

May 12, 2000

Mr. J. William Lessig
Honeywell
Specialty Chemicals
P.O. Box 430
Metropolis, IL 62690

SUBJECT: NRC INSPECTION REPORT 040-03392/2000002(DNMS)

Dear Mr. Lessig:

On May 2, 2000, the NRC concluded a routine inspection at your Metropolis, Illinois, facility. The purpose of the inspection was to determine whether activities authorized by the license were conducted safely and in accordance with NRC requirements. At the conclusion of the inspection, the preliminary findings were discussed with you and members of your staff identified in the enclosed report.

The inspection included a review of your operations, maintenance, and transportation activities. Within these areas, the inspection consisted of a selective examination of procedures and representative records, interviews with personnel, and observations of activities in progress.

Licensed activities involving source materials at your plant were performed in accordance with approved procedures and license requirements and were effective in ensuring safe operations.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter will be placed in the NRC Public Electronic Reading Room (PERR) link at the NRC homepage, namely ><http://www.nrc.gov/NRC/ADAMS/index.html>.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

/RA/

Patrick L. Hiland, Chief
Fuel Cycle Branch

Docket No. 040-03392
License No. SUB-526

Enclosure: Inspection Report 040-03392/2000002(DNMS)

cc w/encl: T. Ortigier, Illinois Department of Nuclear Safety

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	040-03392
License No:	SUB-526
Report No:	040-03392/2000002(DNMS)
Licensee:	Honeywell
Facility:	Metropolis Works
Location:	P. O. Box 430 Metropolis, IL 62960
Dates:	April 25 through 27, and May 2, 2000
Inspector:	J. M. Jacobson, Paducah Resident Inspector
Approved By:	Patrick L. Hiland, Chief Fuel Cycle Branch Division of Nuclear Materials Safety

EXECUTIVE SUMMARY
Honeywell
NRC Inspection Report 040-03392/2000002(DNMS)

Operations

- Operations observed were conducted safely and in accordance with the applicable procedures for the specific tasks being performed. The inspector noted that the licensee had made significant progress on clean-up and removal of contaminated wastes stored onsite. (Section O1.1)

Maintenance and Surveillance

- The licensee adequately implemented a preventive maintenance program for safety-related and critical equipment onsite. Maintenance activities observed during the inspection were conducted safely. Maintenance audits reviewed were thorough and the findings were addressed in a timely manner. (Section M1.1)

Transportation

- The licensee prepared shipments of radioactive materials in accordance with license and Department of Transportation requirements. The inspector noted the methodology used to calculate the 12-month average of uranium in calcium fluoride shipped to a commercial organization in 1999 could have produced a non-conservative result. However, the actual 12-month average was well below the license condition limit, and the licensee agreed to revise the methodology to account for differences in the amounts of material shipped. (Section T1.1)

Report Details

I. Operations

01.1 Conduct of Operations

a. Inspection Scope (88020)

The inspector observed general operations in the Feed Materials Building (FMB), Ore Sampling Facility, and other areas onsite. In particular, the inspector observed the following activities:

- cylinder disconnect, weighing, and storage;
- FMB and control room operations;
- operator rounds of the FMB; and
- recycle operations for the Distillation Plant.

b. Observations and Findings

The inspector noted that the activities observed were conducted safely and in accordance with procedural and license requirements. The inspector also noted that the conduct of operations in the FMB control room was professional and focused on the safety of ongoing operations. The plant staff were preparing for the annual maintenance shutdown which involved evacuation of the distillation and fluorination equipment. The shutdown was expected to last approximately two weeks.

Cylinder filling operations were conducted in accordance with the governing procedures. The inspector observed that the operators who disconnected a cylinder and started the filling cycle for another cylinder wore the proper personal protective equipment and safely transferred the filled cylinder to the cylinder cooling pad. The cylinder fill weight was less than the approved cylinder target weight of 26,500 pounds for 48Y cylinders.

The licensee continued to work on reducing the amount of waste stored in outside areas of the plant. The amount of contaminated wood chips and drums had been significantly reduced. In addition, the licensee had also made progress on repackaging leaking ore concentrates and green salt (uranium tetrafluoride) drums. In general, the licensee planned to complete the clean-up activities for the outside waste storage areas of the site by the end of the 2000 calendar year. The inspector noted that the licensee had made significant progress toward that goal.

c. Conclusion

Operations observed were conducted safely and in accordance with the applicable procedures for the specific tasks being performed. The inspector noted that the licensee had made significant progress on clean-up and removal of contaminated wastes stored onsite.

