U.S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 70-1257/94-01

Docket No. 70-1257

License No. SNM-1227

Licensee: Siemens Power Corporation
2101 Horn Rapids Road
Richland, Washington 99352-0130

Facility Name: Siemens Power Corporation

Inspection at: Richland, Washington

Inspection Conducted: January 10-14, 1994

Inspector: C. A. Hooker 2/2/94
C. A. Hooker, Fuel Facilities Inspector — Date Signed

Approved by: James H. Reese 2/3/94
James H. Reese, Chief — Date Signed
Facilities Radiological Protection Branch

Summary:

Areas Inspected: This was a routine unannounced inspection of radiation protection, followup on inspector followup items and Confirmatory Action Letters. Inspection procedures 30703, 83822, 92701, and 92703 were addressed.

Results: Within the scope of this inspection, two violations were identified that involved the failure to (1) instruct individuals working with radioactive materials of the NRC's requirements for limiting the radiation does to an embryo/fetus (Section 2.a.), and (2) failure to implement a radiation protection program to ensure compliance with the revised Part 20 (Section 2.a.).

DETAILS

1.0 Persons Contacted

Siemens Power Corporation (SPC)

*B. N. Femreite, Plant Manager,
*R. E. Vaughan, Manager, Safety, Security and Licensing
*M. K. Valentine, Manager, Manufacturing Engineering
*L. J. Maas, Manager, Regulatory Compliance
*J. B. Edgar, Staff Engineer, Licensing
*B. F. Bently, Manager, Plant Operations
*R. L. Feuerbacher, Manager, Materials and Scheduling
*T. C. Probasco, Supervisor, Safety
*C. D. Manning, Criticality Safety Specialist
*R. K. Burklin, Health Physicist
*D. Belt, Health and Safety Technician
J. H. Phillips, General Supervisor, Chemical Operations
E. L. Foster, Supervisor, Radiological Safety

*Denotes those attending the exit interview on January 14, 1994.

In addition to the individuals noted above, the inspector met and held discussions with other members of the licensee's staff.

2.0 Radiation Protection (83822)

The licensee's radiation protection program was reviewed for compliance with the requirements of 10 CFR Parts 19 and 20, License Conditions, licensee procedures, recommendations outlined in various industry standards and to verify that operations were being conducted to ensure the safety of the workers and general public.

The inspector focused on the licensee's performance on implementation of selected areas of the revised Part 20, which became effective January 1, 1994.

a. Procedures and Training

NRC Inspection Report No. 70-1257/93-09 described the licensee's progress in developing a radiation protection program for implementing the provisions of revised Part 20. The hierarchy of the licensee's procedures for implementing its radiation protection program is:

(1) Chapter 2, "Radiation Protection Standards," of the licensee's Safety Manual (EMF-30).

EMF-30 provides the radiation protection standards and the bases for radiation protection for all onsite facilities. The intent of the standards is to formulate the requirements

of NRC and State licenses and regulations into one governing program document. The licensee's ALARA Policy is also maintained in Chapter 2 of EMF-30.

(2) Site Radiological Operating Procedures (EMF-1508).

These procedures provide instructions to Site personnel on how to perform various tasks involved with radiological protection and to transmit requirements contained in the plant licenses and Federal and State regulations and permits.

(3) Health Physics and Radiological Safety Procedures (EMF-1507)

These procedures provide instructions to Safety, Security and Licensing (SS&L) personnel on how to perform various tasks involved in radiation protection.

Based on the review of licensee records and discussions with cognizant personnel, the inspector made the following observations:

(1) NRC Information Notice (IN) No. 93-80, "Implementation of the Revised 10 CFR 20," dated October 8, 1993, was issued to all licensees to emphasize that the revised Part 20 was to become effective January 1, 1994, and that the NRC would be inspecting against and enforcing the regulations of the revised Part 20 on its effective date. Based on other notifications, the IN also stated that licensees have had over two years to prepare for the new regulations.

