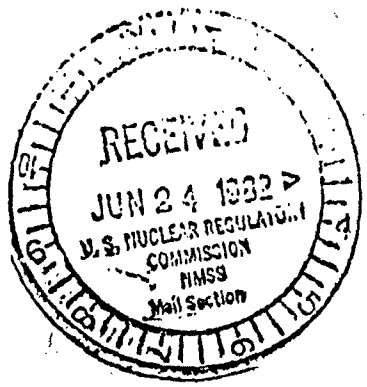
E. R. Squibb & Sons, Inc.
Georges Road
New Brunswick, N.J. 08903
201-545-1300

SQUIBB

June 22, 1982



Mr. Vandy L. Miller, Chief
Material Licensing Branch
Division of Fuel Cycle and
Material Safety, NMSS
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Miller:

This refers to Amendment 58 to our Radioactive Materials License 29-00139-02 dated March 31, 1982 and the conditions specified therein.

As requested, enclosed are the proposed review pages to the Radiological Contingency Plan which incorporates the four categories of accident classification, i.e., Notification of Unusual Event, Alert, Site Area Emergency and General Emergency.

Also included are a description of the radiation detection systems and alarms to continuously monitor effluent releases, a proposed schedule for acquiring and installing this equipment and the revised pages to the Radiological Contingency Plan which describe the monitoring systems and alarms.

Very truly yours,

P. A. Rava

P. A. Rava
Chairman, Radiation Safety
Committee

/rk
Enclosures

E/4

8504260268 850415
REG1 LIC30
29-00139-02 PDR

COPIES SENT TO OFF. OF INSPECTION AND ENFORCEMENT

Fee due for 12/15/81 ltr. 1852

MLIB See that ltr. for fee info.

Stack Gas Monitoring System

The existing stack monitoring system will be modified to provide for continuous monitoring of the plant effluents. The primary purpose of this modification is to satisfy the requirements of the Radiological Contingency Plan. The system will also serve to (1) provide a check on any gross failures in any processes taking place at any time; (2) permit more accurate assessment of release to the environment and (3) alert the health physics personnel before radiation effluents exceed both the "continuous average permissible" and the "instantaneous maximum" permissible stack release rates.

The new system will continuously monitor, give a visual indication, and record for permanent records the radioactivity discharged from the plant stack. The system will alarm when radiation levels exceed preselected values.

The basic instrumentation required would be:

a. A scintillation detector

b. A preamplifier

c. Sampling probe

d. Vacuum pump

e. Particulate filter

f. Iodine filter

g. Strip chart recorder

h. Audio-visual alarms

i. Scaler rate meter

The sample will be drawn continuously from the stack by an isokinetic sample probe. The sample flows first through the absolute particulate filter and then through the activated charcoal for iodine collection. A check source will be used to calibrate the equipment.

The detector signal will be transmitted to the existing monitor station at the health physics office. A new panel, for installation in the existing annunciation panel, will be fabricated and contain a scaler rate meter, strip recorder and audio-visual alarms.

The equipment is expected to be delivered in October, 1982 and installed and operational by December 1982.

Date Issued: 5/18/82

INDEX

Pages To Be Removed		New Pages To Be Issued	
Page Number	Date	Page Number	Date
4	7/01/81	4	5/18/82
10	3/15/82	10	5/18/82
12	3/15/82	12	5/18/82
15	3/15/82	15	5/18/82
16	3/15/82	16	5/18/82
17	3/15/82	17	5/18/82
17a	3/15/82	17a	5/18/82
24	12/04/81	24	5/18/82
26	12/04/81	26	5/18/82
28	7/01/81	28	5/18/82
29	7/01/81	29	5/18/82
30	7/01/81	30	5/18/82
34	7/01/81	34	5/18/82
42	7/01/81	42	5/18/82
43	12/04/81	43	5/18/82
43b	12/04/81	43b	5/18/82
44	12/04/81	44	5/18/82
45a	12/04/81	45a	5/18/82
46	7/01/81	46	5/18/82
47	7/01/81	47	5/18/82
49	3/15/82	49	5/18/82
50	7/01/81	50	5/18/82
51	7/01/81	51	5/18/82
53	7/01/81	53	5/18/82
55	7/01/81	55	5/18/82
		ADDENDUM IV	5/18/82

Control apparatus consist of steel filter enclosures with particulate filters of varying efficiency and activated carbon filters on the suction side of fans discharging to the stack.

