U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 70-687/88-01

Docket No. 70-687

License No. SNM-639 Safeguards Group 1

Licensee: Cintichem, Inc.
P.O. Box 816
Tuxedo, New York 10987

Facility Name: Sterling Forest Research Center

Inspection At: Tuxedo, New York

Inspection Conducted: March 7 - 10, 1988

Type of Inspection: Routine, Announced Material Control and Accounting

Inspectors: Harvey Zibulsky — 4-7-88
H. Zibulsky, Chemist — date

Harvey Zibulsky (for) — 4-7-88
J. Jang, Sr. Radiation Specialist — date

Approved by: W. J. Pasciak — 4/7/88
W. J. Pasciak, Chief, Effluents Radiation Protection Section, FRSSB, DRSS — date

Inspection Summary: Inspection on March 7 - 10, 1988 (Report No. 70-687/88-01)

Areas Inspected: Routine, announced inspection of nuclear material control and accounting including measurement systems.

Results: No violations were identified.

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DETAILS

1. Individuals Contacted

*J. McGovern, Plant Manager
T. Vaughn, Manager, Health, Safety and Environmental Affairs
*D. Grogan, Manager, R/C Production and Material Control
*A. Stewart, Radiochemical QC Supervisor
G. Whalen, Analytical Services Supervisor
J. Pozza, QC Technical I

*Denotes those present at exit meeting.

The inspectors also interviewed other licensee employees associated with plant operations and chemistry.

2. Independent Inspection Effort

The inspectors toured the facility and observed the licensee's adherence to the Fundamental Nuclear Material Control Plan (FNMCP), material control procedures and health and safety procedures within the material access area and the reactor area.

3. Measurement Systems

The inspectors observed a Chemistry Technician analyze the uranium content of three standards that were prepared with normal uranium and certified by the New Brunswick Laboratory (NBL). The matrices and concentrations of the standards were within the licensee's normal operating range. One analyst, using the gravimetric Davies and Gray titration procedure, performed the analyses.

One set of NRC standard solutions was pipetted and another set was weighed. The weighed samples resulted in more accurate and precise analysis than the pipetted samples. One analysis from each set had a significant bias. The results are listed below. The licensee stated that weighing techniques would be used in the future.

Pipetted Sample Results

NRC Standard	Relative % Bias	Uncertainty*
0.005072gU/ml	+0.39	±0.48
0.008123gU/ml	-0.16	±0.37
0.010207gU/ml	-0.85	±0.33

Weighed Sample Results

NRC Standard	Relative % Bias	Uncertainty*
0.004983gU/g	-0.26	±0.20
0.007946gU/g	-0.03	±0.21
0.009949gU/g	-0.29	±0.59

*Uncertainty values are based on 2 sigma.

4. Exit Interview

The inspectors met with the licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on March 10, 1988, and summarized the scope and findings of the inspection. At no time during this inspection was written material provided to the licensee by the inspectors.