ODCM, PCP, Effluents

Functional Area Audit

QSL-OPS-95-04

Audit Team:

D. C. Lowens
T. D. Geissinger

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QA PSL

9704080174 970401
PDR FOIA
BINDER96-485 PDR

1. The results of the review and investigation of the finding including identification of the probable root cause(s).

2. Results of an examination of potential weaknesses in departmental self-assessment programs which may have impeded self-identification of the problem.

3. A determination of the generic impact of the finding, i.e., whether it extends to other areas, systems, drawings, procedures, etc., or whether it is isolated to those examples cited in the audit report.

4. Actions taken or planned to correct the findings identified and to prevent recurrence of the deficiency.

5. Date when corrective action was or will be achieved.

6. Identification of the individual(s) responsible for the corrective action.

For those corrective actions which cannot be completed within 90 days from the audit report transmittal, the response shall (1) include the reason that the action cannot be completed within 90 days and (2) include both the cognizant Vice President (or Director where the Director is a direct report of the President - Nuclear Division) and the Vice President Nuclear Assurance on distribution.

An evaluation should be made of the findings identified in this report to determine reportability.

We sincerely appreciate the cooperation we received from your staff during the course of the audit. Please contact me at extension 4190 or the lead auditor, D C. Lowens at extension 3762 if you have any questions.

L. W. Bladow
Quality Manager - PSL

LWB/DCL/mkl

Attachment

Copies to: Dist. Attached

QUALITY ASSURANCE AUDIT REPORT
QSL-OPS-95-04

JQQ-95-055

To: C. L. Burton Date: March 30, 1995

From: L. W. Bladow Department: JNA/PSL

Subject: **Quality Assurance Audit**
QSL-OPS-95-04
PCP, ODCM, Effluents - Functional Area Audit

Attached is the final report of an audit conducted to evaluate site compliance with applicable requirements of 10CFR 50, St. Lucie license commitments, FPL QA Program requirements, and implementation of the program for activities in the following areas: Offsite Dose Calculation Manual (ODCM), Process Control Program (PCP) and Radioactive Effluents. This audit was conducted to satisfy the requirements of St. Lucie Plant Technical Specification 6.8.4 (Programs required to be audited under the cognizance of the CNRB at least once per 24 months) and the Quality Assurance Department Annual Audit Program Plan.

The following findings and technical recommendations are documented within this report, and were discussed at the Post-Audit Conference.

Finding No. 1 Dewatering Procedure Not Submitted for Approval
Finding No. 2 Effluent Record Authentication and Retrievability
Finding No. 3 Incorrect Gas Decay Tank Entered on Gaseous Release Permit

Technical Recommendation No. 1 Waste Gas Radiation Monitor Source Check
Technical Recommendation No. 2 Waste Gas Radiation Monitor Calibration
Technical Recommendation No. 3 Calibration of Waste Gas Discharge Flowmeter

Finding No. 1 is the responsibility of the Health Physics Department.
Findings No. 2, 3 are the responsibility of the Chemistry Department.

Technical Recommendations No. 1, 2 are the responsibility of the Chemistry Department.
Technical Recommendation No. 3 is the responsibility of the Plant General Manager.

St. Lucie Action Requests (STAR) have been generated to track the findings and technical recommendations above. In accordance with the requirements of the FPL Quality Assurance Program, please ensure that responses are generated to these STARs within 30 calendar days of origination. As noted in QI 16 PR/PSL-2, STAR responses that address QA findings must include the following:

QUALITY ASSURANCE DEPARTMENT

AUDIT REPORT DISTRIBUTION

AUDIT REPORT: QSL-OPS-95-04

PLANT/DEPARTMENT: St. Lucie Plant

NUMBER OF FINDINGS: Three

CNRB

R. J. Acosta - JNA/JB

W. H. Bohlke - JPN/JB

J. E. Geiger - JNA/JB

D. A. Sager - VP/PSL-1

T. F. Plunkett - VP/PTN

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D. A. Culpepper - JPN/JB

QAD Files w/Checklist & Audit Plan
Lisa Helme - JNA/JB

Health Physics & Chemistry Related Audits
Manager Nuclear Health Physics/Chemistry

Emergency Preparedness Related Audits
Manager - Nuclear Emergency Preparedness

Fire Protection Audits
Owen Preston, Risk Management

Nuclear Division Staff Related Audits
D. H. West

Nuclear Training Related Audits
Manager Nuclear Training

Security Related Audits
*Manager Nuclear Security

Nuclear Materials Management Related Audits
Director Nuclear Materials Management

*Only Distribution outside the Plant for Security Audits Containing Safeguards

2/2

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Executive Summary

This audit reviewed and evaluated St. Lucie Plant programs relating to the Offsite Dose Calculation Manual (ODCM), Process Control Program (PCP) and radioactive effluents. The audit reviewed the results of past performance monitoring (PMON) activities, and conducted additional investigation in selected areas. A review was also performed of external and internal information, in order to gain an overall perspective on the status of St. Lucie activities in these areas.