10 CFR 19.12 requires, in part, that all individuals working in a restricted area be instructed in the precautions and procedures to minimize exposure to radioactive materials, and in the applicable provisions of the Commissions regulations and licenses.

10 CFR 20.1008(a) and 1101(a) state that each licensee shall develop, document, and implement a radiation protection program commensurate with the scope and extent of licensed activities and sufficient to ensure compliance with the provisions of the revised Part 20 on January 1, 1994.

10 CFR 20.1208(a) and (b) require that for a declared pregnant woman, the licensee shall ensure that the dose to an embryo/fetus during the entire pregnancy, due to occupational exposure of a declared pregnant woman does not exceed 0.5 rem, and that the licensee shall make efforts to avoid substantial variation above a uniform monthly exposure rate to a declared pregnant woman.

(2) On January 10, 1994, the inspector noted that Chapter 2, "Radiation Protection Standards," Revision No. 14 of EMF-30, had not been finalized to implement the revised Part 20 requirements. The procedure lacked seven management signatures for acceptance/concurrence and the final approval by the Plant Manager. The final approval of this 64 page standard was not obtained until the afternoon of January 13, 1994, and a copy was provided to the inspector.

Section 5.2.1, "Exposure to an Unborn Child (20.1208)," Chapter 2 of EMF-30 stated:

> "All employees shall be advised of the National Council on Radiation Protection and Measurement recommendation to keep radiation exposure to an embryo or fetus to the very lowest practicable level during the entire gestation period. The dose limit to the unborn child is a maximum of 0.5 rem. Therefore, exposure to a fetus of a declared expectant mother shall not exceed 0.5 rem during the gestation period."

Section 6.3, "Prenatal Exposure Training," Chapter 2 of EMF-30 stated:

> "All female employees requiring radiation worker training shall receive instruction in the possible health risks to the unborn child of pregnant women who are exposed to radiation during pregnancy. Persons who receive this instruction shall acknowledge, in writing, that the instruction has been received. These acknowledgements shall be maintained indefinitely by Employee Relations. Normally, the instruction and acknowledgement shall be completed at the time of new employee orientation or radiation worker training."

The inspector noted that Section 6.3, Revision No. 14 of EMF-30 remained unchanged from Revision No. 13, issued April 5, 1993, and there were no further discussions in Chapter 2 regarding the dose to an embryo/fetus. None of the licensee's lower tier radiation safety procedures discussed exposure control or dose to the embryo/fetus, and there was no procedure for maintaining records of dose to an embryo/fetus in accordance with 10 CFR 20.2106(e). Also, the licensee did not maintain an evaluation to show that the dose to an embryo/fetus during the entire pregnancy, due to occupational exposure of a declared pregnant woman (DPW), could not exceed 0.5 rem. Additionally, in the event of an accident (inadvertent criticality or other events that could cause high airborne radioactivity) an embryo/fetus of a DPW could very likely exceed a dose 0.5 rem.

The inspector noted that as of the dates of inspection, January 10-14, 1994, the licensee's "Notice to All Employee's of Siemens Power Corporation," with attached Appendix B, "Pregnant Worker's Guide," of Regulatory Guide 8.13, "Instruction Concerning Prenatal Radiation Exposure," which stated in part "the NRC has not established a special dose limit for protection of the unborn child."

(3) According to the licensee, only one female radiation worker was pregnant. This individual is a health and safety technician (H&ST) who had been voluntarily assigned to perform H&ST office duties prior to 1994 and does not frequent areas where she would likely receive an occupational radiation dose in excess of 0.05 rem per year. Based on the review of external and internal exposure records, it appeared that H&STs' annual radiation doses would typically not exceed 0.1 in the performance of their normally assigned job functions.

Regarding "Instructions to Radiation Workers," the licensee had recently hired two new employees who were considered radiation workers who required occupational exposure monitoring. One of the employees was a female. The inspector noted that the female worker had signed her acknowledgement of receiving the licensee's form with the attached Appendix B, "Pregnant Worker's Guide," of Regulatory Guide 8.13, "Instruction Concerning Prenatal Radiation Exposure," on December 29, 1993, and radiation worker training on January 4, 1994.

