological Effluent Release Reports for 2003 and 2004 to verify that the program was implemented as described in the Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual (RETS/ODCM). The inspector selectively examined the reports for significant changes to the ODCM and to radioactive waste system design and operation, for technical justification and documentation, and for dose consequence to the public. The inspector also selectively reviewed the Updated Final Safety Analysis Report (UFSAR) description of the radioactive waste systems.

Onsite Inspection (02.02.a thru k)

On July 26, the inspector walked down the radiation and flow monitors of the gaseous and liquid effluent release systems to observe the current system configuration with

respect to the description in the UFSAR, ongoing activities, and equipment material condition. On July 27, the inspector observed the routine processing of liquid waste in the solid waste processing area on the 45-ft elevation of the auxiliary building. During this inspection, the inspector examined several radioactive gaseous and liquid waste release permits, records of continuous gaseous and liquid releases, and dose calculations, including doses to members of the public.

The inspector selectively reviewed air cleaning system surveillance test results, records of instrument calibrations, performed since the last inspection, for point-of-discharge effluent radiation monitors, and calibration records for flow measurement devices. The inspector also examined calibration records for counting-room radiation measurement instrumentation associated with effluent monitoring and release activities and the associated quality control records. The inspector also reviewed the results from the licensee's most recent quality assurance audit to determine if the licensee met the requirements of the RETS/ODCM.

Identification and Resolution of Problems (02.03.a thru c)

For a description of the inspection activity in this area, see Section 4OA2 of this report.

Related Activities

The inspector performed a selective examination of documents (as listed in the List of Documents Reviewed section) to evaluate the effectiveness of the radioactive gaseous and liquid effluent treatment and monitoring systems with respect to public exposure. The review in this area was against criteria contained in Subpart D of 10 CFR 20 and Appendices A (Criteria 60 and 64), E, and I to 10 CFR 50, the plant Technical Specifications, the Offsite Dose Calculation Manual, and the UFSAR.

## 3. OTHER ACTIVITIES

### 4OA2 Identification and Resolution of Problems

#### 1. Review of Items Entered into the Corrective Action Program

As required by Inspection Procedure 71152, "Identification and Resolution of Problems" and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed screening of all items entered into the licensee's corrective action program. This was accomplished by reviewing the description of each new issue report and attending daily screening meetings, and accessing the licensee's computerized database.

2. Annual Sample: Review of Service Water/Saltwater Heat Exchanger Fouling (71152 -1 sample)

a. Inspection Scope

The inspectors completed one sample review regarding Constellation's evaluation and corrective actions for the September/October 2004 events where the station experienced debris fouling that affected the saltwater and circulating water systems. Issue report, IRE-000-260, and related issue reports were selected for detailed review to ensure that the full extent of the issue was understood and adequately addressed in the station's corrective action program. These reports documented Constellation's apparent cause analysis, immediate compensatory actions, and identified corrective actions, both short and long term, to minimize potential effects of biofouling on the saltwater and circulating water systems. The inspectors also reviewed station procedures, performed a system walkdown, and interviewed station personnel to ensure that corrective actions that were identified have been taken to minimize the susceptibility to similar events.

b. Findings

No findings of significance were identified.

3. Identification and Resolution of Problems - Public Radiation Safety (71122.01)

a. Inspection Scope

During this inspection, the inspector reviewed the licensee's most recent quality assurance audit to determine if identified problems, related to the radioactive effluent treatment and monitoring program, were entered into the corrective action program for resolution. The inspector reviewed selected corrective action reports, related to the radioactive effluent treatment and monitoring program, and discussed these reports with cognizant personnel to determine if the follow-up activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk.

During the week of July 25, the inspector selected three issues identified in the Corrective Action Program (CAP) for detailed review (i.e., Issue Report (IR) Nos. IRE-004-087, -005-261, and -005-298). The issues were associated with radioactively-contaminated sludge, inaccurate gaseous waste release permits and corrective actions for same, and procedural inaccuracies, respectively. The documented reports for the issues were reviewed to determine whether the full extent of the issues was identified, an appropriate evaluation was performed, and appropriate corrective actions were specified and prioritized.

b. Findings

No findings of significance were identified.