Activities related to the ODCM, PCP and effluents are among the most closely-watched in the nuclear industry, both by internal and external monitoring organizations. The programs that are in place at St. Lucie reflect these facts, and have been well-developed over time. The majority of activities performed under the provisions of these programs comply with all applicable requirements.

Within the departments that execute these programs, management personnel are aware of the regulatory sensitivity that surrounds these activities. This audit observed that, in some cases, additional attention to detail is necessary on the part of personnel who actually execute the activities.

This audit identified several areas in which additional attention is warranted. These discrepant areas must be kept in perspective as small portions of programs that are fundamentally sound. Resin that is shipped from the St. Lucie Plant meets the residual water standards for disposal. Effluent releases from the site continue to be a very small fraction of the applicable regulatory limits, and are accurately accounted for. Correction of the findings identified in this report will enhance the performance of the audited programs.

Based on the activities and objective evidence audited, it was determined that the requirements of the QA Program were adequately addressed by procedures and the implementation of those procedures was effective. The findings in this report identify areas where improvement is needed.

Strengths: Well-written, comprehensive procedures.

Quality-oriented, knowledgeable supervision.

Findings:

1. Dewatering Procedure Not Submitted for Approval
2. Effluent Record Authentication and Retrievability
3. Incorrect Gas Decay Tank Entered on Gaseous Release Permit

Location of Audit St. Lucie Plant

Date of Audit February 1995

Audit Scope

This functional area audit was conducted to evaluate the following aspects of the program associated with the St. Lucie ODCM, PCP and radioactive effluent control:

- Verification that necessary procedures exist and comply with 10 CFR 50, Appendix B, applicable QA Baseline Standards and operating license requirements.
- Analysis of LER's, Problem Reports, In-House Events, NRC Inspection Reports associated with the area.
- Review of effectiveness of self-assessment activities.
- Assessment of effectiveness of corrective action taken in response to QA/QC activities since the last area audit.
- Verification of the implementation of program requirements not verified through previous PMON activity.
- Effectiveness of utilization of operating experience, including SOER's and SER's, applicable to the area.

Audit Details

Activities listed in the Audit Scope were performed to provide an overall evaluation of radioactive effluent and waste-related activities at the St. Lucie Plant. Audit activities included the reviews in the following categories:

- Industry events and data
- Procedures
- Self-assessment activities
- Performance monitoring
- NRC Reports
- Corrective action documents

Audit evaluation was also conducted through field observations, walkdowns of plant areas, inspections, personnel interviews, and review of completed record documentation. The following details describe specific activities reviewed, and evaluation of program compliance.

Program Delineation

Two distinct programs were reviewed by this audit. The ODCM contains requirements for sampling and monitoring of radioactive effluents, effluent release limits, methods to calculate dose to the general public and requirements for the Radiological Environmental Monitoring Program. Requirements for control of radioactive effluents are contained in the ODCM. The PCP provides a method to ensure that liquids are removed from radioactive waste prior to shipment for offsite disposal. Both of these programs have been in place for many years. This audit focused on changes to the programs that have occurred over the past year.

One change to the ODCM occurred during the audited period. The change relaxed the minimum analysis frequency for tritium originating from containment purges, from once every 9 days to once every 14 days. The change is accompanied by the following stipulation: if a count is delayed beyond 9 days, the required Lower Limit of Detection must still be attainable at the time that the count is performed. The change was justified in accordance with Technical Specification 6.14.1(b), reviewed by the Facility Review Group (FRG) and approved by the Plant General Manager. At the time that this audit was performed, preparations were in progress to submit the change to the Nuclear Regulatory Commission as part of the Annual Effluent Report.

The St. Lucie PCP is delineated in Administrative Procedure (AP) No. 0520025, "Process Control Program." This procedure was not revised during the period covered by the audit. AP 0520025 states that one other site procedure and three vendor procedures are also considered to be part of the PCP. A review of the vendor procedures discovered that one of the three had not been submitted for review by the FRG and approval by the Plant General Manager (See Finding #1).