The reduction in the radioactive iodine concentration through the material used at our facility is at a minimum factor of 5 per centimeter of bed depth for radioiodine as methyl iodide at a flow rate of 40 fpm, 70% relative humidity and air temperature of 25°C. For this reason, the theoretical filtration efficiency is approximately 99.9%.

Data accumulated at the Medotopes facility show that over the course of a year, approximately 0.4% of the amount of ^{131}I that is used in the facility is presented to the air handling system.

For practical purposes in our calculations, the theoretical efficiency has been assumed to be 99%. On this basis, the total radioiodine transmitted to the atmosphere should not exceed .004% of the radioiodine handled, or less than 50 μCi per curie of radioiodine used in the facility.

The combination of particulate and gaseous filters described serves to reduce the effluent of other radionuclides such as ^{75}Se, ^{99}Mo, etc. to the lowest pacticable level.

Confinement Systems (Liquid)

Liquids with low level radioactivity, e.g., glassware washing water and water from hand sinks in materials handling areas, are collected in holdup tanks. There are four separate tanks, each having a capacity of 3.8×10^4 liters. Current liquid generation rates permit approximately a three month decay of the holdup tank effluent. Tanks are sampled as necessary and released to the sanitary drain, if contents satisfy the concentration limits for such release. The remainder of the liquid wastes (approximately 6.6×10^6 liter/day) from the site is sanitary waste and is released without treatment of monitoring.

Alarm Systems

The manufacturing areas in building 124 are equipped with remote monitoring detectors. These are calibrated quarterly to produce a blue warning light and an audible alarm in the work area and in the health physics operations area should background radiation levels reach 50 mr/hr. If the level of radiation is measured at 100 mr/hr or greater, a red light and alarm will be activated on the health physics control panel.

Holding tanks and storage facilities for the radioactive materials to decay are remotely located, and are not in the normal path of travel of personnel or equipment.

Clean areas, radiation areas and high radiation areas are situated and segregated so that no unnecessary exposure is received by personnel. This layout also provides for contamination control. A personnel monitoring area and a protective clothing change room is located adjacent to the radioactive materials area. Shower and locker room facilities are also provided. The layout of the facility is such that the products progress in sequence of operation from the manufacturing, filling and packaging areas to the final holding area for shipment. The loading dock is adjacent to the holding area. By use of conveyor belts and by judiciously locating the various stations in the complete manufacturing process, contact with and handling of any radioactive material is minimal.

2.1.2 Alarm Systems and Release Prevention

Selected portions of the production and storage areas are monitored by use of a "built in" area monitoring system. An indicating and alarm panel is located in the Health Physics Office, thus assuring access to information regarding any unusual dose rates in the monitored areas and rapid response with corrective actions. The instrument ranges from 0.1 mr/hr to 100 mr/hr. Local alarms are provided with visual and audible alarms to alert persons entering these areas of any abnormal condition. The instrumentation provided has the capability of detecting the highest anticipated radiation levels with positive readout at the lowest possible levels. To assure optimum coverage of all areas, the detector locations have been chosen with great care.

Each glove box is equipped with a damper which will prevent the spread of a fire through the ventilation system. Any smoke or water vapor released by the fire and not stopped by the local fire damper will be contained in the glove box. In addition, smoke detectors have been encased in the ducts of each filter bank system. When activated, valves located on each side of the filter bank will close automatically, and releases of airborne activity would be contained within the ducts of the ventilation system.

Any smoke released into the rooms will pass through the room filtering system and also be detected by the filter bank fire detectors.

The plant is also equipped with an auxiliary generator which will automatically engage in the event of an electrical failure. The generator is capable of maintaining the air systems and emergency lighting for the plant.