II. Maintenance and Surveillance

M1.0 Maintenance and Surveillance Activities

M1.1 Maintenance Program

a. Inspection Scope (88025)

The inspector observed selected maintenance activities in the FMB and reviewed randomly selected records for various plant safety systems incorporated in the plant preventive maintenance and inspection program. The systems included the standby diesel generator, the fire water jockey pump, the cylinder steam chests, the still feed tanks, the cylinder accountability scale, FMB cylinder handling crane, and the cylinder fill position weight recorders.

b. Observations and Findings

The inspector noted that maintenance activities observed, including replacement of a hydrofluorinator filter seal and troubleshooting vacuum pump lines for a potential deposit, were conducted safely. The mechanics involved used the personal protective equipment specified by procedures and the applicable work permits. During the replacement of the filter seal, the mechanics involved attempted to use a powerbrush to clean the sealing surfaces, but immediately stopped when some airborne uranium was generated. The mechanics finished the job by using a chisel which did not generate airborne uranium and thus reduced the likelihood of generating spreadable contamination.

The safety system inspections and preventive maintenance (PM) records reviewed indicated the activities were completed in accordance with the plant's PM program requirements. Nonconformances or repairs identified were corrected in a timely fashion. The inspector also noted the annual cylinder crane, standby diesel generator, and accountability scale inspections were performed by an independent contractor to supplement the licensee's routine PM program for this safety-related equipment.

The inspector also reviewed three maintenance audits performed by the licensee's quality assurance staff over the previous year. The audits dealt with unfired pressure vessel inspections, welding procedures, and critical equipment inspections. The audits were thorough and corrective actions for the audit findings were tracked to a timely resolution. Discussions with the auditor indicated that both observations of field activities and review of maintenance package records were included as part of the audits. All of the audits were completed as scheduled.

c. Conclusion

The licensee adequately implemented a preventive maintenance program for safety-related and critical equipment onsite. Maintenance activities observed during the inspection were conducted safely. Maintenance audits reviewed were thorough and the findings were addressed in a timely manner.

III. Transportation Activities

T1.1 Review of Transportation Activities

a. Inspection Scope (86740)

The inspector observed preparations for shipments of radioactive or contaminated materials and reviewed surveys and shipping records for selected shipments made during 1999 and the first four months of 2000.

b. Observations and Findings

The inspector observed the licensee prepare truck shipments of contaminated wood chips and contaminated crushed drums. The shipments were properly secured or braced and appropriate surveys were performed to ensure Department of Transportation requirements were met. The inspector also verified that the appropriate shipping papers were prepared for the shipments.

The inspector also reviewed the shipments of slightly contaminated calcium fluoride. License Condition 13 required that the average concentration of uranium in calcium fluoride released to each commercial organization, for any consecutive 12-month period, not exceed 212 picocuries per gram (313 parts per million (ppm)). The inspector noted that during the 1999 calendar year, the licensee calculated an average of 195 ppm for shipments made to Amherstburg, Ontario, based on an arithmetic mean. The inspector noted, however, that the amount of calcium fluoride shipped for different shipments with significant differences in the uranium concentrations (10 ppm to 377 ppm) varied from approximately 40,000 kilograms to approximately 98,000 kilograms. As a result, the use of an arithmetic mean of the shipment concentrations instead of a weighted mean based on the amount of material shipped led to an incorrect 12-month average. The actual average, properly weighted, for shipments to Amherstburg was 177 ppm. The inspector noted that in this case, the correct average was well below the license condition limit; however, the methodology employed by the licensee could have resulted in a non-conservative calculation of the 12-month average. The licensee agreed that the methodology used was not appropriate for shipments which involved significant differences in the mass of calcium fluoride shipped and revised its methodology for calculating the 12-month average concentration of uranium.

c. Conclusion

The licensee prepared shipments of radioactive materials in accordance with license and Department of Transportation requirements. The inspector noted the methodology used to calculate the 12-month average of uranium in calcium fluoride shipped to a commercial organization in 1999 could have produced a non-conservative result. However, the actual 12-month average was well below the license condition limit, and the licensee agreed to revise the methodology to account for differences in the amounts of material shipped.

V. Management Meeting

X. Exit Meeting Summary

The inspector presented the inspection results to members of the plant staff and management at the conclusion of the inspection on May 2, 2000. The plant staff acknowledged the findings presented. The inspector asked the plant staff whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Honeywell Specialty Chemicals

M. Davis, Health Physics Supervisor
W. Lessig, Plant Manager
H. Roberts, Health Physics Manager
M. Shepherd, Manager, Environmental and Regulatory Affairs

Other members of the licensees' staff were also contacted during the inspection.

INSPECTION PROCEDURES USED

IP 88020: Operations Review
IP 88025: Maintenance and Surveillance
IP 86740: Transportation of Radioactive Materials

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened:

None

Closed:

None

Discussed:

None

LIST OF ACRONYMS USED

CFR	Code of Federal Regulations
DNMS	Division of Nuclear Material Safety
FMB	Feed Materials Building
IP	Inspection Procedure
NRC	Nuclear Regulatory Commission
PM	Preventive Maintenance