

R2/E33

REGION II FUEL FACILITIES BRANCH INSPECTION PLAN

Revision Date: March 2, 2000

Inspection of: Westinghouse on March 27 - 30, 2000 Inspection Report Number:
70-1151/2000-002

Licensee

Dates (From → To)

Total on site hours anticipated by all inspectors: 27 Total back-shift hours anticipated by all inspectors: 0

TYPE		TIMING		FOLLOW UP		NOTIFICATION		REPORT	
X	Routine		Back Shift		Allegations (Plan attached)		Announced		Integrated
	Special	X	Normal Shift	X	Events (Event Evaluation Attached)	X	Unannounced	X	Non-integrated
	Team		Both Shifts	X	Open Items (List Attached)				

Lead Inspector: David Ayres Accompanying Inspector(s): _____Licensee Contact: Don Goldbach
Name803-674-3586
Telephone NumberMotel: Sleep Inn - East Exchange Blvd. Columbia, SC
Name and Location803-776-6263
Telephone Number

Refer to the Targeting Information found at G:\SCHEDULE\00TARGETrev1.wpd for information on inspection emphasis for each functional area during the fiscal year. On the reverse side of this form (Region II Fuel Facilities Branch Inspection Areas), highlight the areas (e.g. F1.05, S2.07, etc.) to be inspected and cross out those areas previously inspected during the Fiscal Year DAA.

Inspector's Initials

Refer to the Targeting Information also for information on planned expenditures by inspection procedure number, and the current resource expenditures (completed hours) which are maintained by the Project Inspectors for data on year to date hours charged by inspection procedure number. This information together with the planned expenditures by procedure number should be entered on the reverse side of this form. DAA Note: This is critical to assuring that we are appropriately controlling budgeted resources.

Inspector's Initials

Print, review, and attach a copy of the Plant Issues Matrix (for the period since the last LPR or one year which ever is longer) associated with the Primary Inspection Areas (Safety Operations, Safeguards, Radiological Controls, and/or Facility Support) in which inspection will be conducted. The purpose of the PIM review is to identify trends, strengths, and weaknesses in licensee performance in the general areas to be inspected and to provide insights to appropriately focus the inspection focus. In an attachment, list the performance measures that will be inspected and indicate the standard against which performance will be judged. Note that this part of the plan is the most important because here is where the real focus of the inspection is developed. It needs to be consistent with the Targeting Information unless performance has changed. In that case the Targeting Information must be revised DAA.

Inspector's Initials

Attach a list of all open items for the facility and annotate the issues that will be reviewed for closure. The lists are in the G:\OPENITEM drive and are of the form NFSOIL2000.wpd. Note: This is critical to meeting commitments to the Regional Administrator. Check with the Project Inspector to see if there are items opened by other inspectors that should be ready for closure. If there are such items, bring back information for the Inspector who opened the item to review in the office for closure. That Inspector will provide you with a closure writeup to include in your inspection report. If there are items for which closure has been documented in an inspection report but are not reflected as such on the list, fill out a closure sheet and provide it to Janice Kirby DAA.

Inspector's Initials

The inspection is on the MIS in ADAMS (See Main Library and folder /Region II/Fuel Facilities/FFB Schedule/FY00 Inspection Schedule). DAA Note: This is critical in meeting Region II Operating Plan goals. If this inspection is not on the Inspector's Initials above schedule, it is not on the Master Inspection Schedule maintained by NMSS. To add the inspection to the FFB schedule, it must be concurred in by the Project Inspector and approved by the branch chief.

Inspection Instructions from the Project Inspector (Ayres for General Electric and Westinghouse; Gloersen for NFS; and Seymour for BWX Technologies and Framatome Cogema Fuels):

Project Inspector Certification that: 1) inspection focus is consistent with branch targeting information and licensee performance trends from an up-to-date PIM, 2) planned inspection is based on acceptable performance measures, and 3) direct inspection effort to be expended during this inspection is consistent with the inspection effort goals established in the current branch targeting information, the latest LPR and resource already expended during the fiscal year. DAA 3-8-00

7A-6

Project Inspector's Initials Date

Additional Inspection Instructions from Branch Chief:

Original to Branch Secretary Copies	
With Attachments To	
	Inspector(s)
	Project Inspector
	Branch Chief

Branch Chief Approval: _____
Signature Date

G:\PLANS\INSPECTI.PLA

Region II Fuel Facilities Branch Inspection Areas**I. SAFETY OPERATIONS****O3 Plant Operations (88020)**Planned Hours: 70 Completed Hours: 30.5 Hours This Inspection: 9