Two radiation workers, including a female worker, who missed their December 1993 annual refresher radiation worker training class, were provided a make-up class on January 4, 1994. The licensee's records indicated that from November 1 through December 1993, about 400 personnel had received annual radiation worker/respiratory protection refresher training.

The inspector noted that in conjunction with the licensee's new program for controlling occupational exposure from airborne radioactive materials (described in Section 2.b. below), individuals who received 1993 annual refresher and 1994 new employee respiratory protection training had received training on the revised Part 20 occupational annual dose limits except those that apply to the annual limit to lens of the eye, to the skin and to the extremities. No instructions had been provided to female radiation workers regarding the NRC's requirements for a DPW.

On January 14, 1993, the licensee informed the inspector that all of the radiation workers who received such training after January 1, 1994, were reinstructed on the revised 10

CFR Part 20 occupational dose limits, including the requirements for a DPW. However, more time was needed to provide such training for worker who received training prior to January 1, 1993.

Based on the above observations, the inspector determined that failure to instruct (1) individuals on the applicable provisions of the radiation occupational dose limits and the required procedure for a woman to become a DPW as specified in the revised 10 CFR Part 20, and (2) all personnel working with radioactive materials had not been informed of the new occupational dose limits to the eye, the skin and the extremities as specified in 10 CFR 20.1201(a)(2) was identified as an apparent violation of 10 CFR 19.12 (70-1257/94-01-01).

The inspector also determined that the licensee had not developed, documented or implemented as part of the radiation protection program, a program to ensure compliance with 10 CFR 20.1208(a) and (b), "Dose to an embryo/fetus," and 20.2106(e) was identified as an apparent violation of 10 CFR 20.1101(a) (70-1257/94-01-02).

b. Internal Exposure Control

IN No. 92-34, "New Exposure Limits for Airborne Uranium and Thorium," dated May 6, 1992, was issued to alert all licensees whose operations can cause airborne concentrations of uranium and thorium, of the reduction in occupational airborne concentrations of certain thorium and uranium compounds in the revised 10 CFR Part 20. The IN also stated that the new Part 20 contains two changes that can impact greatly on such licensees. These are changes in occupational exposure limits, and equivalence of internal and external dose.

Procedure EMF-1508,2.14, "Internal Dose Tracking System," Revision 0, was approved in December 1993 and implemented on January 1, 1994. The licensee's policy is to track the internal dose of all personnel who may receive more than 200 DAC hours per calendar year or likely to work 4 hours per week in airborne radioactivity areas. This new system consisted of a computerized personnel work zone tracking system. A metal identification memory button is attached to each individuals combination security identification-thermoluminescent (TLD) badge who meet the criteria for internal dose tracking. This memory button is used when workers log in and out of areas where internal exposure is tracked.

Selected work zones (a work area associated with a particular task and monitored by one or more fixed air samplers) and sub-zones (normally a localized part of a work zone where respiratory protection is required) are equipped with an electronic touch probe log-in/log-out reader (TPR). When an individual worker logs into a zone his/her respiratory protection status (no mask, half-mask, full-face mask, or supplied air mask) is also entered. If

an individual fails to log out of a zone and logs into another zone, the system will automatically log them out of the previous location. If a worker is in a zone where respiratory protection is not required and conditions change (enrichment clean-outs and/or abnormal conditions) that would require a respirator, he/she must log into the TPR the respirator used. If there is a failure in the system (probe fails to read), workers are required to log in and out of zones on a backup form.

The data from the TPRs are manually downloaded daily into a portable memory unit, uploaded to a mainframe computer system and integrated with daily radioactive airborne data. For each worker, the computer computes the DAC-hours for each lung clearance classification (D, W, and Y) of material and total DAC-hours. Respiratory equipment protection factors and a bias correction factor based on lapel sample studies are also used in the DAC-hour determinations.