ODCM and PCP requirements are also implemented by several supporting procedures. These were reviewed and found to have remained unchanged during the period covered by the audit.

On the basis of the information reviewed, delineation of programs in the audited areas is evaluated as satisfactory.

Summary of Performance Monitoring

Results of QA PMON and audit activities were reviewed and utilized as input for the audit. Specific activities reviewed were:

PMON-94-006	Liquid and Gas Releases (Radioactive Effluents)
PMON-94-007	Offsite Dose Calculation Manual (ODCM)
PMON-94-008	Annual Rad. Effluent Report (In-Process Evaluation)
PMON-94-076	PSL Chemistry QC Practices for Various Analytical Instruments
PMON-94-099	Sampling and Analyzing Continuous Vent Release Points
QSL-OPS-94-04	St. Lucie Plant Process Control Program

All activities evaluated by these PMON's and the one audit were performed in accordance with applicable requirements.

Additional review of selected records associated with PCP, ODCM and effluent activities was performed during the audit. The review encompassed records of resin dewatering, liquid and gaseous release permits, radioactive effluent running logs, calibration records, and the 1993 Annual Effluent Release Report. One discrepant condition was noted in the area of effluent records (See Finding #2).

Additional performance monitoring was performed during the audit. Two activities were observed: dewatering of a C.N.S.I high-integrity container prior to Radioactive Material Shipment 95-11, and discharge of the 1C Waste Gas Decay Tank. These activities are discussed separately below.

Process Control Program

Prior to shipment offsite for disposal, radioactive bead resins are required to be de-watered to the point where the filled disposal container contains less than 1 percent free standing water. Assurance that remaining water has been reduced to less than this limit is obtained by measuring the output of a water collection apparatus over successive time periods. The PCP prescribes the sequence of the steps and timing required to achieve the necessary water removal. A 1990 Quality Assurance audit identified several shipments in which deviations from the duration of collection activities had occurred, but not been detected prior to shipment of the resin for offsite disposal.

During the activities associated with Shipment 95-11, compliance with PCP requirements was monitored. During the processing, it was noted that two required collection cycles were terminated several minutes before the end of the necessary time period. When Health Physics supervisory personnel became aware of this fact, the two shortened cycles were discounted, and replacement collection cycles were performed. This was considered to be responsive to the problem identified in 1990. All other activities associated with this shipment were performed in accordance with applicable requirements.

Gas Decay Tank Discharge

The gaseous radwaste treatment system is intended to reduce releases of radioactivity to areas located at and beyond the site boundaries. Although required to be operable, use of the system is only required when monthly dose projections for these areas exceed specified limits. At St. Lucie effluent release levels are normally far below the level at which use of the system is required.

Despite this fact, the gaseous radwaste treatment system is used normally as an additional aid in the reduction of the level of radioactivity released to unrestricted areas. In this connection, the release of the 1C Gas Decay Tank (GDT) was observed on February 2, 1995.

The process for a GDT release calls for the following steps: the tank is sampled, the effluent gas analyzed, a release flow rate determined, and the set point for the high alarm on the waste gas radiation monitor is adjusted to ensure that radioactivity release rate limits will not be exceeded. Prior to initiation of the release, a source check of the waste gas radiation monitor is performed to verify proper operation. During the observation of this activity on February 2, several conditions requiring additional follow-up were noted (See Finding 3 and Technical Recommendations 1,2,3). All other activities associated with the release of this GDT were performed in accordance with applicable requirements.

LER's, Problem Reports, In-House Events and NRC Inspection Reports

NRC Inspection Reports were reviewed. There were no violations issued during 1994 in the area of ODCM/PCP/Effluents.

There was one unresolved item identified by NRC Inspection Report No. 94-14. In this case, the inspector documented a self identified problem with an out-of-service wide range gas monitor (LER 94-004). In the same report, the inspector also commented upon a typographical error on a worksheet for recording data from the Unit 2 effluent monitors. In response to the latter item STAR 2-94080063 was initiated. The worksheet was corrected, and EPIP 3100033E Revision 21 was issued on Oct. 24, 1994, to complete the corrective action.

Two Licensee Event Reports (LER) were issued during the audited period.