4. Annual Sample: Review of Inadequate Calculations and Procedures for Offsite Power Availability (71152 - 1 Sample)

a. Inspection Scope

The inspector reviewed issue report IR4-009-053, associated with URI 2004002-04, to ensure that the full extent of the issues were identified, appropriate evaluations were performed, and appropriate corrective actions were specified and prioritized. The inspector walked down affected areas of the plant and interviewed relevant station personnel. The inspector evaluated the issue report against the requirements of Constellations's corrective action program. Refer to section 4OA5 for further details.

b. Findings

Introduction. A Green NCV was identified for the failure to provide an adequate procedure for the operation of the electrical system as required by Technical Specification 5.4.1.a.

Description. Operating Procedure OI-27-B, 13.8kV System, provides steps for placing voltage regulators under manual control and directs operators to maintain 4160V bus voltage between 4.1KV and 4.35kV. When a voltage regulator serving a safety bus is placed in manual it would not respond to a sudden voltage drop that could occur in the event of a unit trip concurrent with an accident. Load flow calculation E-94-17 credits full voltage boost from the voltage regulators for grid separation analyses and assumes the voltage regulators would respond automatically to voltage excursions. In response to NRC concerns discussed in URI 2004002-04, the licensee initiated IR4-027-104 and a note was placed in Operations Short Term Notes to not voluntarily place a voltage regulator in manual until engineering determined the effects on the design basis.

Upon further evaluation, Constellation determined that placing a voltage regulator in manual makes the associated offsite source to the affected 4 kV busses inoperable. The procedure did not state this, and as a result, when the voltage regulators were placed in manual the associated offsite source was not declared inoperable when it should have been. The inspector reviewed Constellation's data from the two times since 2002 that the voltage regulators were placed in manual and the inspector agrees that although the associated offsite source should have been declared inoperable, the voltage stayed within acceptable operability limits and the limiting condition for operation allowed outage time was never exceeded. This procedural inadequacy was resolved in IR4-27-104 by placing a precaution in the procedure that states that placing a voltage regulator in manual makes the associated offsite source to the affected 4kV busses inoperable.

Analysis. The inspector determined that the failure to have an adequate procedure was a performance deficiency resulting in Constellation not meeting the requirements of Technical Specification 5.4.1.a. Traditional enforcement does not apply because the issue did not have any actual safety consequences or potential for impacting the NRC's regulatory function and was not the result of any willful violation of NRC requirements. This finding is greater than minor because it is associated with the cornerstone attribute

Procedure Quality and affects the objective of the Mitigating Systems Cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding was evaluated using Manual Chapter 0609, Appendix A, and was determined to be a finding of very low safety significance (Green) because the finding did not represent an actual loss of a safety function and was not potentially risk significant due to an external initiating event.

Enforcement. Tech Spec 5.4.1.a states, in part, that "Written procedures shall be established, implemented and maintained covering the. . .applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978." Regulatory Guide 1.33, Revision 2, Appendix A, February 1978 recommends, in part, "Procedures for startup, operation and shutdown of safety related PWR systems... . Electrical System, (1) Offsite (access circuits)." Contrary to this requirement, the licensee failed to establish adequate procedures for offsite power operation. Because this inadequacy is of very low safety significance and has been entered into the CAP (IR4-009-053), this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy: **NCV 05000317, 318/2005004-01**, Inadequate Procedures for Offsite Power Availability.

4OA5 Other Activities

1. (Closed) URI 50-317,318/2004-06-02, Saltwater/Service Water Heat Exchanger Fouling

During September and October 2004, due to environmental conditions in the Chesapeake Bay, there was significant ingestion of marine life (hydroids) that challenged the ability of saltwater/service water heat exchanger to meet its design basis flow requirements. The inspectors reviewed issue reports, an operability determination, and updated corrective actions. This review also consisted of system walkdowns and station personnel interviews to verify the station corrective actions would minimize future hydroid ingestion events that could potentially challenge service water and component cooling water operability.