2.1.3.3 Access and Egress of Operating Personnel and Emergency Response Teams

2.1.3.3.1 Onsite

The radiopharmaceutical operations are conducted on the ground floor of the plant making access and egress for the evacuation of personnel an easy task. There are no elevators and the only stairways are those located in the unrestricted office areas and those leading to the second floor machine room.

In addition to the exits used routinely, the plant is also equipped with alarmed emergency exits.

The access control system has been designed to prohibit inadvertent or unauthorized access to high radiation areas and to provide personnel with the knowledge of the presence of radiation or radioactive materials. The access control system eliminates unnecessary exposure and assures exposures are maintained within regulatory limits.

One of the first indications to personnel of a potential hazard is the presence of caution signs at the entrance to radiation areas and labels on the containers of radioactive materials.

2.1.3.3.2 Near Site

Access and egress including the offsite evacuation of personnel as well as for onsite response by offsite based emergency response participants have been established at two site locations; 1) the Georges Road, and 2) the US#1 entrances.

2.1.3.4 Fire and Explosion Resistance and Suppression

All buildings within the site are provided with portable fire extinguishers distributed and maintained in accordance with NFPA 10, as required under the provisions of OSHA 1910 subpart L.

The plant is provided with Class II interior 1½" hose lines installed in accordance with NFPA 14 and maintained as specified under subpart L of OSHA 1910.

Every work area where radioactive materials are stored, processed or tested is equipped with automatic sprinklers. It is expected that the hot cells which are constructed of steel, concrete and lead, equivalent to 4 to 8 inches of lead will serve as primary containment following an explosion. The building and the building's charcoal filtration systems are considered secondary containments.

The radioactivity collected in the sampler is constantly measured by the stack alarm detector which will sound an alarm in the Health Physics operations area should the maximum allowable activity for I-131 Iodine specified in Appendix B, Table II, Column I of 10CFR20 is exceeded. The sample cartridge is a 1/2" I.D. tube packed with glass fiber filter, followed by 1" of activited charcoal and a sponge holder. The sampling system has been designed to assure isokinetic sampling in the main duct.

2.2.2 Alarm Systems and Release Prevention Capability

An "Indicating and Alarm" panel in the health physics office provides the following:

Alarm and indicating lights for supply systems,

Running indication for all systems,

"Air failure" alarm and indication for all critical systems, and

Indicating lights showing status of critical filtration systems (i.e., lights will indicate which filter banks are in use and those that are on "standby.")

Air balance is maintained by means of constant volume regulators in each branch duct connection to glove boxes, fume hoods, etc.

2.2.3 Support Systems

Fire protection is provided at each branch connection to glove boxes and fume hoods, etc. by means of a spring-loaded fusible link fire damper. Carbon filters are protected by means of ionization-type detectors in the duct work. Generally, detectors will isolate a filter fire from the air stream by closing metal-seated shutoff valves and transfer the effluent to the standby filters, or stop the fan, depending on the type system involved.

The plant is also equipped with an auxiliary generator which will automatically engage in the event of an electrical power failure. The generator is capable of maintaining the air systems and emergency lighting for the plant.

Should the air system which supplies automatic controls fail, all filter intake and exhaust valves are designed to fail safe.

2.2.4 Control Operations

Verification that the filter bank systems are performing their intended functions at their maximum efficiencies is accomplished by continuously sampling air flow and collecting radioactivity. Each filter bank is equipped with samplers to analyze filter efficiencies. The samplers are checked on a weekly basis and assayed. Each of these filter banks are exhausted into a main duct which lends to the breach of the Medotopes stack. The combined effluents are sampled in the breach and monitored before being discharged to the stack. The samplers are analyzed at least once a day, except over the weekend. The weekend sampler is run from Friday to Monday. The measured radioactivity is averaged over this period of time.

Air velocity measurements in ventilated enclosures are conducted at least quarterly to ensure regulatory requirements are satisfied.

In addition, plant engineers routinely monitor the plant's control systems located in the machine room area to ensure they are functioning properly.

3.0 CLASSES OF RADIOLOGICAL CONTINGENCIES

3.1 Classification System

The Squibb Radiological Contingency Plan is designed to handle emergency situations ranging from Notification of Unusual Events to General Emergencies. These conditions have been categorized into four classes.