On September 10, 1993, the plant issued LER 93-006, describing waste gas releases while meteorological instruments were out of order. As a portion of the corrective action, the Chemistry Department was asked to revise the local meteorological tower check sheet to include more detail in the review process for meteorological data. Review of Operating Procedure OP 1400651, "Meteorological Data System Daily Channel Check," Revision 24, indicated that this action has been performed.

LER 94-004 addressed a Unit 2 plant vent wide range gas monitor (WRGM) that was unintentionally out-of-service from April 13, 1994 to June 28, 1994. The root cause of this event was attributed to personnel error, in that the Instrument and Control Maintenance (ICM) technicians who performed the last calibration on the WRGM flow meters on April 6, 1994, did not reconnect the sample lines as required by the calibration procedure. The ICM and Chemistry Departments were given the responsibility to review work control processes for other monitoring instrumentation, to confirm that restoration steps for disconnected equipment are adequately addressed. A review of Chemistry Procedure 2-C-66A, "Calibration of the General Atomic Gas, Liquid, Steam Line and Wide Range Gas Monitors," indicated that the necessary steps had been taken.

Corrective Actions and Utilization of Industry Information

A review of QA audit reports for 1994 found that no findings had been issued in the ODCM/PCP/Effluents area.

A review of 3900 Inspection Reports issued by Maintenance Quality Control (QC), indicated that the large majority of reports document satisfactory conditions. In one case, a 3900 noted that a Health Physics document transmitted to the records vault (although not specifically associated with the PCP) contained deficiencies in information recorded and incomplete reviews. On December 13, 1994, Maintenance QC issued STAR 94120556, to document the discrepancy. The STAR was closed on January 20, 1995, with the STAR disposition noting that the quality of the documentation had improved.

On November 25, 1994, the NRC issued Information Notice (IN) 94-81, "Accuracy of Bioassay and Environmental Sampling Results." The IN raised a question about the reliability of reports provided by a contract radionuclide analysis laboratory named Controls for Environmental Pollution Inc (CEP). The St. Lucie Chemistry Department had used this laboratory for the analysis of certain nuclides in effluent samples. The IN was processed under the FPL Operating Experience Feedback Program, and a response was provided by the Chemistry Department. The Chemistry Department response was reviewed during the audit and verified to have been satisfactory to address the problem id ntified by the IN.

In connection with the above, a separate STAR was issued by the FPL Procurement Quality Group to identify the fact that audits of contract radionuclide analysis laboratories are not currently required to be performed at the location of their facilities. The alternative program used by the Chemistry Department to ensure the quality of radionuclide analysis results in the absence of facility audits was reviewed during this audit and found to be satisfactory.

Self-Assessment Activities

Self assessment activities by the Chemistry and Health Physics Departments were reviewed.

The Chemistry Department currently performs two types of self-assessment activities. The first of these is performed under the provisions of CI-44, "Quality Control of Analytical Results." Under this program, spiked samples of unknown concentration are periodically given to technicians, and their ability to obtain accurate analytical results is tested. Records of this process are maintained, and corrective action is taken when necessary.

The second Chemistry activity is the Management Observation Program. Under this program, designated members of Chemistry management observe the performance of technicians on a periodic basis. The structure of the program is modeled upon similar evaluations that are performed by the Training Department. Feedback is provided to the monitored individuals, and corrective action is taken where necessary.

The Health Physics Department performs self-assessment using the process incorporated in HPP-101, "Identification and Reporting of Radiological Events." This procedure provides two separate forms which are used to document major and minor radiological events. These events are reviewed, dispositioned and trended, to improve the level of departmental performance. A Health Physics self-assessment was initiated during this audit to address the difficulties that occurred in connection with the de-watering of Radioactive Material Shipment 95-11.

The findings identified by this audit indicate a need to improve emphasis on self-assessment activities in both the Chemistry and Health Physics Departments.

Conclusion

Activities related to the ODCM, PCP, and effluents are among the most closely-watched in the nuclear industry, both by internal and external monitoring organizations. The programs that are in place at St. Lucie reflect these facts, and have been well-developed over time. The majority of activities performed under the provisions of these programs comply with all applicable requirements.

Within the departments that execute these programs, management personnel are aware of the regulatory sensitivity that surrounds these activities. This audit observed that, in some cases, additional attention to detail is necessary on the part of personnel who actually execute the activities.

The audit identified several areas in which additional attention is warranted. These discrepant areas must be must be kept in perspective as a small portion of programs that are fundamentally sound. Resin that is shipped from the St. Lucie Plant meets the residual water standards for disposal. Effluent releases from the site continue to be a very small fraction of the applicable regulatory limits and are accurately accounted for. Correction of the findings identified in this report will enhance the performance of the audited programs.