The inspectors reviewed this URI and documented the inspection results in Section 4OA2 of this report. This URI is closed.

2. (Closed) URI 05000317/2004002-04, 05000318/2004002-04: Inadequate Calculations and Procedures for Offsite Power Availability

In January 2004, the NRC identified several concerns related to calculations and procedures for offsite power availability. Specifically, Calculation E-94-17 did not include sufficient information to enable an independent reviewer to verify inputs to various computer runs and the calculation methodology did not include consideration of a sudden drop in switch-yard voltage that could occur following a unit trip. The inspectors also identified a non-conservative software error in the calculation and that operating procedure OI-27B was inadequate for placing voltage regulators in manual control. This issue was left unresolved pending NRC review of the licensee's evaluation.

The inspector reviewed Constellation's evaluation, documented in Condition Report IR4-009-053. The licensee's evaluation confirmed that the calculation methodology did not include consideration of a sudden drop in switch-yard voltage that could occur following a unit trip concurrent with an accident. However, when these cases were run, the worst case voltage drop was found to be acceptable. Also, the evaluation found that a non-conservative software error did exist. The load-flow calculation incorrectly modeled the 13 kV regulators with a maximum boost capability of just over 11% when it should be 10%. The model was corrected and an adequate margin was found to exist.

Constellation initiated a change to calculation E-94-17, adding the additional cases for a sudden drop in switch-yard voltage and correcting the non-conservative software error. The additional cases were added with sufficient information for an independent reviewer to verify inputs. Constellation also issued a procedural change to procedure OI-27B that included a precaution stating that placing a voltage regulator in manual makes the associated offsite source to the affected 4kV busses inoperable. The inspector reviewed the evaluation and related analyses and found Constellation's conclusions and corrective actions to be acceptable. One finding of very low safety significance was identified for inadequate procedures for offsite power availability (see section 40A2). Based on this review, the NRC considers this item closed.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On October 12, 2005, the resident inspectors presented the inspection results to Mr. Joe Pollock and other members of his staff who acknowledged the finding. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## SUPPLEMENTAL INFORMATION

## KEY POINTS OF CONTACT

Licensee Personnel

R. Conatser, Senior Chemist (RETS/REMP Program Manager)
H. Evans, Health Physics Work Leader (Dosimetry)
P. Furio, Regulatory Matters
G. Gwiazdowski, Director, Nuclear Security
M. Hacker, Areva Level III Reactor Head UT Analyst
K. Hoffman, Dissimilar Metal Inspection Nightshift Supervisor
J. Johnson, Engineering Analyst-Regulatory Matters
T. Kirkham, Health Physics Supervisor (Operations)
E. Kreahling, System Engineer
L. Larragoite, Director of Licensing
K. Mills, Operations General Supervisor
A. Simpson, Regulatory Matters
M. Stanley, Safety Specialist
M. Tonacci, General Supervisor-Chemistry
G. Vanderheyden, Site Vice President
J. York, Health Physics Supervisor (Support)
M. Yox, Senior Emergency Analysis

## LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened and Closed

| | | |
|---|---|---|
| 05000317,318/2005004-01 | NCV | Inadequate Procedures for Offsite Power Availability |

Closed

| | | |
|---|---|---|
| 05000317,318/2004-002-04 | URI | Inadequate Calculations and Procedures for Offsite Power Availability |
| 05000317,318/2004-006-02 | URI | Saltwater/Service Water Heat Exchanger Fouling |

## LIST OF DOCUMENTS REVIEWED

### Section 1R01: Adverse Weather Protection

EP-1-108 attachments 1, 2, 4, and 5, severe weather preparation checklists
OI-22M - 1A and OC DG Building VAC.
ERPIP 3.0 - Attachment 20, Severe Weather
NO-1-119, Seasonal Readiness
IRE-007-798 - The outside watch reported that breaker 52-12319 for 1A1 DG radiator fan #13 was found in the trip free position with no lights illuminated
Motor control center setting sheet for breaker 52-12319
Reactor Operators Log
Temporary Alteration 1-05-0043 - allows to defeat the manual start feature of the 1A1-13 radiator fan
DOG No. 61-086C SO 80 - diesel generator project schematic diagram diesel generator 1A, 1A1 radiator fan 13.