Class I

Notification of Unusual Event

Class I includes only those unusual events which indicate a potential degradation of the level of safety of the plant. The Notification of Unusual Event is confined to a specific area within the plant and would not require the evacuation of personnel from other areas of the plant unless further degradation of safety systems occur.

However, should a Notification of Unusual Event occur the Health Physics Department Head or his designee shall promptly inform State, Federal and/or local offsite authorities of the nature of the Notification of Unusual Event.

The appropriate offices to be contacted are:

U.S. Nuclear Regulatory Commission	215-337-5000
N.J. State Department of Environmental Protection	609-882-4200 609-882-2000 609-292-5586,7,8 609-292-7372

Class II

Alert

Radioactive releases that are contained within the plant, but require evacuation of the plant because of the possibility of widespread contamination. This Alert involves an actual or potential substantial degradation of the level of safety of the plant.

The State, Federal and/or local authorities must be informed of an Alert and the reason for the Alert as soon as it is discovered.

The following authorities must be notified immediately by the Health Physics Department Head or his designee:

U.S. Nuclear Regulatory Commission	215-337-5000
N.J. State Department of Environmental Protection	609-882-4200 609-882-2000 609-292-5586,7,8 609-292-7372

Class III

Site Area Emergency

Radioactive releases that are not contained within the plant and require evacuation of areas within the site. This Site Area Emergency involves actual or likely major failures of plant functions needed for protection of the public. Offsite releases are not expected to exceed EPA Protective Action Guidelines.

The State, Federal and/or local authorities must be informed of a Site Area Emergency condition and the reason for the Site Area Emergency as soon as it is discovered.

The following authorities must be notified immediately by the Health Physics Department Head or his designee:

U.S. Nuclear Regulatory Commission	215-337-5000
N.J. State Department of Environmental Protection	609-882-4200 609-882-2000 609-292-5586,7,8 609-292-7372

Class IV

General Emergency

Radioactive releases beyond the site boundary. This condition will be considered a General Emergency which involves actual or imminent loss of confinement integrity. Releases can be expected to exceed EPA Protective Action Guidelines.

3.3 Range of Postulated Accidents

Class I

NOTIFICATION OF UNUSUAL EVENT

In this evaluation, it is postulated that a local fire has occurred in the facility and the fire has developed to the extent that the excess heat may cause the release of airborne radioactivity.

It is assumed that a fire has occurred in a glove box containing 2.5 curies of iodine ^{131}I (the largest batch size in radiopharmaceutical production). The iodine contained in the fraction of the liquid which flashes to steam represents the airborne source for this accident.

The fire in the box would release the fire damper located over each glove box and prevent its spread through the ventilation system. Any smoke or water vapor released by the fire and not stopped by the local fire damper will be contained in the area of the charcoal filter by the pyrotronic fire detectors located in each charcoal filter bank. These smoke detectors will close off the ventilation system for that box by closing the automatic valves on each side of the filter bank. Therefore, the airborne activity would be contained within the ducts of the ventilation system.

Any smoke released into the rooms will pass through the room filtering system and also be detected by the filter bank fire detectors.

Probability Considerations

The materials used in the manufacture of iodine ^{131}I products are nonflammable. All of the radioactive batches manufactured are aqueous solutions. No volatile solvents are used inside those areas containing iodine ^{131}I. In addition, the hoods are provided with local fire dampers and each charcoal filter bank is provided with a smoke detector (pyrotronics) which controls two fire damper valves on each side of the filter bank. The only possible type of fire would be one in which there was an electrical failure of one of the devices inside the boxes (I.e., magnetic stirrer, heating mantles, pumps). A fire of this type should be of short duration with relatively low heat generation.

Class III

SITE AREA EMERGENCY

In this accident, it is postulated that an unlikely series of disasters has occurred which could result in the release of radioactive material beyond the plant.

In order to consider this type of accident, we must assume that the disaster involves the largest single shipment of radioiodine ^{131}I that exists in the radiopharmaceutical production facility at any one point in time. Therefore, it is presumed that the high level hot cell contains 45 curies of iodine ^{131}I.