Based on the activities and objective evidence audited, it was determined that the requirements of the QA Program were adequately addressed by procedures and the implementation of those procedures was effective. The findings in this report identify areas where improvement is needed.

Satisfactory Areas

Annual Effluent Report
Changes to the ODCM
Containment purges
Control of measuring and test equipment
Cumulative dose determinations, quarterly, annual
Dose projections
Gaseous continuous releases

High integrity container storage and use
Liquid release permits
Liquid batch releases
Maintenance of effluent running logs
Methodology for establishing alarm set points
Resin transfers
Use of waste gas decay tanks
Verification of accurate analysis results from offsite rationalists laboratories

Findings

Finding No. 1	For the period from January 1992 to February 1995, resin drying procedure OM-048-NS/WS was used to implement the Process Control Program without having been submitted for review by the Facility Review Group (FRG) and approval by the Plant General Manager.
Finding No. 2	Quality records associated with effluent activities have been provided to the St. Lucie Quality Records System in a format that has caused deficiencies in record authentication and retrievability
Finding No. 3	Following a pre-release sample of the 1C Gas Decay Tank, the gaseous release permit was incorrectly filled out to indicate that the 1A Gas Decay Tank was to be released.

Finding No. 1 **Dewatering Procedure Not Submitted for Approval**

Criteria: **PSL Unit 2 Technical Specifications**

Para. 6.8.1. "Written procedures shall be established, implemented and maintained covering the activities referenced below:

g. PROCESS CONTROL PROGRAM implementation."

Para. 6.8.2. "Each procedure of Specification 6.8.1(a) through (i) above, and changes thereto, shall be reviewed by the FRG and shall be approved by the Plant General Manager prior to implementation and shall be reviewed periodically as set forth in administrative procedures."

AP 0520025, Rev. 9, "Process Control Program (PCP)"

Para. 3.2.1. "The PCP contains provisions to assure that dewatering of bead resins in results a waste form with characteristics that meet the requirements of 10CFR61, as implemented by 10CFR 20, and of the low level radioactive waste disposal site. The Process Control Program includes, in addition to this procedure, the following related procedures:

D. Pacific Nuclear Procedure No. OM-048-NS Operating Procedure for Pacific Nuclear/Waste Services Group Resin Drying (Dewatering) System at Florida Power & Light - St. Lucie Plant."

Finding: For the period from January 1992 to February 1995, resin drying procedure OM-048-NS/WS was used to implement the Process Control Program without having been submitted for review by the Facility Review Group (FRG) and approval by the Plant General Manager.

Discussion: Procedure OM-048-NS, "Operating Procedure for Pacific Nuclear/Waste Services Group Resin Drying (Dewatering) System at Florida Power & Light - St. Lucie Plant," provides the instructions necessary to remove water from waste resin intended for disposal in high integrity containers supplied by Pacific Nuclear Co. During the period mentioned above, Revisions 0 and 1 of this procedure (Revision 1 was renumbered as OM-048-WS) were used for this PCP related activity, without having been submitted for review by the Facility Review Group (FRG) and approval by the Plant General Manager. During this time, Revision 0 of procedure OM-048-NS was superseded, but was not retained in the St. Lucie Quality Records System

Procedure OM-048-NS is a vendor generated and controlled procedure. At the time of the audit, it was discovered that this procedure had been incorporated into the miscellaneous manual 8771- series. The 8771- series is a category that is used for non-safety and non-quality related manuals. These manuals do not normally require review by the FRG. As a result, when the procedure was placed in this series, normal quality assurance requirements concerning review of the procedure, review of changes, and retention of revisions, were not automatically followed.

Further investigation was conducted on the method by which these procedures were placed in the 8771- series. When OM-048-NS Rev 11 was first received at the St. Lucie site, it was forwarded to the Nuclear Records Vault under cover of a "Drawing-Vendor Manual Report Request" provided by QI 6-PR/PSL-1, "Document Control." This is a form used to request that vendor information which has been sent directly to plant personnel be included in controlled listings.

When received at the vault, a transmittal to Engineering was prepared for the procedure package in accordance with the QI listed above. It was not possible to ascertain with certainty whether this transmittal was ever sent, or whether it was sent to engineering and returned without action having been taken. The procedure was subsequently added to the 8771- series as manual 8771-511. Addition of a document to the 8771- series may be accomplished without any form of review and approval.