### Section 1R04: Equipment Alignment

12 Component cooling water heat exchanger during 11 component cooling water heat exchanger cleaning

Clearance Order#: 1200401121 - clear tags from 11 component cooling water heat exchanger (CCHX).
MO#1200204137 - 11 saltwater CCHX outlet cv
MO#1200401710 - replace 1HIC5206, 11 CCHX sw outlet controller
MO#1200500675 - calibration check 11 CCHX sw outlet I/P
MO#1200501569 - 11 CCHX manway and clean inlet head and tubesheet

21 CC HX SW outlet valve replacement

MO# 2200403552 Replacement of 21 CC HX SW Outlet
MO# 2200400111 Replace 2PCV3823A & 2PCV3823B
MO# 2200500390 Cal Check 21 CCHX Saltwater Outlet 2I/P P5206
MO# 2200403299 Clean Tubes #21 Component Cooling Heat Exchanger
Clearance Order#: 220040054

Unit 1 13000-2 13kV transformer and bus maintenance

IRE-001-376 (P-13000-2 Voltage Regulator 2H2102 Low Liquid Level)
IRE-005-525 (P-13000-2 Voltage Regulator 2H2103 High Oil Temp)
MO # 2200501796 (P-13000-2 Volt Reg alarm for High Oil Temp)
Drawing, Electrical Main Single Line Diagram FSAR fig. 8-1 - # 61001SH0001 rev. 42
Clearance Order for P-13000-2 / ID # 2200400508

Detailed System Walkdown - Unit 1 LPCI Walkdown

OI-3A Attachment 1, Safety Injection System Valve Alignment.
OI-3A Attachment 2, Safety Injection System Instrument Valve Alignment.
IST Basis Document Section 14, Safety Injection System, LPSI Header Isolation Check Valves
EN-4-102 Attachment 2, IST Program Scope Change (STP O-065J-1, 1CKVSI-134)
Oma-1988 Part 10, Inservice Testing of Valves in Light Water Reactor Plants
System Level Health Report - Safety Injection - Quarter 4, 2004
O-007A-1, "A" Train Engineered Safety Features Logic Test 6/04/2005
O-007B-1, "B" Train Engineered Safety Features Logic Test 6/18/2005
O-065-1, HPSI and LPSI PP CKV Closure Test 6/13/2005
O-065J-1, Safety Injection Check Valve Quarterly Operability Test 6/15/2005 & 7/07/2005
O-065Q-1, Safety Injection Valve Quarterly Operability Test 5/31/2005
O-065R-1, ECCS Valves Powered from MCC-104R Quarterly Operability Test 6/05/2005
O-065S-1, ECCS LPSI Loop Isolation Valves Quarterly Operability Test 5/31/2005
O-065T-1, ECCS Valves Powered From MCC-114R Quarterly Operability Test 5/31/2005
O-073L-1, LPSI Pump Large Flow Test 4/17/2004
STP-25-0, Velan Swing Check Valve Inspection 1-CKV-SI-4146 4/23/2004
STP-25-0, Velan Swing Check Valve Inspection 1-CKV-SI-4147 4/26/1998

**Section 1R05: Fire Protection**

SA-1-101 Fire Fighting
Fire Fighting Strategies Manual
Fire Fighting Drill Scenario 05-02

**Section 1RO6: Flood Protection Measures**

NO-1-106, Reasonable Expectations of Continued OPerability, dated August 25, 05
IRE-005-849/MO2200502054 - When raining, water is dripping down MCC-207 and MCC-222
IRE-042-759 - Turbine building has numerous large leaks when it rains
MO 22005024713, Water leaking into Unit 2 45' switchgear room
MO 22005012563, Unit 2 RWT roof is leaking
MO 02005002514, Roofing leaks in 69' and 72'auxiliary building areas
MO 22004043214, Unit 2A EDG room roof is leaking near MCC 2AG
MO 02004023200, Ceiling leak on the auxiliary building roof above the 69' Spent Fuel Pool
MO 22004012804, Water leaking in around Unit 2 main steam safety piping