- O3.01 Conduct of Operations
- O3.02 Facility Modifications and Configuration Controls
- O3.03 ~~Implementation of Process Safety Controls~~
- O3.04 Implementation of Storage Safety Controls
- O3.05 Implementation of Safety Controls for Material Handling and Movement
- O3.06 Housekeeping
- O3.07 ~~Review of Previous Events~~
- O3.08 Follow up on Previously Identified Issues

O4 Fire Safety (88055)Planned Hours: 28 Completed Hours: _____ Hours This Inspection: _____

- O4.01 Fire Protection Program Management/Organization
- O4.02 Review of Documentation Related to the Fire Protection Program, Insurer's Audits and Safety Committee
- O4.03 Building Design, Construction, and Ventilation System
- O4.04 Fire Safety of Processes, Equipment, and Storage Areas
- O4.05 Fire Protection Systems
- O4.06 Fire Hazards Analysis
- O4.07 Pre-Fire Plan
- O4.08 Fire Brigade Training
- O4.09 Fire Emergency Drills
- O4.10 Off Site Support
- O4.11 Follow up on Previously Identified Issues

O5 Management Organization & Controls (88005)Planned Hours: 14 Completed Hours: 5 Hours This Inspection: 9

- O5.01 Organizational Structure
- O5.02 Procedure Controls
- O5.03 Internal Reviews and Audits
- O5.04 Safety Committees
- O5.05 ~~Quality Assurance Programs~~
- O5.06 Follow up on Previously Identified Issues

II. SAFEGUARDS**S2 Security (81000 series)**Planned Hours: 0 Completed Hours: _____ Hours This Inspection: _____

- S2.01 Management, Staffing, Plan and Procedures, Audit
- S2.02 Barriers, Locks, Equipment, Hardware, Maintenance
- S2.03 Alarm Stations Functions, Compensatory Measures, Power Supplies
- S2.04 Access Controls
- S2.05 Fitness For Duty, 10 CFR Part 26
- S2.06 Training/Qualification Appendix B, Contingency Appendix C, Tac-Exercises
- S2.07 Records, Reports, Event Logs Part 73.71
- S2.08 Shipments
- S2.09 Protection of Information, Parts 25 and 95
- S2.10 Follow up on Previously Identified issues

III. RADIOLOGICAL CONTROLS**R1 Radiation Protection (83822)**Planned Hours: 44 Completed Hours: _____ Hours This Inspection: _____

- R1.01 Radiation Protection Program Implementation
- R1.02 Radiation Protection Program Procedures
- R1.03 Radiation Protection Program Equipment
- R1.04 External Exposure Control
- R1.05 Internal Exposure Control
- R1.06 Respiratory Protection
- R1.07 Postings, Labeling, Control
- R1.08 Surveys
- R1.09 Notifications and Reports
- R1.10 Implementation of ALARA Program
- R1.11 Management Oversight of Program
- R1.12 Follow up on Previously Identified Issues

R2 Environmental Protection (88045 and 88104)Planned Hours: 16 Completed Hours: 18 Hours This Inspection: _____

- R2.01 Monitoring Program Implementation
- R2.02 Monitoring Program Results
- R2.03 Management Audits, Inspections and Controls
- R2.04 Quality Control of Analytical Measurements
- R2.05 Independent Measurement Verification (Sample Splitting)
- R2.06 Monitoring Program Reports
- R2.07 Decommissioning Activities
- R2.08 Follow up on Previously Identified Issues

R3 Waste Management (84850, 84900 and 88035)Planned Hours: 24 Completed Hours: 20 Hours This Inspection: _____

- R3.01 Liquid Effluent Program Controls, Procedures and Instrumentation
- R3.02 Liquid Effluent Monitoring Results
- R3.03 Airborne Effluent Controls, Procedures and Instrumentation
- R3.04 Airborne Effluent Monitoring Results
- R3.05 On-site Waste Storage
- R3.06 Waste Classification
- R3.07 Waste Form and Characterization
- R3.08 Waste Shipping (Manifests, Labeling, and Surveys)
- R3.09 Tracking of Waste Shipments
- R3.10 Management Control of Liquid & Airborne Effluents and Solid Waste
- R3.11 Quality Assurance Programs
- R3.12 Follow up on Previously Identified Issues

R4 Transportation (86740)Planned Hours: 24 Completed Hours: 4 Hours This Inspection: _____