Discussion with Engineering personnel indicated if the procedure package had been sent to Engineering, it would have been returned to the site as not suitable for inclusion in the controlled document listings. This was so because the procedure did not concern permanent plant equipment, and was not associated with PC/M activity.

The following additional information was provided to the auditor in connection with this Finding.

a. The minutes of FRG meeting 92-070 document a review of PSL manual 8771-511. Although the FRG minutes do not document the identity of the vendor procedure that was contained in this manual, it is believed to have been Pacific Nuclear Procedure No. OM-043-NS, Revision 11. This procedure is a non plant-specific version of procedure OM-48-NS. No work was performed at the St. Lucie site under the provisions of OM-043-NS.

b. The minutes of FRG meeting 92-0100 document a review of Revision 4 to St. Lucie procedure HP-49 "Dewatering Radioactive Bead Resin." This agenda item contains comments relating to the use of Pacific Nuclear drying equipment, though no specific vendor procedure is identified.

The problem described in this Finding occurred because these procedures did not fit into any of the plant systems designed to obtain routine review by the FRG. The procedures address the use of non-installed, vendor-owned, equipment that is operated by St. Lucie personnel on a repeated basis. The activity performed by the equipment is one which is specifically mandated for FRG review by Technical Specifications. None of the personnel associated with the processing of these procedures had the knowledge both that FRG review of changes would be required, and that it would not be provided by their inclusion in the 8771- manual series.

Corrective action was undertaken immediately upon identification of this finding. On March 9, 1995, procedures OM-48-NS Rev. 0 and OM-48-WS Rev. 1 were reviewed at FRG meeting 95-64.

Recommendation: Your response must address the finding identified above. The following recommendation is offered for your consideration.

1. Remove procedure OM-048-WS Revision 1 from the 8771- manual series, and obtain the required Plant General Manager approval.

2. Obtain the superseded pages of procedure OM-048-NS, Revision 0 for inclusion in the plant quality records system.

3. Verify that no other procedures relating to the Process Control Program are contained in the 8771- manual series.

4. Re-examine the process for assigning documents to the 8771- manual series to verify that safety and quality related documents are precluded from being assigned to this category.

Finding No. 2 **Effluent Record Authentication and Retrievability**

Criteria: **St. Lucie Plant Site Quality Manual**
SQM 17.0, Rev. 0, "Quality Assurance Records"

Paragraph 5.1.1, "Quality Assurance Records submitted for storage shall be completely filled out, adequately identifiable to the item(s) or activity(s) to which it applies, legible, of sufficient quality to microfilmed, when planning on microfilming the document, and retrievable as to the item(s) or activity(s) involved."

QI 17-PR/PSL-1, Rev. 18, "Quality Assurance Records"

Para. 5.1.1.B, "Corrections/changes during generation shall have a single line drawn through the original information. The new information added and the correction/change initialed by the individual making the change."

Para. 5.1.1.D, "The appropriate department shall review records for completeness and legibility. Records containing data shall include initials or signatures and date to provide traceability and authenticity."

Finding: Quality records associated with effluent activities have been provided to the St. Lucie Quality Records System in a format that has caused deficiencies in record authentication and retrievability.

Discussion: For several months, quality records resulting from effluent activities have been produced as a daily data dump from the chemistry central computer.

Due to the continuous format of the records produced by the computer dump, the start and stop boundaries for particular authentication signatures and initials are not clearly delineated. During the audit, a number of records were located which did not have a proper authentication signature or initial.

A number of instances were located, in which significant quantities of information contained in a computer dump were crossed out. Many of these cross-outs exist without having been initialed, and without reference to replacement information.

Traceability to the item or activity for records generated by the computer dump is accomplished by the chemistry computer system activity number. This number is not currently being entered into the Computer Automated Records Management System (CARMS), the system that serves as the basis

for retrievabilty in the St. Lucie Quality Records System. Previous practices of using the S_OPS stamp to code the plant procedure number and equipment ID number into the CARMS have been discontinued.

Chemistry personnel can access the chemistry computer to furnish information concerning the month in which a particular activity (e.g. calibration) occurred. However, the disconnection of this important retrievability function from the established plant processes, and from the plant personnel who are charged with the responsibility for records retrieval, is considered to be a problem.

Sufficient *information content* to document the results of chemistry effluent analyses and calibrations has at all times been entered into the plant records system. However, the administrative discrepancies discussed above have obscured the clarity of this information.

