

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-54/88-02
70-687/88-06

Docket Nos. 50-54
70-687

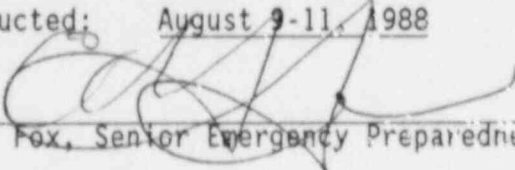
License Nos. R-81 Priority - Category -
SNM-639

Licensee: Cintichem, Inc.
P. O. Box 324
Tuxedo, New York

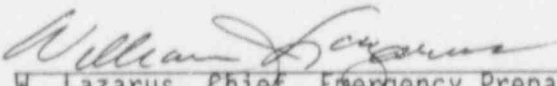
Facility Name: Hot Laboratory and Reactor

Inspection At: Tuxedo, New York

Inspection Conducted: August 9-11, 1988

Inspectors: 
E. Fox, Senior Emergency Preparedness Spec.
K. Christopher, Emergency Preparedness Spec.
R. Nimitz, Senior Radiation Specialist

9/22/88
date

Approved by: 
W. Lazarus, Chief, Emergency Preparedness
Section

9/22/88
date

Inspection Summary: Inspection conducted on August 9-11, 1988 (Combined Report
Nos. 50-54/88-02; 70-687/88-06)

Areas Inspected: Routine announced inspection of the licensee's emergency preparedness program including: changes to the program; Emergency Action Levels; off-site interface; training; facilities and procedures; follow-up of previously identified inspection items.

Results: No violations were identified. One unresolved item concerning the adequacy of the licensee's criticality accident monitoring system setpoints was identified.

DETAILS

1.0 Individuals Contacted

- *J. McGovern, Plant Manager
- *L. Thelin, Staff Health Physicist
- *J. Stewart, Radiation Protection Supervisor
- *W. Ruzicka, Manager, Nuclear Operations
- *T. Vaughn, Manager, Radiological Health, Safety, and Environment
- K. Sanford, Chief, Tuxedo Fire District
- J. Radar, President, Greenwood Lakes Ambulance Service
- J. Kelley, Tuxedo N.Y. Police Dept.
- D. Fitzpatrick, Adm. Supervisor, Emergency Dept. Good Samaritan Hosp.

*The above individuals attended the exit meeting on August 11, 1988.

The inspectors also contacted other licensee personnel during the course of this inspection.

2.0 Purpose and Scope of Inspection

This inspection was a routine announced Emergency Preparedness inspection of the following areas:

- Emergency kits, facilities and procedures
- Licensee implementation of the June 30, 1988 Confirmatory Action Letter
- Criticality safety
- Respiratory protection
- Changes to the Radiological Contingency Plan (RCP)
- Training
- Off-site interfaces
- Emergency Action Levels

3.0 Licensee Action on Previous Findings

3.1 During this inspection, the inspectors reviewed records and interviewed licensee personnel regarding the status of items identified during previous inspections (Inspection Reports 50-54/84-03 and 70-687/87-04). The status of these items are as follows:

- (Violation) IR 70-687/87-04
 - (a) The Emergency Planning Coordinator did not review and update the emergency plan and implementing procedures biennially since 1983
 - (b) Agreements with off-site support groups were either not initiated or were not updated biennially since 1976; and
 - (c) The Emergency Planning Coordinator did not review the emergency roster and telephone listings and verify each individual's or organizations phone number annually since 1983.

The inspectors reviewed plans and procedures and conducted interviews of licensee personnel to determine the status of the licensee's response to the violation. It was determined that the Radiological Contingency Plan (RCP) is undergoing significant revision and will be submitted to the NRC for review in the near future. As part of the revision, the EPC is conducting an ongoing review of the plan and implementing procedures. The EPC is documenting all completed reviews. The inspectors noted that the Nuclear Safety Committee has recommended that an independent review of the plan be conducted by the Corporate Safety Review Committee.

The inspectors confirmed that the licensee has updated letters of agreement with the appropriate off-site support groups including police, fire, ambulance and medical services effective as of Dec. 15, 1987.

The inspectors confirmed through documentation review that the licensee has completed and documented a review and update of the emergency roster and telephone listings including a verification of each individual's or organizations telephone number.

-(CLOSED) 84-03-01: Identify responsibilities of the emergency director (E.D.) that cannot be delegated.

Sec. 3.1 of the RCP specifies those responsibilities that cannot be delegated and must be performed by the Emergency Director.