- R4.01 Preparation of Packages for Shipment
- R4.02 Delivery of Completed Packages to Carriers
- R4.03 Receipt of Packages
- R4.04 Certificates of Compliance
- R4.05 Management Controls
- R4.06 Records and Reports
- R4.07 Follow up on Previously Identified Issues

IV. FACILITY SUPPORT**F1 Maintenance/Surveillance (88025)**Planned Hours: 26 Completed Hours: 20 Hours This Inspection: _____

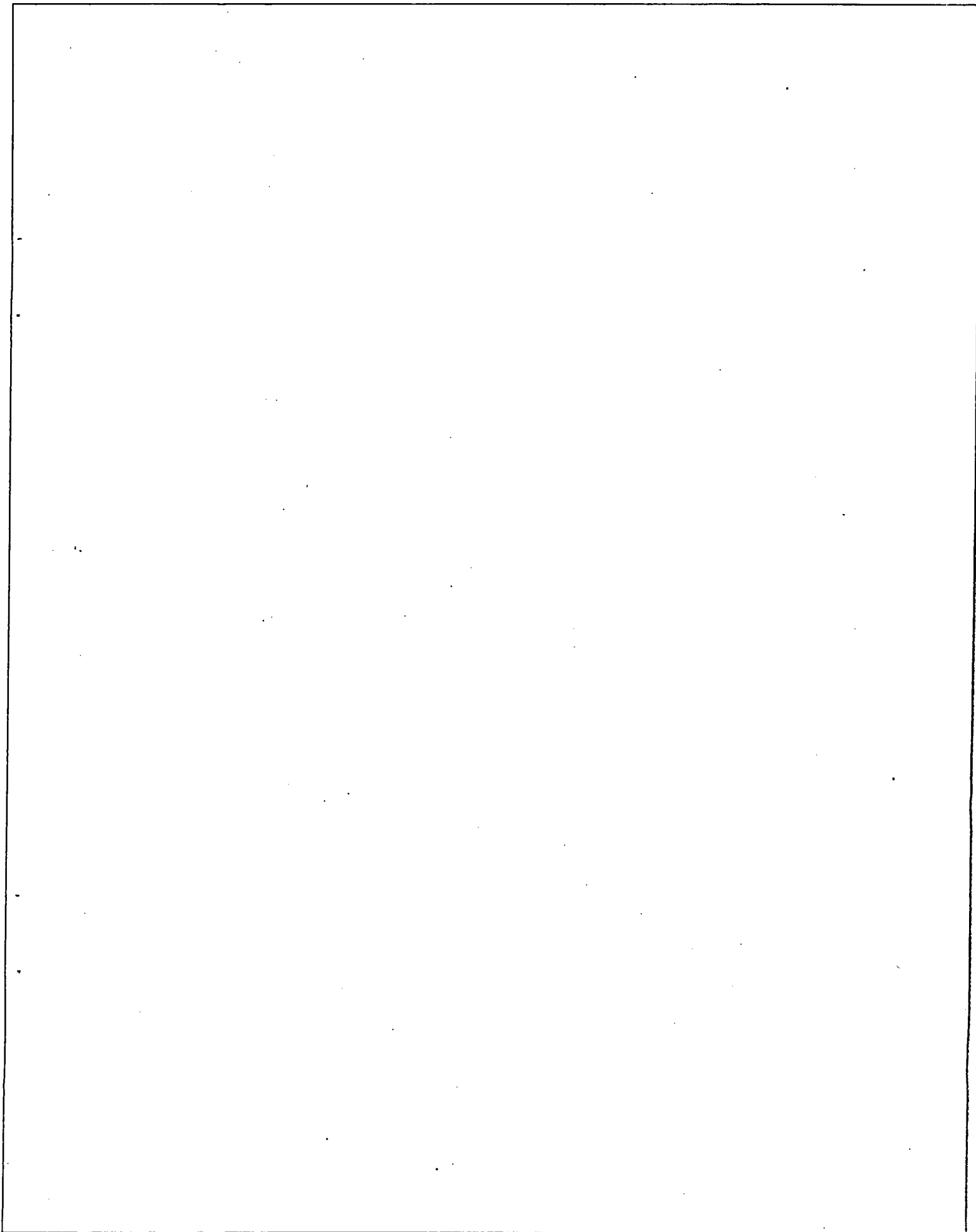
- F1.01 Conduct of Maintenance
- F1.02 Work Control Procedures
- F1.03 Work Control Authorizations
- F1.04 Qualifications of Maintenance Personnel
- F1.05 Management Audit of Maintenance
- F1.06 Surveillance Testing
- F1.07 Calibrations of Equipment
- F1.08 Follow up on Previously Identified Issues