The licensee had a late start in setting up the internal dose tracking system and the testing of the system was not conducted until the last two weeks of December 1993. During the testing phase the licensee did not observe any perturbations in the system. During this inspection, the licensee received their first DAC computation printouts which indicated a number of individuals had been assigned suspiciously high DAC-hours for an eight day period (63 to 155 DAC-hours). The licensee's initial investigation of this matter indicated possible computer programming problems and potential problems and/or personnel using the TPRs. It appeared that some workers may not have logged with the correct respirator used and/or had not logged in as to their use of a respirator as when conditions changed within a zone. The licensee had not completed their investigation as to the cause of the problems by the end of the inspection.

Regarding air sampling, the licensee uses sample result data from fixed area/work station air samplers (about 350 onsite) and lapel samplers to determine air sample representativeness of the breathing zone of workers. Placement of fixed air samples are primarily based on visual inspections and work area prevailing air flows as determined by localized smoke tests. The licensee's evaluations during the past few months have indicated an average bias of about 3.0 from lapel data to fixed air sampling data. Some isolated work zones had much higher biases. At a minimum, room air samples in operating areas are normally collected and counted each shift. Room air samples in operating areas are normally collected and counted each shift. Air samples in areas that average less than 10% DAC are changed weekly. For certain tasks that are known to require respiratory protection, such as system clean-outs and special maintenance, air samples are evaluated at the end of the task before releasing the area from respiratory protection control.

With the reduction in 10 CFR Part 20 occupational airborne concentrations for uranium compounds and the bias correction factors being utilized, the use of respiratory protection had increased substantially, especially for class Y uranium compounds. According to the licensee, (1) the bias correction factors being applied to some of fixed air samplers had been established with limited lapel studies, (2) correction factors applied to fixed air sample data were from peak lapel air sample data and may not be representative of normal operations, and (3) more attention needed to be applied to individual work habits of personnel assigned lapel samplers. Additionally, the licensee needed to evaluate the decay time allowed before counting air samples collected over short time to preclude interference from natural radon gas daughter products. At this time, the licensee has estimated that there could be a number of workers who could average about 40 DAC-hour per work week. As defined in Part 20, 2000 DAC-hours represents one ALI that equates to a committed effective dose equivalent of 5.0 rem or 50 rems to any individual organ or tissue, which are the NRC annual limits. Such exposures are not within the ALARA concept and have the potential for exceeding the NRC limits.

Previous NRC inspection reports have described the licensee's establishment of an "Airborne Contamination Task Team (ACTT)." The inspector noted, from the ACTT November 1993 meeting minutes, that no progress had been made on about 50% of 22 previously identified sources of airborne radioactivity. According to the licensee, due to resources applied to other areas of regulatory (NRC and State) concern, this activity has not had the attention as initially intended. However, in recognition of the need to keep airborne radioactivity ALARA, they have recently escalated their attention to this program. One new program involved an extensive campaign to clean plant areas not normally cleaned, such as overhead spaces and equipment where loose radioactive material can collect and eventually become airborne. According to the licensee such a campaign was performed in 1984 and was effective in reducing airborne radioactivity.

In late 1993, the licensee instituted a program to characterize the particle size of work zone airborne uranium compounds. This evaluation was being performed with five particle size analyzers. The licensee was still collecting data relative to this program. At this time, the licensee's studies indicate that the activity median aerodynamic diameter (AMAD) particle size for most work zones is much greater than the default AMAD of 1.0 micro meter used for determining the annual limit of intake or DAC limits listed in 10 CFR 20, Appendix B. The licensee expects soon, to submit a request pursuant to 10 CFR 20.1204(c) to the NRC for authorization to adjust the ALI or DAC limits in certain work areas, based on their particle size evaluations. According to the licensee, their bioassay data supported the findings of the particle size studies.