**Section 1R11: Licensed Operator Requalification Program**

Simulator Operating Examination dated August 10, 2005
Simulator Operating Examination dated August 11, 2005
Supplemental Training Assignment to upgrade diagnostic skills dated August 10, 2005
Supplemental Training Assignment for remedial training dated August 10, 2005

**Section 1R12: Maintenance Effectiveness**

Power Supply Failure Associated With Wide Range Level Indication On 22 S/G Level

IRE-007-622 -2-LT-1124D failed during normal power operations
MO#2200502896 - 22 FW S/G WR LVL XMTR
Reactor Operators Log
Program Health Reports CCNPP Power Supplies
Power Supply Functional Failure Rate Chart

Leaking At The Channel Head Associated With 22 ECCS Pump Room Air Cooler

MO#2200501198 - 22 ECCS Pump Room
IRE-008-266 - west channel head cover leaked during post maintenance testing. Known maintenance work around

Unit 2 RE/RI-5280 Containment Particulate Monitor failure (IRE-006-463)

IRE-006-463 - 2RE/RI-5280 Failed to give an upscale deflection during its checksource
Maintenance Rule Scoping Document, Rev 24 - Area and Process Radiation

Unit 1 RE/RI-5280 Containment Particulate Monitor Failure (IRE-006-765)

IRE-006-765 - While performing STP-568-1 isotopic checks the remote and local indication pegged low
Maintenance Rule Scoping Document, Rev 24 - Area and Process Radiation

**Section 1R13: Maintenance Risk Assessments and Emergent Work Control**

1A Emergency Diesel Generator Radiator Fan #13 Handswitch Replacement

IRE-007-798 - The outside watch reported that breaker 52-12319 for 1A1 DG radiator fan #13 was found in the trip free position with no lights illuminated
Motor control center setting sheet for breaker 52-12319
Reactor Operators Log
Temporary Alteration 1-05-0043 - allows to defeat the manual start feature of the 1A1-13 radiator fan
DOG No. 61-086C SO 80 - diesel generator project schematic diagram diesel generator 1A, 1A1 radiator fan 13.

21 Auxiliary Feedwater Pump Governor Speed Oscillations

IRE-008-058 - 21 AFW pump will not maintain a constant speed for STP O-5A-2 and is cycling between 3977 and 4003 RPM (outside the acceptable range of the STP). Governor may need to be vented. Normal speed oscillations when testing is minimal
STP O-5A-2 - Auxiliary Feedwater System Quarterly Surveillance Test Rev. 18
Reactor Operators Log

RECO IRE-008-058 - 21 AFW turbine had speed oscillations of 26 rpm during its run for STP O-5A-2 on 9/7/2005
ESP No. ES199601840 Calculation for AFW turbine/pump speed range during STP testing

23 Auxiliary Feedwater Pump High Motor Bearing Temperature Trip

IRE-008-095 - 23 AFW pump was manually tripped during STP O-5A-2 (AFW Quarterly Performance Test) due to a high temperature of 194 degrees F on inboard motor bearing
STP O-5A-2 - Auxiliary Feedwater System Quarterly Surveillance Test Rev. 18
Reactor Operators Log

11 13.8kv Service Bus Breaker 252-1106 Site Feeder Breaker Inspections

MO#1200503476 - remove breaker 252-1106 from service
STP O-90-1 - AC sources and on site power distribution systems 7 day operability verification
STP O-90-2 - AC sources and on site power distribution systems 7 day operability verification
Reactor Operators Log

Scheduled Maintenance Week Of August 1st on 23 Salt Water Pump

NO-1-117, Rev 11 - Integrated Risk Management
CCNPP Plant Status/ Integrated Work Schedule Work Week 0531