F2 Training (88010)Planned Hours: 18 Completed Hours: 8.5 Hours This Inspection: 9

- F2.01 10 CFR 19.12 Training
- F2.02 General Nuclear Criticality Safety Training
- F2.03 General Radiological Safety Training
- F2.04 General Emergency Training
- F2.05 Operating Procedure Training
- F2.06 On-the-job Training

F2.07 Follow up on Previously Identified Issues**F3 Emergency Preparedness (88050)**Planned Hours: 48 Completed Hours: _____ Hours This Inspection: _____

- F3.01 Review of Program Changes
- F3.02 Implementing Procedures
- F3.03 Training and Staffing of Emergency Organization
- F3.04 Off site Support
- F3.05 Drills and Exercises
- F3.06 Emergency Equipment and Facilities
- F3.07 Follow up on Previously Identified Issues



Westinghouse Inspection Plan 2000-002

- O3.01 Conduct of Operations - Review operations in the chemical manufacturing area to verify adherence to safety requirements.
- O3.02 Facility Modifications and Configuration Controls - Review recent updates to ADU processing equipment and verify that changes were made in accordance with internal configuration control procedures and that process documentation is up-to-date.
- O3.07 Review of Previous Events - Review licensee's investigation and corrective actions in response to uranyl nitrate spill reported in NRC event notice #36727(NMED #000144).
- O3.08 Follow-up on Previously Identified Issues - Review the licensee's actions in response to IFI 99-06-01 (potential failure of safety alarms and controls due to level probe failure) and IFI 99-06-02 (evaluate more detailed instructions for taking samples used as backup criticality safety control).
- O5.02 Procedure Controls - Review procedure updates to verify that operating instructions involving recent changes in chemical area equipment were properly documented prior to equipment use. Also verify that procedures are reviewed for updating within the maximum frequencies listed in section 3.4.3 of the license application (annually for "regulatory" related procedures and biennially for operating procedures).
- O5.03 Internal Reviews and Audits - Review systems used for internal reporting of events to verify that they meet the requirements of section 3.7.1 of the license application. Review recent event (uranyl nitrate spill) to verify that the procedures for performing incident investigations are being properly followed.
- O5.04 Safety Committees - Review the Regulatory Compliance Committee meeting minutes to verify that safety-related issues are being properly funneled to senior plant management.
- F2.02 General Nuclear Criticality Safety Training - Review training and testing materials to ensure that proper instruction is being given to operators on criticality safety controls.
- F2.03 General Radiological Safety Training - Review training and testing materials to ensure that proper instruction is being given to operators on radiological safety controls.

METHODOLOGY

1. Review newest revisions to the ISA for the ADU process. Review process equipment changes made in past 6 months, especially around the calciners. Review applicable version of the configuration control procedure(s) and verify that they were followed in making the changes. Verify that this procedure has been reviewed for update within the past year. Verify that process drawings have been updated.

Review licensee's actions in response to IFI 99-06-01 and IFI 99-06-02. If any changes have been made to the equipment, verify that configuration control procedures were followed and verify that changes to the UN Bulk Tank ISA are being made.

2. Tour process area and inspect any new or changed safety controls. Observe operator adherence to administrative controls. Look at drum storage in scanning area (based on comment from Swatzell). Look at storage of Sapphire material from BWXT (based on info from Hughey).
3. Review operating procedures for ADU process. Verify that administrative controls identified in the ISA are in the procedures. Verify that operational changes were instituted into procedures prior to operation of new/changed equipment. Verify that all operating procedures for that area have been reviewed for updating at least biennially.
4. Review training and testing materials for the ADU process. Verify that criticality and radiological safety controls identified in the ISA are discussed during training, and operators are tested on them for adequate understanding.
5. Review licensee procedures for conducting internal reviews and incident investigations. Verify that these procedures are reviewed for updating at least annually.
6. Review the licensee's investigation into the uranyl nitrate spill in February 2000. Verify that the procedures for conducting internal reviews and incident investigations were followed. Investigate age, design and maintenance of UN piping. Evaluate whether similar failures are likely in other piping systems and verify the licensee is looking to correct them.
7. Review the Regulatory Compliance Committee meeting minutes to verify that safety-related issues are being properly funneled to senior plant management.

One liners summary

December

The 12-week maintenance shutdown of powder production line #3 has been completed and all powder production lines are now in operation. Pellet production continues at near full capacity.