If we assume that the 45 curies of iodine ^{131}I is somehow ignited, the aqueous solution of sodium iodide ^{131}I would have to be evaporated to become airborne. It is also assumed, that the automatic dampers which close off the ventilation system for the hot cell fail and the fire is confined to the hot cell alone. The vaporized iodine I-131 would then seep along with the smoke from the fire, up into the ducts of the ventilation system. Fifty (50) percent of the 45 Curies is assumed to plate out before reaching the charcoal filters.

Since the smoke from the fire will not activate the pyrotronic smoke detectors and shut off the valves around the filters, the gas would therefore pass through the charcoal filters.

Of the 22.5 curies that remain, 0.1% of this amount, 22.5 millicuries will leave the plant through the radiopharmaceutical building stack (exhaust filter efficiency 99.9%.)

Probability Considerations

The radioactive material ^{131}I is an aqueous solution of sodium iodide. This batch is housed within a glass flask and is contained in a "hot" cell made of concrete and steel. This hot cell does not contain any volatile solvents that are used in the processing of the materials.

The only possible source of combustion is a failure in the flourescent lights that are housed in glass shields approximately 8 feet above the iodine ^{131}I in the ceiling of the cell.

In order to create the circumstances postulated in the accident described above, we would require a fire in an area that contains no combustibles, a failure in the site electrical power supply and a failure in the radiopharmaceutical auxiliary electrical power supply.

The probability of each event occurring simultaneously is highly unlikely.

4.0 ORGANIZATION FOR CONTROL OF RADIOLOGICAL CONTINGENCIES

The contingency plan outlines the actions and responsibilities of Squibb plant personnel and offsite assistance groups. It's intent is to classify emergencies according to severity, assign responsibilities and to clearly outline the most effective course of action required to safeguard the public and plant personnel in the event of an incident at E.R. Squibb & Sons, Inc.

Emergencies will come under four classifications: Notification of Unusual Event, Alert, Site Area Emergency and General Emergency. Detailed implementing procedures for each class of emergency prescribe the course of action necessary to place the radiopharmaceutical facility in a safe condition and minimize the consequences for each classification of incident.

The department head of the Health Physics Department has been designated to act on behalf of the company during any emergency situation arising from radiopharmaceutical plant operation.

In the absence of the Health Physics department head, the Health Physics supervisors or the shift supervisors are instructed to act on behalf of the company.

The Health Physics department head will act as the Radiopharmaceutical Department Emergency Director.

4.2 Onsite Radiological Contingency Response Organization

4.2.1 Direction and Coordination

The following outlines the position of the person and his alternate(s) who have the overall responsibility for implementing and directing the radiological contingency procedures.

4.2.1.1 EMERGENCY ORGANIZATION - CHAIN OF COMMAND
EMERGENCY MONITORING TEAM PERSONNEL

PLANT EMERGENCY DIRECTOR

Health Physics Department Head
or Alternate

#2 MAN	#3 MAN
Health Physics Supervisor Or Alternate	Health Physics Supervisor Or Alternate

Plant Emergency Director Alternates

Two Health Physics Supervisors, or
Radiopharmaceutical Department Head, or
Radiopharmaceutical Quality Control Department Head

Emergency Team Alternates

Three (3) Radiopharmeceutical Section Heads, or
Five (5) Radiopharmaceutical Shift Supervisors,
and/or Radiopharmaceutical Quality Control Shift Supervisors.

4.2.1.2 Authority and Responsibilities

Radiopharmaceutical Plant Emergency Director

A. Notification of Unusual Event Followup Actions

- Evaluate the emergency through the emergency assistance group and as quickly as possible, determine if the incident is causing the release of radioactivity beyond the restricted area of the radiopharmaceutical production building.
- Designate health physics personnel to proceed to the scene with appropriate monitoring and emergency equipment.
- Proceed to and take charge of the Emergency Coordination Center (Health Physics Office).

ML10

- Inform all radiopharmaceutical manufacturing personnel of the incident.
- Establish barricades around the site of the incident.
- Direct the actions necessary to bring the emergency under control.
- Notify Medical Assistance Group, if necessary.
- Promptly notify local or state offsite agencies.