Based on the above observations, the inspector concluded that the licensee was not timely in preparing and evaluating the quality of its internal exposure program. The licensee's resolution of DAC-hour tracking problems, and their effectiveness in the reduction of respirator usage will be examined in a future inspection as an inspector followup item (70-1257/94-01-03).

c. Bioassays

The inspector reviewed routine and non routine bioassay measurements of personnel relative to 10 CFR Part 20 requirements prior to January 1, 1994. The licensee's routine bioassay program consists of evaluating (1) urine samples alternately collected every 10 and 18 days and annual lung counts of workers exposed to soluble uranium compounds, and (2) monthly urine samples and semiannual lung counts of workers exposed to non-soluble uranium compounds. Appropriate urinalysis and lung count action levels were incorporated to accommodate the respective bioassay measurement frequency. Fecal samples are evaluated for persons with confirmed positive lung counts or suspected intakes of non-soluble uranium. All bioassay measurements are performed by outside contractors.

The inspector reviewed the urinalysis results for the past six months. The results indicated that individuals with positive results were far below the 9.6 milligram weekly limit for soluble uranium as derived from 10 CFR Part 20.103(a)(2). No individuals exceeded the quarterly 520 maximum permissible concentration hours specified in 10 CFR 20.103(a)(1).

d. External Exposure Control

External exposures for 1993 were reviewed. Personnel monitoring was primarily based on thermoluminescent dosimeters (TLDs) processed by a contract vendor. TLDs were processed quarterly for operations personnel, and individuals that often frequented areas where external radiation exposure was likely to be received. TLDs were exchanged annually for personnel with low exposure potential (primarily office personnel). Quarterly TLDs contained three thermoluminescent chip and provided a measure of shallow and deep dose equivalents. Annual TLDs contain one thermoluminescent chip and provides a combination measure of shallow and deep dose. Vendor reports of external exposures through the third quarter of 1993 indicated a maximum deep dose of 0.480 rem for one worker. The maximum shallow dose observed was 2.22 rem.

e. Control of Radioactive Materials and Contamination, Surveys, and Monitoring

During facility tours, the inspector observed that personnel survey instruments were conveniently located at exits from contaminated areas. All survey instruments were noted to be

operational and currently calibrated. The inspector reviewed selected routine and non-routine survey records for the UO_2 Building. Contamination levels in the normally contaminated areas appeared to be maintained ALARA, and normally clean areas were being maintained free of contamination. The inspector noted that radiation areas, radioactive materials areas, and radioactivity airborne controlled areas were posted and controlled as required by 10 CFR Part 20.1902.

The licensee's performance appeared marginal. The licensee was not timely nor adequately prepared its program to ensure that the revised Part 20 requirements would be implemented effectively. Two violations of NRC requirements were identified.

3.0 Followup - Licensee Action on Previous Inspection Findings

a. Inspector Followup Items (92701)

70-1257/91-04-09 (Closed) - Criticality Training Program for Supervisors

This item involved the need for the licensee to provide additional criticality safety training to first line supervisors beyond that provided to their staff. Regarding this matter, the licensee had revised the criticality safety training program, Section 8.0, "Training," Chapter 3.0, "Nuclear Criticality Safety Standard," of the licensee's Safety Manual (EMF-30), to include semiannual training for supervisors and managers that included a review of (1) criticality control management systems, (2) a review of past criticality safety infractions, and (3) program controls and improvements. The inspector had no further questions regarding this matter.

70-1257/91-04-36 (Closed) - Analysis of Onsite and Off-site Effects from a Fire in the Engineering Laboratory Building (ELOB)

The item originated during the Operational Safety Assessment (OSA) conducted at the licensee's facility in October - November 1991. The OSA team recommendation that the licensee perform such an analysis, because the licensee had not installed a fire sprinkler system in the ELOB where large quantities of low enriched uranium was maintained. Following the OSA, the NRC began to develop plans to require all fuel cycle facilities to perform an Integrated Safety Analysis (ISA) of their processes. The NRC is currently working on the criteria and requirement for licensee's to perform ISAs. Since it this mater will dealt with under the purview of an expected Rule change and licensing actions, this matter is considered closed

concerning these matters to the NRC on November 12, 1993.

