UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

September 10, 1982

Report No. 70-1201/82-13

Licensee: Babcock and Wilcox Company
Commercial Nuclear Fuel Plant
Lynchburg, VA 24505

Facility Name: Commercial Nuclear Fuel Plant

Docket No. 70-1201

License No. SNM-1168

Inspection at Commercial Nuclear Fuel Plant site near Lynchburg, VA

Inspector: J. B. Kahle — Date Signed 9/9/82

Accompanying Personnel: J. R. Metzger, IE HQ

Approved by: K. P. Barr, Section Chief — Date Signed 9/10/82
Technical Inspection Branch
Division of Engineering and Technical Programs

SUMMARY

Inspection on August 30 - September 1, 1982

Areas Inspected

This routine, unannounced inspection involved 14 inspector-hours on site in the areas of health physics procedures, external radiation control, internal radiation control, instrument calibration, contamination surveys, source leak testing, radiation work permits, records and reports, and postings.

Results

Of the nine areas inspected, no violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

   Licensee Employees

   *R. Alto, Virginia Operations Manager
   *J. Ficor, QA Manager
   *R. Flicker, QC Engineering Supervisor
   *W. Engelke, Manufacturing Engineering Manager
   *D. Zeff, Materials Management Manager
   *T. Ford, License Administrator
   *C. Speight, Facilities Control Manager
   *R. Vinton, Sr. Health Physicist
   *K. Shy, Health-Safety Supervisor

   Other licensee employees contacted included two technicians and two operators.

   *Attended exit interview

2. Exit Interview

   The inspection scope and findings were summarized on September 1, 1982, with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Enforcement Matters

   (Closed) Unresolved Item 82-06-01, Lapel versus static air sample results. The details of this matter are discussed in paragraph 8.c.

4. Unresolved Items

   Unresolved items were not identified during this inspection.

5. Health Physics Procedures

   An examination of the health physics procedures showed that most of the procedures had been revised within the past twelve months. An examination of the records showed that the health physics procedures were reviewed annually as required by the conditions of the license. No violations were identified.

6. Instrument Calibrations

   Verification was made from the portable radiation survey instrument calibration and the laboratory radiation counting instrument calibration and control records that the radiation monitoring and measuring instruments were

calibrated as required by the license. During a tour of the facility the inspector verified by observation of calibration stickers on the instruments that they had been calibrated and were not overdue. No violations were identified.

7. External Radiation Control

Personnel dosimetry reports (Eberline) for the last quarter of 1981 and the first two quarters of 1982 were examined by the inspector. It was apparent that external radiation doses received by individuals were far below the limits specified in 10 CFR 20.101. A licensee representative stated that Form NRC-4 information was maintained on all workers. A licensee representative stated that exposure to minors was controlled by administrative procedure and at the present time there were no minors employed at the plant. No violations were identified.

8. Internal Exposure Control

a. Urinalyses

An examination of the urine records since the previous inspection showed that individuals have not been eliminating uranium in their urine. Workers were sampled on a six months basis and staggered with the body counting. The inspector had no further questions.

b. Body Counting

Body count results since the previous inspection showed no uranium deposition in the lungs greater than 100 micrograms U-235. The inspector had no further questions.

c. Air Sampling

(1) The inspector examined the air sample results since the previous inspection. Both lapel and static sample results showed uranium air concentrations to be below the 10 CFR 20 concentration limits. An unresolved item was identified during the previous inspection with regard to correlation of lapel and static air samples. As a result the licensee conducted several tests of three operations to reevaluate the concentrations determined by the lapel and static samples. The following type air samples were collected for the pellet press, pellet packaging, and pellet loading operations:

(a) Routine static air sample
(b) Routine lapel air sample
(c) Special lapel air sample with sampler located adjacent to the routine static sampler
(d) Special lapel air sample with sampler turned on only when the operation was being performed

(e) Special static air sample with sampler located adjacent to the routine static sampler and turned on only when the operation was being performed.

The sample results showed good correlation between the special lapel and the special static samplers. There was good correlation between the routine static and the special lapel placed adjacent to the routine static samplers. There was good correlation when the operator stayed at the designated work station; however, the routine lapel and routine sampler results did not correlate well where the operator performed duties at locations which were not close to the static sampler. Due to process operations, the operator usually performed other duties away from the designated work station. The ratio of the lapel to static results ranged from 0.7 to 7.0. This is to be expected when the operator performs tasks which may generate contamination at locations not close to the static samplers. In almost all cases the lapel result was larger.

(2) As a result of these tests the licensee uses the higher result (lapel or static) for determining the MPC-hrs for the individual workers. If a lapel sampler is not worn, the static sample result is multiplied by a factor determined from the average lapel and static air sample results from the previous quarter. If a lapel air sample shows a result in excess of 25 percent of the MPC, increased lapel sampling is performed. The highest MPC-hr value for the second quarter was 48 compared to the regulatory limit of 520.

(3) Licensee representatives were informed that the unresolved item was closed.

d. Respiratory Protection

The inspector verified that the licensee had procedures for selecting, fitting, testing, cleaning, disinfecting, maintaining, and inspecting respiratory protection devices. A banana oil test is made each time a device is used to assure a good fit. The inspector verified that a physical is performed at least every 12 months for respiratory protection users. No violations were identified.

9. Contamination Surveys

An examination of the contamination survey records showed that radioactive contamination was not being spread to uncontrolled areas and the surveys were being conducted in accordance with the conditions of the license. No violations were identified.

10. Source Leak Testing

An examination of the licensee's records showed that the sealed sources were leak tested every six months as required by the license with no evidence of any leakage. The inspector had no further questions.

11. Radiation Work Permits

The inspector examined the Radiation Work Permit files. It appeared that the permit system was being implemented in accordance with the requirements of the licensee's procedure AS-1123, Radiation Work Permit System. The inspector had no further questions.

12. Postings

The inspector verified that notices were posted pursuant to 10 CFR 19.11, 10 CFR 20.203, and license conditions. No violations were identified.

13. Records and Reports

The inspector verified that records were maintained in accordance with 10 CFR 20.401 and that reports were submitted pursuant to 10 CFR 19.13, 10 CFR 20.407, 408, and 10 CFR 70.59. No violations were identified.

14. Health Physics Technician Training

The inspector examined the health physics training records to verify that the formal and "on-the-job" training for the technicians had been demonstrated by practical and written examinations. The inspector had no further questions.