-(CLOSED) 84-03-02: Provide written guidance to the Public Information Officer (PIO).

Implementing procedure, EP 15, provides written guidance to the designated PIO.

-(CLOSED) 84-03-03: Provide additional on-site training.

The inspectors reviewed documentation and interviewed licensee personnel relative to the status of training as to the content of the RCP and the interactions of the various entities of the response organization. The licensee has completed and documented training pursuant to Sec. 10.2 (Training) of the RCP and EP16 for all emergency directors, radiological assessment team members, public information officers and first aid team members. The training consists primarily of "read and sign" as set forth in Sec. 10.2 of the RCP.

-(CLOSED) 84-03-04/84-03-05: Update letters of agreement with off-site support agencies.

As noted in paragraph 2(b), RCP letters of agreement have been updated between the licensee, Tuxedo Fire and Police, two local ambulance services and Good Samaritan Hospital.

(OPEN) 84-03-06: Complete training of off-site support organizations and provide for periodic retraining and participation in emergency drills.

The inspectors determined through interviews of off-site support group representatives that the licensee has conducted updated training for relevant support groups such as ambulance, fire and police services, as well as having in place written procedures for the handling of a contaminated injured person at Good Samaritan Hospital. This training consisted chiefly of plant tours followed by discussions of various aspects of the RCP. It was noted that the Tuxedo Fire District was in possession of a copy of the RCP and was supportive of the licensee's efforts in this area. However, a provision for periodic retraining has not been developed and not all off-site support organizations have participated in emergency drills (i.e. Police).

-(CLOSED) 84-03-07: The emergency call list should include calls to the Tuxedo and State Police in the event of a civil disturbance.

The inspectors determined that EP-01-03 of the RCP lists the Tuxedo Police and the N.Y. State Police as response agencies in the event of a civil disturbance.

-(CLOSED) 84-03-08: Provide reliable backup communication means for notifying off-site emergency support organizations.

The inspectors determined that reliable backup communications for on-site and off-site is in place and available. Back up power supplies are provided.

-(CLOSED) 84-03-08: Provide a means for obtaining meteorological instrumentation and data back up.

The inspectors reviewed a letter of agreement between the licensee and the Power Authority of the State of New York (PASNY) at the Indian Point 3 Nuclear Power Station dated Jan. 15, 1988, whereby PASNY has agreed to provide the licensee with the required back up meteorological data in the event of an emergency.

-(CLOSED) 84-03-10: Eliminate Sec. 7.2.3 of the RCP which discusses methodology for calculating whole body dose rates at the site boundary based on in-plant radiation monitor readings.

The inspectors determined this section of the RCP was deleted in October 1984 and documented by letter to the NRC in March 1985.

-(CLOSED) 84-03-11: Provide EALs in procedures for the stack monitor which will trigger notification of the radiological assessment team (RAT)

The inspectors reviewed EP-02-02 and determined that EALs are provided with the referenced procedures to trigger notification of the RAT team leader.

-(CLOSED) 84-03-12: Provide a statement in each emergency procedure as appropriate which would require the Emergency Director to classify the emergency using guidance in Tables 5.1 thru 5.3 of the RCP.

The inspectors determined that EP-02-02, and Sec. 2.5 of the RCP requires that the ED use tables 5.1 thru 5.3 of the RCP to assist in the classification of an emergency. This requirement is also reflected in EP-05-01, Sec. 3.7, EP-04-02, Sec. 2.7, EP-05-01, Sec. 2.6 and EP-06-02, Sec. 2.12.

-(OPEN) 84-03-14: Develop a formal training/retraining program.

While the initial on-site emergency response training is completed per EP 26, there is no planning establishing time tables and criteria for the periodic retraining of the plant staff. Provisions for scheduling such refresher training cycles should be included in EP 16 and tracked to ensure a timely cycle of retraining of the emergency response personnel. This item will be reviewed in a subsequent inspection.