The licensee's response also included additional corrective actions identified to prevent similar occurrences. These were: (1) installation of a nitrogen sweep system for the removal of moisture during the blending and download stages, (2) installation of a moisture detection/shut-off system on the incoming nitrogen header, (3) revision of the standard operating procedure for blender operations to require periodic cycling of the blender auger to transfer warm powder to the outside of the blender's wall as well as to require periodic inspection of the blender interior, and (4) completion of a test program to optimize sweep gas flows and auger operation. During a telephone conversation on December 30, 1993, between the licensee and Regional office, the licensee stated that they would evaluate the feasibility and safety benefit of installing a moisture detection device in the blender's off-gas system, and that a new criticality safety analysis for the process testing program will limited the LLB to about 9.5 kilograms of water contained in the total mass of uranium powder. This would be verified by Process Engineering (PE) and Criticality Safety (CS) prior to material transfers to the LLB. Additionally, PE and CS will control separate locks on valves and will only open the valves when approved material is transferred to the blender.

Based on discussions with cognizant licensee personnel, a walk-down of the system, and a review of licensee procedures and criticality safety analysis (CSA), "Criticality Safety Analysis U-LLB," dated January 3, 1994, the inspector verified that the additional corrective actions planned had been implemented or would be implemented prior to operation of the LLB. Regarding moisture control, the licensee had established a specific mass moisture verification procedure for each phase of the operation that required verification by PE and CS, to assure that the moisture content of the powder did not exceed 9.5 kilogram of water.

The inspector determined that the CSA for testing of the LLB adequately detailed the safety limits and controls, system equipment and process description, analysis assumptions, analysis methodology, accidents and limiting conditions, and had the appropriate second party review. The licensee's analysis showed two limiting conditions existed to approach critical for UO_2 powder at 5.0 wt.% U-235: (1) 2.75 wt.% moisture uniformly distributed through a full blender of 4.0 grams/cubic centimeter of powder, and (2) approximately 19 kilograms of water that is optimally interspersed in a 36 centimeter diameter sphere of powder that is reflected by dry powder.

Prior to turning the LLB over to operations from engineering control, a new CSA will be developed.

70-1257/93-11-01 (Closed) - Revise Engineering Change Notice Procedure

This item involved the licensee's need to revise its ECN procedure to improve turnover control of new construction and plant modifications from Engineering to Operations. The inspector noted that Attachment 2, of procedure No. 1.13, "Engineering Change Notice (ECN)," Revision No. 13, dated December 22, 1993, of the licensee's Manufacturing Engineering Procedure (EMF-858) had been revised to ensure operating procedures and operator training had been completed, before final acceptance by the operating manager of equipment/systems that were under engineering control. The inspector had no further questions regarding this matter.

70-1257/93-12-01 (Closed) - Review of licensee' Investigation of the Line 1 Calciner Off-Gas Hydrogen Burn Event

This event was described in Inspection Report No. 70-1257/93-12 and involved a rapid pressurization in the Line 1 calciner due to a hydrogen burn in the calciners off-gas system. A seal (residual uranium) on the feed hopper from the hot oil dryer to the calciner was lost during an enrichment change over (ECO) clean-out. There were no personnel injuries nor criticality or radiological safety implications from this event. The licensee identified three root causes involving: (1) the lack of a procedure for operating the calciner during an ECO clean-out when a losing seal in the calciner feed screw is likely, (2) less than adequate feed hopper level instrumentation/displays, and (3) less than adequate controls since it was not possible for an operator to detect when a seal is about to be lost. Seven corrective actions were developed to prevent recurrence of similar events. These actions involved procedure modifications and equipment evaluation and/or design changes. Procedures had been changed based on current operations and a new equipment design was under review. The inspector determined that the corrective actions taken and those planned appeared adequate to prevent recurrence.