13 Motor-Driven AFW Pump Controller Indication At 1-FIC-4525A Reads High

IRE-007-333 (1-FIC-4525A Computer point reads high)
MO #1200502918 (1-FIC- 4525A Computer point reads high for 13 TDAFW Pump CTRLR)
24" Angle Flow Pump (Fairbanks Morse Co.) Fig 5712 - #12315-0002SH0001 rev. 45
Maintenance Procedure I-525B-1 (AFAS Pipe Rupture Loop Calibration SG 11 Channel ZD)
MN-1-101 Rev. 30 (Troubleshooting Control Form)
NO-1-117, Rev 11 - Integrated Risk Assessment
QSS Converter/Evaluator Macro Basis for Intrusive work in 1C04 for 1-FIC-4525A
CCNPP Plant Status/ Integrated Work Schedule Work Sheet 0539

21 SW Pump Upper Alignment Bearing High Temp

IRE-008-321 (21 SW pump upper alignment bearing high temp)
MO # 2200304240 (21 SW Pump removal and replacement)
MO # 2200504339 (21 SW Pump bearing at 175 degrees in Alarm)
Technical Procedure Pump-3A (SW Pump Removal and Replacement Rev. 1)
OI-29 21 SW Pump/Bearing Run-in Procedure section 6.27
STP-0-90-2 for 21 SW pump replacement
No. 11 S/G Press. Loop Diagram alt S/D - #60903SH0001 rev. 5
No. 11 S/G AFW Flow Loop Diagram Motor Driven Feed Pump - #60909SH0005 rev. 9
NO-1-117, Rev 11 - Integrated Risk Assessment
QSS Converter/Evaluator Macro Basis for 21 SW pump OOS
CCNPP Plant Status/ Integrated Work Schedule Work Sheet 0538

**Section 1R15: Operability Evaluations**

1A Emergency Diesel Generator Radiator Fan #13 Handswitch Contact Is Intermittently Reclosing When The Handswitch Is Moved From The ON To AUTO Position

IRE-007-798 - The outside watch reported that breaker 52-12319 for 1A1 DG radiator fan #13 was found in the trip free position with no lights illuminated
Motor control center setting sheet for breaker 52-12319
Reactor Operators Log
Temporary Alteration 1-05-0043 - allows to defeat the manual start feature of the 1A1-13 radiator fan
DOG No. 61-086C SO 80 - diesel generator project schematic diagram diesel generator 1A, 1A1 radiator fan 13
STP O-8A-1 - Test of 1A DG and 11 4kv bus LOCI sequencer

21 Auxiliary Feedwater Pump Governor Speed Oscillations

IRE-008-058 - 21 AFW pump will not maintain a constant speed for STP O-5A-2 and is cycling between 3977 and 4003 RPM (outside the acceptable range of the STP). Governor may need to be vented. Normal speed oscillations when testing is minimal
STP O-5A-2 - Auxiliary Feedwater System Quarterly Surveillance Test Rev. 18
Reactor Operators Log
RECO IRE-008-058 - 21 AFW turbine had speed oscillations of 26 rpm during its run for STP O-5A-2 on 9/7/2005
ESP No. ES199601840 Calculation for AFW turbine/pump speed range during STP testing

Unit 2 Noble Gas Monitoring With 2RIC5415 Inoperable

Offside Dose Calculation Manual sections 3.3.3.9, 3.11.2.1, table 3.3-12, and Section 5.0
OI-35 “Radiation Monitoring System”
Technical Requirements Manual 15.3.1
ERPIP 821 “Accident Radiation Release Monitoring Methods”
CP 213 “Specifications and Surveillance Radioactive Gaseous Waste”
CP 615 “Plant Main Vent Releases”
RAS for Unit 2 Wide Range Noble Gas Monitor.
IR# IRE-006-786 Issue Report for missed plant vent grab sample.