Recommendations: Your response must address the finding identified above. The following recommendations are offered for your consideration.

1. Modify the practice by which effluent records are provided to the quality records system, to ensure that each record is properly authenticated. If this is done through a method other than placing a written signature or initials upon each record, the alternative method and the basis for its acceptability should be clearly described in a written procedure.

2. Institute the practice of including the applicable computer system activity number on the S_OPS stamp. Ensure that an index of the applicable codes is supplied to Nuclear Information Services for inclusion in the St. Lucie QA Records Coding and Indexing Guide.

Finding No. 3 **Incorrect Gas Decay Tank Entered on Gaseous Release Permit**

Criteria: **Chemistry Operating Procedure C-72, Rev. 34, "Processing Gaseous Waste"**

Para. 8.2.2, "Fill out Section I of the Gaseous Release Permit. The LIMS system should assign a permit number."

Finding: Following the pre-release sample of the 1C Gas Decay Tank, the Gaseous Release Permit was incorrectly filled out to indicate that the 1A Gas Decay Tank was to be released.

Discussion: On February 2, 1995, a release of the 1C Gas Decay Tank (GDT) was observed. Although 1C GDT was sampled, when Section I of the Gaseous Release Permit was filled out, the 1A GDT was inadvertently entered as the tank to be released. This error was detected by the Senior Nuclear Plant Operator (SNPO) when the gaseous release permit was presented for authorization by the Assistant Nuclear Plant Supervisor in the control room. The SNPO identified the fact that the 1A GDT was empty. The error was corrected and the Permit was modified prior to the initiation of the release.

If the 1A GDT had been filled, there are no additional steps in the process that would have prevented it from having been released. This event is considered a precursor to an event which would have involved inadvertent release of the wrong GDT.

Recommendation: Your response must address the finding identified above. The following recommendation is offered for your consideration.

1. Re-emphasize the need for attention to detail and self-checking to personnel who perform activities of this type.

2. Examine any process changes that might have assisted in the prevention of the event described in the Finding.

Technical Recommendations

Technical Recommendation No. 1 - Waste Gas Radiation Monitor Source Check

On February 2, 1995, release of the 1C Gas Decay Tank (GDT) was performed. Prior to initiation of the release, a source check was performed on the waste gas radiation monitor, Unit 1 Channel 42. During the source check, the detector for the instrument was lifted out of its shield while high voltage was applied. In this connection it was noted that Chemistry Procedure 1-C-65, "Calibration of the Waste gas radiation monitor," contains the following note:

NOTE

> It is most important that the high voltage be secured by disconnecting the H.V. cable from the detector prior to removing it from its shield to prevent damaging the detector from light leaks in the beta window.

The reason for this caution seems applicable to all cases in which the detector is removed from its shield. It is recommended that the practice for the source check be modified to incorporate the action required by the caution in the calibration procedure.

Technical Recommendation No. 2 - Waste Gas Radiation Monitor Calibration

The most recent calibration for Waste gas radiation monitor, Channel 42 was reviewed. It was noted that two button sources are used for the required 18 month (secondary) calibration; the first of the two has a measured count rate of 5.46E4 counts per minute, and the second has a measured count rate of 1.64E5 counts per minute. The count rate inserted for the high level alarm of Channel 42 during the release of 1C GDT was 4.5E6 counts per minute, ten times greater than the larger of the two button sources. It is recommended that when the next primary calibration is performed, two button source values be chosen that envelope the required trip set point for the instrument. Channel 42 is the sensor that provides the signal necessary to shut the waste gas release valve in the event that an activity release were to approach the regulatory limit.

Technical Recommendation No. 3 - Calibration of Waste Gas Discharge Flowmeter

During the release of the 1C GDT, extreme difficulty was experienced in obtaining indication from FIT-6648, the Unit 1 waste gas discharge flowmeter. Further research showed that Work Order 9501253 was in existence to address sticking of the sensing float within the flow tube of this instrument at the time that the release was made. A number of previous work requests documented the same type of problem.

Review of the plant calibration procedure for FIT-6648 revealed that the instrument is calibrated by manually adjusting the pointer on the face of the indicator/transmitter, and then measuring the electronic output. The position of the sensing float, the actual process gas sensor, is not verified during the calibration. Since the coupling between the sensing float and the indicator/transmitter is magnetic, positioning of the pointer on the face of the instrument does not accurately measure

the location in which the sensing float will reside for a given gas flow rate. The narrow scope of the calibration procedure, combined with the known sticking of the sensing float, calls the accuracy of the readings provided by this instrument into question.