4.0 Operational Status of the Emergency Preparedness Program and Procedures

4.1 Changes to the Radiological Contingency Plan (RCP) and Procedures

The RCP and implementing procedures are currently undergoing significant revision by the licensee to upgrade the RCP in response to recommendations from previous NRC inspections. It is planned that the revised RCP will be subjected to an external independent review by the Corporate Safety Review Committee and will then be submitted to the NRC for review. Based on a preliminary review of the draft revision and the existing plan, the following observations were noted and should be evaluated by the licensee:

- The licensee maintains supplies of potassium iodide on site and the ED is charged with making the decision as to its distribution. There is no guidance in the RCP as to the criteria and/or considerations that should be utilized by the E. D. in making a determination as to its use. Such guidance should be incorporated into the plan.
- Sec. 3.1 of the RCP provides for the designation of the ED but does not provide for a planned turnover of the position to an alternate and does not address the role of corporate involvement above the plant manager in the event of a senior corporate officer arriving on-site during an emergency. The licensee has indicated they would revise the ED turnover mechanism to ensure a controlled turnover and would also clearly set forth the role of any on-site corporate official during an emergency.
- Table 5.11, item 7 of the RCP sets forth actions to be taken by licensee personnel during an unusual event declaration. The table directs that the NRC be notified only "if the situation warrants." This should be revised to require NRC notification and eliminating the phrase "if the situation warrants".

- The EALs do not provide for protective actions based on projected exposures. The plant instrumentation goes off scale at the alert level and there are no procedures or back up means to use in quantifying or estimating ongoing releases. The licensee initiated action to improve this area.

These items will be an inspector follow up item and will be reviewed in a subsequent inspection (88-02-01).

Based on the above review and except as noted above, this portion of the licensee's emergency preparedness program is adequate.

4.2 Coordination of Emergency Planning with Off-site Support Agencies

The inspectors reviewed updated letters of agreement between the licensee and police, fire, ambulance and hospital services and held discussions with the licensee and representative of the off-site organizations. The agreements have been updated in accordance with Sec. 10.5 of the RCP. Training, in the form of plant tours, discussions, procedure reviews and participation in drill activities have been offered to the off-site organizations. Fire fighting personnel have toured the facility to ascertain its layout and location of hazardous materials and both ambulance services and hospital personnel have been fully briefed on the transport and handling of an injured victim who has been contaminated.

Based on the above review, this portion of the licensee's emergency preparedness program is adequate.

4.3 Knowledge and Performance of Duties (Training)

The inspectors reviewed training documentation and established that emergency response personnel have received "read and sign" training in the basic emergency response functions. There are no formal training outlines or established retraining cycles through which it is ensured that on-site response personnel receive refresher training as to their emergency response duties and responsibilities. It was noted that the licensee has committed to the guidelines of Reg. Guide 2.6 (Emergency Planning for Research Reactors) which recommends that the training program for the emergency organization be documented in the form of schedules and outlines.

The inspectors conducted walk throughs with two senior licensed personnel from the operations department. Scenarios were presented that would test the ability of the operators to classify events using the EALs and their overall knowledge of the RCP. The operators' responses were adequate and sufficiently conservative to protect the public health and safety; however, they exhibited some difficulty and unfamiliarity with the RCP in terms of their ability to classify events and in identifying the required actions to be taken in response to the event classification.

It was apparent that the annual "read and sign" training for operators on the RCP is insufficient to provide the desired level of knowledge required for effective implementation of the RCP during an emergency. This issue will be evaluated in a subsequent inspection and will be included in the evaluation of OI 84-03-14 referenced in Sec. 3.0.

Based on the above review and except as noted above, this portion of the licensee's emergency preparedness program is adequate.

4.4 Tests and Drills

The inspectors examined records and scenarios of emergency preparedness tests and drills as well as licensee critiques of those exercises for 1985, 1986, and 1987. The exercises tested areas such as activation of the Radiological Assessment Team, transportation and handling of a contaminated injury victim with offsite support personnel, and full dress out in protective clothing and SCBA's in response to the dropping of a high integrity container behind a hot cell. The scenarios appeared generally adequate to test the various aspects of the emergency response organization. However, the exercise critiques reflected the identification of problems with the adequacy of various emergency team response actions and there is nothing to indicate that the licensee has undertaken any actions in the way of changes to the RCP or enhanced training to address the issues identified in the critiques. This is an inspector follow up item and will be addressed in a subsequent inspection (88-02-02).

Based on the above review and except as noted above, this portion of the licensee's emergency preparedness program is adequate.

4.5 Facilities, Equipment and Procedures

The inspector reviewed the adequacy of licensee emergency facilities, equipment and procedures. The evaluation of licensee performance in this area was based on review of equipment including review of off-site monitoring equipment, discussion with cognizant personnel and review of documentation.