B. Alert Followup Actions

- Proceed to take charge of the Emergency Coordination Center (Health Physics Office).
- Notify employees of the emergency and its magnitude.
- Evaluate the emergency as per A above.
- Designate personnel to proceed to the scene of the emergency with the emergency kit.
- Notify the Radiopharmaceutical Production Manager.
- Direct the survey of all personnel for contamination.
- Supervise collection of all data necessary for the emergency monitoring log.
- Dispatch monitoring teams to survey the radiopharmaceutical production area boundary.
- Notify State and local offsite agencies of Alert.
- Direct the actions necessary to bring the emergency under control.
- Establish the appropriate barricade to restrict access to the site of the incident.
- Account for all plant personnel and visitors.

C. Site Area Emergency Actions

- Proceed to take charge of the Alternate Emergency Coordination Center.

4.2.2.5 Emergency Actions

Upon notification or discovery of an emergency, the health physics office shall immediately announce the type and location of emergency on the plant communication system.

The Health Physics shift supervisor, acting as the temporary emergency director, shall evaluate conditions and classify the emergency as a Notification of Unusual Event, Alert, Site Area Emergency or General Emergency.

The Emergency Coordination Center should be manned at all times during the emergency.

The following steps will be taken immediately under all emergency situations:

- Persons discovering the emergency condition shall immediately notify the health physics office by the most expeditious means available.
- Person(s) in the immediate area shall take appropriate action to limit the extent of the incident with available means, or retreat to a safe location and await assistance.
- Shift operating personnel not immediately involved with the emergency will report to the health physics office.

4.2.2.6 Emergency Control Locations

Two areas are defined for control and coordination of onsite activities following an emergency.

- Alternate Health Physics Office

  The Alternate Health Physics Office is located immediately outside the restricted area of the radiopharmaceutical manufacturing facility. Located within the room is the communication system for all rooms and areas around the radiopharmaceutical production plant. All onsite activities shall be directed from this room.

- Alternate Emergency Coordination Center

  The Alternate Emergency Coordination Center will be the Radiopharmaceutical Research and Development Building. It is equipped with the necessary monitoring equipment to perform

5.0 RADIOLOGICAL CONTINGENCY MEASURES

5.1 Activation of Radiological Contingency Response Organization

A Notification of Unusual Event exists upon the discovery of any condition which requires the implementation of controls to protect plant personnel or equipment and which creates a potential degradation of the level of safety of the plant.

An Alert exists when:

A. Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of the EPA Protection Action Guideline exposure levels. These events combined with the following conditions constitute an Alert:

1) Major injuries associated with severe radiocontamination to more than one individual (any injury requiring more than first aid.)

2) Major radioactive contamination of more than one individual.

3) The emergency encompasses more than one work area or a group of rooms.

4) Area radiation monitors indicate greater than 100 mr/hr background in more than one room.

B. Area fire detection monitors indicate a fire in any section of the air handling system.

A Site Area Emergency exists when:

A. Events are in process or have occurred which involve actual or likely major failures of plant functions needed for the protection of the public and/or any combination of the following:

1) Major and multiple injuries to personnel which require offsite assistance.

2) Evacuation of the radiopharmaceutical production building (#124) and areas around the restricted area is necessary.

3) Releases within the site boundary which cause dose rates in unrestricted areas to exceed 10 mr/hr but do not exceed EPA Protective Action Guideline exposure levels outside the site boundary.

B. A major fire in the radiopharmaceutical production building (#124.)

A General Emergency exists when:

A. Any condition which threatens to cause the release of radioactive material beyond the site boundary in quantities expected to exceed EPA Protection Action Guideline exposure levels offsite.

1) Events are in process or have occurred which involve actual imminent loss of confinement integrity.

2) A radiation dose rate of 10 mr/hr at the site boundary or concentration of radioactive material greater than MPC beyond the site boundary.

B. A major fire involving the release of large amounts of radioactive material.

5.2 Assessment Actions

5.2.1 Notification of Unusual Event

a. When an unusual event occurs, the following procedures should be implemented to alert response personnel and to notify management of the incident.