January

Fuel rod plenum springs received from the licensee's supplier were recently discovered to have been contaminated with a hydrocarbon residue. As a result, about 20,000 fuel rods are being reworked (about 15,000 ADU fuel rods and 5,000 IFBA fuel rods). The rework involves cutting the end plug off of the rod and inspecting the spring. If the spring is found to contain residue, the pellets within that rod are unloaded and processed through a sintering furnace to burn off any potential residue. The rework started just before the Christmas shutdown, continued during most of the shutdown and will continue through January.

Since the BNFL/Westinghouse acquisition of the ABB/Combustion Engineering fuel facility in Hematite, Missouri, a corporate "integration team" is being assembled to determine how to best use the resources from the two facilities.

February

Three Uranium Recovery operators (two on February 3rd and one on February 8th) were put on work restriction due to elevated airborne levels at the dissolver feed hoods. These hoods were recently connected to a new Torit cartridge filter system, and the elevated airborne may have been caused when these cartridge filters are blown down; investigations are continuing.

The inspection/reworking of 20,000 fuel rods with potentially contaminated (with plastic) plenum springs has been completed.

The elevated airborne contamination that caused three workers to be placed on work restriction was found to be caused by a clogged inlet filter on the feed hood. The filter was replaced and preventive maintenance was established for periodic replacement of the filter. Two areas, the Uranium Recovery System Dissolvers and the Bulk Blending Room, are presently designated as respirator areas, primarily as a precaution while some elevated airborne activity sources are being addressed. In addition, early this morning (2/24) there was an elevated airborne activity situation associated with some maintenance activity on Conversion Line 2 bucket elevator.

On February 14th, Bob Monley was named Deputy Plant Manager. He will replace Jack Allen as Plant Manager sometime later this year. In the meantime, Jack will continue his duties as Plant Manager.

March 2000

One Pellet Area operator was put on restriction on March 7th due to high airborne readings at the pellet press on Line 1. The source is still being investigated and may be the oxidation oven next to the press.

On March 3rd a pellet operator fainted (due to a pre-existing medical condition) and had to be taken to the plant Medical department with his controlled area protective clothing on. In Medical, his clothing was removed, he was surveyed and released to the hospital. The Medical department area was decontaminated and released immediately after the event. The local fire department was the first offsite responder to arrive at the plant and the employee was transported on their stretcher. After the event, they contacted SC-DHEC (according to protocol) to have their equipment surveyed, which was done and no contamination was found. The local ABC TV affiliate heard about the event (not confirmed how) and one of their reporters came to the plant, but quickly left when he heard the details.

The licensee received the second shipment of UNH crystals from BWX-T Sapphire material on March 3rd

and began dissolution. The first shipment was dissolved with no problems. They have also received one shipment of scrap pellets from BNFL and are currently oxidizing and dissolving this material.

A contamination event was previously reported on February 25, 2000, when a piping failure caused several gallons of uranyl nitrate solution to spill inside the chemical processing facility. Some of the solution seeped through a piping penetration in the floor of the building and out to an outdoor concrete pad in a restricted area not requiring anti-c clothing. The removable surface contamination was cleaned up, but several grams of uranium remained fixed in the concrete. Based on this event, the licensee reviewed other piping penetrations through its exterior walls and found two other areas where contamination was present on the outdoor surface of the building. UPDATE: The majority of all contamination found was fixed. The two high priority actions currently in progress are: 1) removing obsolete piping on the inside of the wall in the UF6 Bay, then installing/applying a barrier along the wall/floor to prevent migration of any future leaks; and 2) decontaminating the wall on the outside of the Cylinder Wash area. A short article about this situation was printed in The State newspaper (page B10) on February 29th. Removal of the obsolete piping has begun. Decontamination of the wall on the outside of the Cylinder Wash area started; after 3 washes all the smearable contamination was removed, but fixed contamination remained higher than expected. Heavy rain on March 20th stopped the decon efforts, but will resume once the scaffolding is dry enough to safely use.

The second shipment of UNH crystals from BWX-T Sapphire material has been totally dissolved with no problems noted. The one shipment of scrap pellets from BNFL has also been totally oxidized and dissolved. No more shipments are planned between now and the SNM Inventory (April 11-12).

The BNFL Behavioral Safety Process is at the very early stage of implementation at the Columbia Plant. The heart of the process is observing workers doing their work and giving feedback to the worker on safe and unsafe behaviors. The Columbia Plant "Implementation Plan" has been drafted, and the coordinators are reviewing occupational injury data from the past 12-24 months. This process will be piloted in one or two areas for 3-6 months before being implemented throughout the entire plant.