The following was reviewed:

- Emergency kits including supplies, operability of equipment and frequency of inventory,
- Respiratory protective equipment,
- Protective clothing and supplies,
- Operability of acid showers and acid eye wash stations,
- On-site and off-site rendezvous facilities,
- Off-site monitoring equipment and capabilities, and
- On-site medical facilities.

The following matters were discussed with licensee representatives as areas for potential improvement:

- The licensee could not provide a basis for the equipment selected to be in the kits or the numbers of supplies included in the kits. A review should be performed to evaluate the adequacy of the equipment selected and supplies included.
- Some kits (e.g. decontamination kits) did not include an inventory.
- The inventories for some Emergency Kits did not reflect all equipment that was contained in the kits. Also some equipment was stored without an inventory.
- There were no off-site monitoring kits. Also, methods for performing infield analysis of off-site air samples were not in place.
- The licensee did not have pre-identified off-site rendezvous locations where personnel would go in the event the site was evacuated.

Licensee personnel indicated the above items would be reviewed. These items are an inspection follow-up item (88-02-03) and will be reviewed in a subsequent inspection.

Based on the above review, except as noted, this portion of the licensee's emergency preparedness program is adequate.

5.0 Confirmatory Action Letter Implementation

The inspector reviewed the implementation of the June 30, 1988, Confirmatory Action Letter (CAL) issued to the licensee. This CAL dealt with licensee commitments to secure unmonitored effluent releases from the facility via the Hot Cell Emergency Ventilation System.

Inspector review indicated the licensee was implementing the commitments documented in the CAL. Licensee implementation of long term actions described in the CAL and scheduled for completion by December 31, 1988, will be reviewed during a subsequent inspection.

6.0 Criticality Monitoring/Safety

The inspector reviewed selected aspects of the licensee's criticality monitoring and safety. The review was with respect to criteria contained in applicable regulatory requirements and industry standards. The following was reviewed:

- Criticality alarm monitoring system and periodic system operability checking,
- Response procedures, and
- Personnel monitoring provisions.

Within the scope of this review, no violations were identified. The licensee has an installed alarm system which is periodically verified to be operable. The following matters were discussed with licensee personnel as areas needing attention:

- The licensee's criticality accident monitoring system alarm setpoints and detector locations were based on an assumed criticality event involving a sustained event with a power level of about 300 watts. The inspector questioned the adequacy of the alarm set points (1000 mR/hr.) and detector response times assuming a criticality event of short duration at a higher power level. The licensee was unable to provide data to demonstrate that the current alarm setpoints were adequate for this type of event. Licensee personnel indicated the cognizant individual was not available but this matter would be reviewed. This matter is considered unresolved (70-687/88-06-01).
- The licensee has established post-criticality accident emergency procedures. However, the procedures provided limited guidance as to the actions to be taken by radiological controls personnel when responding to the accident. For example, the licensee did not have well defined procedures for use by the staff which describe a means to quickly identify which individuals had received 10 rads or more. The licensee did have published documentation but it was not distributed to the staff. The licensee indicated this would be reviewed.
- Review the adequacy of personnel monitoring devices (i.e. TLD badges) for monitoring exposure during criticality events. The licensee initiated a review of this matter.

7.0 Respiratory Protection

The licensee does not have an approved Respiratory Protection Program. Consequently, the licensee is not permitted to make allowance for the use of such equipment when assessing exposure.

On July 18, 1988, the licensee notified the NRC of his intent to implement an approved Respiratory Protection Program. The inspector reviewed the information presented in the July 18, 1988 letter with respect to criteria contained in 10CFR 20.103.

Within the scope of this review, no violations were identified. Inspector review indicated a number of apparent procedural and program weaknesses. The following weaknesses were brought to the licensee's attention:

- A policy statement required by 10CFR20.103 was not in place.
- A training program for all devices was not in place.
- No procedures for inspection, repair and maintenance of the equipment was in place.
- A program for medical certification of potential respirator users was not in place.

The inspector noted that a number of the program required criteria specified in 10CFR 20.103 did not appear to be satisfied. Consequently, the inspector concluded that protection factors authorized for the respiratory protection equipment could not be used because of the above program inadequacies. Licensee personnel indicated additional effort would be directed to the program such that protection factors could be used.

8.0 Exit Meeting

The inspectors met with the licensee personnel denoted in Sec. I at the conclusion of the inspection. The licensee was informed of the status of all open/closed items. Areas for improvement in the licensee's program were also discussed. The licensee acknowledged the findings and agreed to institute corrective actions as appropriate. No written materials were provided to the licensee by the inspectors during the inspection.