b. Confirmatory Action Letter (CAL) - (Closed) - (92703)

This CAL dated July 17, 1992, detailed the agreement between the SPC and the NRC resulting from an event on July 16, 1992, involving the identification of moisture in a new large lot blender (LLB) that was under engineering test control. In the CAL, the NRC confirmed SPC's commitments (1) to perform an evaluation of the source of water in the off-gas line and the potential effect on the criticality analysis for the blender, (2) if any deficiencies were identified, to take appropriate corrective actions, (3) to develop a basis for continued operation of the blender, and (4) to submit an evaluation of the source of water in the off-gas line and the basis for continued operation of the blender for the NRC's review and agreement before any continued operation of the blender. SPC submitted its response

4.0 Potential Generic Implications From Fuel Facility NRC Bulletin 91-01 Events.

This refers to an NRC Bulletin 91-01 reportable event made by the General Electric (GE) Uranium Nuclear Fuel and Component Manufacturing Facility in Wilmington, NC. on December 21, 1993. The event involved the accumulation of more than a safe mass of low enriched uranium in an unfavorable geometry condition in a lubricant sump of a rotary uranium fuel pellet press. Related to this event, the inspector reviewed the status of Siemens pellet presses:

(1) SPC has one grease lubricated (no oil sump) pellet press (Line 1) and four oil lubricated pellet presses similar to the GE presses on Lines 2-4 and one in the gadolinia (Gd) facility. The Line 2 and 3 presses are older versions and the Line 4 and Gd facility are newer models. Each of main lubricating sumps on these presses are limited to a maximum of 4 gallons with a maximum depth of about 4 inches (from physical measurements as the drawings did not give sump dimensions). Visual inspections indicated that the oil would overflow onto the floor if the sumps were filled to more than about 4 inches.

The Line 4 and the Gd facility presses were on a computerized preventative maintenance (PM) program that included quarterly cleaning of the lubricating oil sump and new oil added. Although the Line 2 and Line 3 presses were not on a quarterly PM, each time the air compensator had repair maintenance (3-4 time/year), the lubricating oil sump was cleaned and new oil added. Records indicated that such maintenance was performed on each unit about 3 times/year. On January 11, 1994, the licensee added the Line 2 and 3 presses to their PM system to assure that the sumps were cleaned at a preset schedule.

The inspector observed the licensee performing an inspection of the lubricating system on the Line 2 press. About 3 gallons of oil was removed and no sludge buildup was noted. Additionally, the void areas above the sump that circumference the lower frame work of the press, did not have any appreciable sludge buildup. An analysis of the oil removed from the sump indicated about 320 parts per million (ppm) U. Samples from three batches of oil removed from the presses during past several months indicated 650 - 1,300 - 3,150 ppm U.

(2) As part of the licensee's CSA update program, all such sumps in the plant were reviewed. This review concluded that the sumps on the pellet presses were of a safe volume (4 gallons maximum). The original CSA did not specify any controls for the lubricating sumps. The PMs (sump clean-outs) were not a required control. Controls included enrichment, water content of the powder, approved additives, and slab heights of pellets in pellet boats. Except for the oil in the sumps, moderating materials are excluded from the immediate areas around the presses. The original CSAs

for the presses were lacking in accident scenarios relative to the sumps. However, the original CSAs for the presses are to be redone as part of the licensee's CSA update program (to be completed by the end of 1994), but have a low priority.

Based on the above observations, it appeared that the licensee was adequately controlling uranium buildup in the lubricating system for its pellet presses.

5.0 Inspection Exit Meeting (30703)

The scope and results of the inspection were summarized with the licensee representatives denoted in Section I on January 14, 1994, at the conclusion of the onsite inspection.

The observations of untimely implementation of the revised Part 20 and the substantial increase of workers having to wear respirators were discussed with the licensee representatives. The licensee was informed of the two violations described in Section 2.a of this report.

Although proprietary information was reviewed during the inspection, such information is not described in this report.