**Section 1R16: Operator Workarounds**

Operations Admin Policy 04-01, Managing Operator Impacts
Nucleis report BWOR 184, Operator Workarounds/Compensatory Actions
Nucleis report BWOR 185 OPS Interest/Concern
Nucleis report BWOR 182 Control Room Deficiency with Indicator Comments
IR4-033-019 / MO 1200403592 12 MSIV low hydraulic level alarm
IR4-033-307 / MO 1200402185 11 MSIV low hydraulic level alarm
IR4-033-956 / MO 1200403172 12A SIT tank level change due to check valve leakby

**Section 1R19: Post-Maintenance Testing**

1-CVC-512-CV, Volume Control Tank Isolation Valve, Following Repairs For An Air Leak Between The Lower Casing And The Actuator Yoke

IRE-007-898 - During the performance of STP O-65A-1, I-CVC-512-CV stroked in the alert range
MO#1200405359 - replace lower actuator diaphragm gasket 1CV512OP
STP O-65A-1 - CVCS Quarterly Operability Test

Cycle 1HS10082 For 1A Emergency Diesel Generator Radiator Fan To Ensure Auto Start Contacts Remain Closed Following Temporary Alteration

IRE-007-798 - The outside watch reported that breaker 52-12319 for 1A1 DG radiator fan #13 was found in the trip free position with no lights illuminated
Motor control center setting sheet for breaker 52-12319
Reactor Operators Log
Temporary Alteration 1-05-0043 - allows to defeat the manual start feature of the 1A1-13 radiator fan
DOG No. 61-086C SO 80 - diesel generator project schematic diagram diesel generator 1A, 1A1 radiator fan 13
STP O-8A-1 - Test of 1A DG and 11 4kv bus LOCI sequencer

22 High Pressure Safety Injection Pump Following Handswitch Replacement, Oil Sampling, And Coupling Inspection

MO#2200302437 - Replace handswitch 2HS301Y due to cracked lexan cam followers
MO#2200404653 - Inspect and lubricate 22 HPSI pump coupling
MO#2200404689 - sample oil #22 HPSI pump and motor

23 Salt Water Pump, Motor And Breaker Maintenance

MO 2200500478 - Remove Excess Grease #23 Salt Water Pump Bearing Housing
MO 2200500479 - Lubricate Bearing and Adjust Packing #23 Salt Water Pump
MO 2200500462 - Inspect 152-2112 (23 Salt Water Pump ALT FDR) and Controls per EPM04004
MO 2200500461 - 23 Salt Water Pump Motor Insulation Resistance Testing

21 Component Cooling Water Heat Exchanger Cleaning

Unit 2 OI-29 “Saltwater System” section 6.34 “Verification of SW Flow Through a CCHX and ECCS Pump Room Air Cooler.”
STP-O-65N-2 21 Saltwater System Valve Quarterly Operability Test
STP-O-65G-2 Component Cooling Valve Quarterly Operability Test (partial, section 6.1 as retest for 2-CC-3823).
IRE-006-769 and associated RECO for 21CCHX operability with 2-CC-3823 failed shut.

13 Motor-Driven AFW Pump Controller Indication At 1-FIC-4525A Reads High

Maintenance Procedure I-525B-1 step 6.7.A.4 (AFAS Pipe Rupt. Loop Cal. SG 11 Channel ZD)
MO # 1200502918 (AFW Flow SG 11 Motor)

**Section 1R22: Surveillance Testing**

STP-152-2 - #21 Station Battery Weekly Check
STP-150-2 - #22 Station Battery Weekly Check
STP-O-5A-2 - #21 auxiliary feedwater pump quarterly surveillance test
STP-O-5A-2 - #23 auxiliary feedwater pump quarterly surveillance test
STP-O-90-2 - AC Sources and OnSite Power Distribution Systems 7 Day Operability Verification

**Section 1R23: Temporary Plant Modifications**

Temporary Alteration No. 1-05-0043, Jumpering Out 1A1 EDG Manual Start Function For 13 Radiator Fan

IRE-007-798 - The outside watch reported that breaker 52-12319 for 1A1 DG radiator fan #13 was found in the trip free position with no lights illuminated
Motor control center setting sheet for breaker 52-12319
Reactor Operators Log
Temporary Alteration 1-05-0043 - allows to defeat the manual start feature of the 1A1-13 radiator fan
DOG No. 61-086C SO 80 - diesel generator project schematic diagram diesel generator 1A, 1A1 radiator fan 13.