The reading provided by FIT-6648 is used to regulate and monitor the gas discharge flow rate during gas releases. Control of the gas discharge flow rate is used in combination with the radiation monitor set point to ensure that the rate of activity release remains within regulatory limits.

Gas flow rate may also be controlled by the alternative method of tracking the decrease in gas decay tank pressure. However, at the time of the audit, the tank pressure method was specified to be used only for flow rates of less than 1.0 standard cubic feet per minute (SCFM). For higher flow rates, FIT-6648 was used to measure and control flow. Release flow rates are normally specified as either 3 or 10 SCFM depending upon the specific activity of the gas being released.

In connection with the above observation, it is noted that on a yearly basis, plant gas releases are approximately five orders of magnitude (i.e. 10E-5) below regulatory limits. Therefore this item has no impact on regulatory compliance under normal circumstances. However, should a fuel problem develop on Unit 1, this same instrumentation has the potential to be used for releases containing significantly greater activity.

It is recommended that one of the following actions be taken:

1. Review the design adequacy of the instrument installed as FIT-6648. Either change the instrument to one which may be accurately calibrated in-place, or implement an acceptable calibration procedure for the instrument that is presently installed.

2. As an alternative, the method used to monitor and control the flow rate of gas may be changed to one which does not require flow measurement. If the alternative method requires observation of the rate of decrease of GDT pressure over time, care should be taken to provide Operations personnel with pressure instrumentation that will accurately indicate the magnitude of the pressure decreases upon which they will be expected to base their actions.

Audit Participants:

Name	Department/Group	A	B	C
D. Sager	Site-Vice President			x
C. Burton	Plant General Manager			x
J. Scarola	Operations Manager	x		x
H. Buchanan	Health Physics Supervisor	x		x
R. Frechette	Chemistry Supervisor	x		x
R. Custis	Nuclear Engineering		x	
R. Cox	Chemistry		x	
D. Faulkner	Chemistry		x	
D. Haithcox	Health Physics		x	
G. Kozlowski	Information Services		x	
L. Rogers	ICM Supervisor		x	
C. O'Farrell	Nuclear Engineering		x	x
R. Sherman	Instrument & Control		x	
R. Sommers	Health Physics		x	x
M. Zolkan	Nuclear Engineering		x	
W. Bladow	Quality Manager			x
J. Voorhees	QA Supervisor			x
T. Geissinger	Quality Control	x		x
D. Lowens	Quality Assurance	x		x

Key:

A - Pre-Audit Conference/Notification
B - Contacted during the Audit
C - Attended Post-Audit Conference

References:

1-C-65	Rev. 13
2-C-66A	Rev. 14
AP 0520025	Rev. 9
C-72	Rev. 34
Chemistry Procedure CI-44	Rev. 0
EPIP 3100033E	Rev. 22
FPL Topical Quality Report Section 12.0	Rev. 5
HP-49	Rev. 4
HP-49A	Rev. 7
HPP-101	Rev. 0
LER 50-335/93-006	
LER 50-389/94-004	
NRC Information Notice 94-81	

NRC Inspection Report 50-335/389-94-14	
OP-1400051	Rev. 24
Pacific Nuclear Procedure No. OM-048-NS	Rev. 1
PSL Unit 2 Technical Specifications	Rev. 70
QI 17-PR/PSL-1, Rev. 18	Rev. 18
St. Lucie Site Quality Manual 12.1	Rev. 0
St. Lucie Site Quality Manual 17.0	Rev. 0

Pre-Audit Conference:

Location: St. Lucie Plant

Date: January 17, 1995

Post-Audit Conference:

Location: St. Lucie Plant

Date: March 21, 1995

Summary of Post-Audit Conference:

The audit and the findings were discussed at length. The Plant Manager emphasized the need for self-assessment activities to address the types of areas identified by the audit. Site personnel were thanked for their assistance during the audit.

Location of Audit: St. Lucie Plant

Principal Auditor: D. C. Lowens
PSL-Quality Assurance

3/30/95
Date

Accompanying Auditor: T. D. Geissinger — 3/30/95
PSL-Quality Control
Date

Reviewed by: J. V. Voorhees — 3/30/95
Supervisor-PSL-QA
Date

Approved by: L. W. Bladow — 3/30/95
Site Quality Manager- PSL
Date