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

Recent gaseous and liquid effluent release permits and dose calculations
Current calibration records for effluent counting equipment: SAC-4, Tri-Carb 2300TR, and Canberra gamma spectrometers
STP-564-2, Rev. 12, Wide range noble gas monitor calibration check
STP-567-0, Rev. 03, Gaseous and liquid waste discharge radiation monitors calibration check
STP-567-1, Rev. 04, Steam generator blowdown recovery radiation monitor and loop flow channel calibration
STP-569-1, Rev. 01, Main vent gaseous radiation monitor channel calibration (Unit 1)
STP-569-2, Rev. 01, Main vent gaseous radiation monitor channel calibration (Unit 2)
STP-M-540A-0, Rev. 00, #11 control room post LOCI exhaust filter test
STP-542-0, Rev. 14, Spent fuel storage filter test (HEPA)
STP-543-0, Rev. 09, Spent fuel storage filter test (Charcoal)
STP-M-544A-2, Rev. 00, #21 penetration room exhaust filter test
STP-M-545A-1, Rev. 00, #12 penetration room exhaust filter test

STP-546-1, Rev. 07, ECCS pump room exhaust filter test (HEPA)
STP-547-1, Rev. 10, ECCS pump room exhaust filter test (Charcoal)
STP-548-2, Rev. 05, Containment iodine removal filter test (HEPA)
STP-548-2, Rev. 10, Containment iodine removal filter test (Charcoal)
Procedure CP-301, Rev. 01, Setup, calibration, and operational checks of the gamma spectroscopy counting system
Procedure CP-972, Rev. 06, Determination of tritium activity using the TriCarb 2300TR liquid scintillation counter
Offsite dose calculation manual, Rev. 8
Annual radioactive effluent release reports for 2003 and 2004
Quality assurance audit CHE-05-01-C, Chemistry, May 5, 2005

**Section 4OA2: Problem Identification and Resolution**

Service Water/Saltwater Heat Exchanger Fouling

IRE-000-260 IR4-003-186 IRE-000-174 IRE-000-228
IRE-000-278 IRE-000-279 IRE-000-562
EP-1-108, Severe Weather Preparation, Rev. 0
QL-2-101, Causal Analysis, Rev. 9
AOP-7A, Loss of Saltwater Cooling, Rev. 14
OI-14A, Circulating Water System, Rev. 18
OI-29, Saltwater System, Rev. 55

Inadequate Calculations and Procedures for Offsite Power Availability

Calculation: E-94-017, “Plant Electrical AC Loadflow Analysis,” Rev 2
IR 4-009-053, Initiate grid study to determine voltage drop and evaluate
IR 4-027-104, Tracking IR for IR4-009-053 for engineering evaluation
IR 4-009-055, Discrepancies noted in loadflow calculation E-94-017 Rev. 2
IRE-006-526, Trending IR, OI was revised as part of IR4-009-053 resolution
61-001-E, “Electrical Main Single Line Diagram,” Rev 3/3/98
Calculation Change Notice E-94-017-0008
OI-27-B, “13.8kV System,” Rev 12, 16
QL-2-100, “Issue Reporting and Assessment,” Rev 19

## LIST OF ACRONYMS

| | |
|---|---|
| AFW | Auxiliary Feedwater Pump |
| CAP | Corrective Action Program |
| CCHX | Cooling Water Heat Exchanger |
| ERPIP | Emergency Response Plan Implementation Procedure |
| IPEE | Individual Plant Examination of External Events |
| IR | Issue Report |
| NCV | Non-Cited Violation |
| NRC | Nuclear Regulatory Commission |
| ODCM | Offsite Dose Calculation Manual |
| RCS | Reactor Coolant System |
| RETS | Radiological Effluent Technical Specifications |
| SIAS | Safety Injection Actuation Signal |
| SIT | Safety Injection Tank |
| SSC | Systems, Structures and Components |
| UFSAR | Updated Final Safety Analysis Report |
| URI | Unresolved Issue |