The individual(s) suspecting that an unusual event has occurred shall notify Health Physics personnel immediately, by telephone, plant intercom system and/or in person.

Intercom: 63 or 69

Telephone: 2168

Health Physics personnel shall immediately notify the Health Physics Department Head or his designee by intercom, telephone and/or in person.

Intercom: 14 or 69

Telephone: 2451 or 3158

	Office	Home
John P. Gresh	2451	(b)(6)
Daniel K. Balkunow	3158	

5.2.2 Alert

a. Persons discovering the emergency condition shall notify the Health Physics Office by the most expeditious means available (Telephone 2168; Intercom 69 or 63.)

b. Health Physics personnel or shift supervisors sound the appropriate alarm within the plant and notify the Health Physics Department Head or his designee:

Health Physics Department Head	Office	Home
J. P. Gresh	2451	(b)(6)
or designee,		
D. K. Balkunow	3158	

c. The Health Physics Department Head shall notify:

1. Medical Ext. 3033
2. Fire Ext. 3011
3. Police Ext. 2111
4. Middlesex General Hospital - 828-3000, ext. 286
5. New Brunswick Police - 201-745-5400
6. North Brunswick Police - 201-545-3200
7. Radiopharmaceutical Department Head or designee:

	Office	Home
G. Thompson	3061	(b)(6)
or designee,		
J. Frankowski	3063	

8. Director of Environmental Services

P. A. Rava	2166	(b)(6)

9. Nuclear Regulatory Commission - 215-337-5000
10. N.J. State Department of Environmental Protection -
609-882-4200
609-882-2000
609-292-5586,7,8
609-292 7372

d. The Radiopharmaceutical Department Head shall notify:

1. Director of Operations

	Office	Home
L. Zajac	3165	(b)(6)
2. V.P. of Operations		
L. DiFazio	2401	

e. The Director of Environmental Services shall notify:

Vice President of Quality Assurance

E. A. Gusmano	3191	(b)(6)

f. Persons in the immediate area of the emergency condition shall take appropriate action to limit the extent of the incident with available means to the extent possible, then retreat to a safe location and await assistance.

g. All shift personnel, not immediately involved with the incident, shall report to the area designated by Health Physics or shift supervisors.

5.2.3 Site Area Emergency

a. Persons discovering the emergency condition shall immediately notify the Health Physics Office by the most expeditious means available.

b. Telephone ext. 2168
or
Intercom 69 or 63

c. Health Physics personnel or shift supervisors sound the appropriate alarm (horn) within the radiopharmaceutical production building and notify the Health Physics Department Head or his designee:

Health Physics Department Head	Office	Home
J. P. Gresh	2451	(b)(6)
or designee,		
D. K. Balkunow	3158	

"Official Record Copy"

7. Radiopharmaceutical Department Head or designee:

	Office	Home
G. Thompson	3061	(b)(6)
or designee,		
J. Frankowski	3063	

8. Director of Environmental Services

P. A. Rava	2166	(b)(6)

9. Nuclear Regulatory Commission - 215-337-5000

10. N.J. State Department of Environmental Protection -
609-882-4200
609-882-2000
609-292-5586,7,8
609-292-7372

d. The Radiopharmaceutical Department Head shall notify:

1. Director of Operations

	Office	Home
L. Zajac	3165	(b)(6)

2. V.P. of Operations

L. DiFazio	2401	

e. The Director of Environmental Services shall notify:

Vice President of Quality Assurance

E. A. Gusmano	3191	(b)(6)

f. Persons in the immediate area of the emergency condition shall take appropriate action to limit the extent of the incident with available means, to the extent possible, then retreat to a safe location and await assistance.

5.3 Corrective Actions

5.3.1 Notification of Unusual Event

a. The Emergency Director shall designate personnel to proceed to the scene of the emergency with the necessary equipment to meet the emergency. These persons will evaluate the extent and magnitude of the emergency, determine if radiation hazards exist and report their findings to the Emergency Director.

b. The Emergency Director shall direct actions necessary to bring the emergency under control with the help of the emergency assistance team and/or the designated alternates.

c. Surveys and bioassays for personnel involved with the emergency will be instituted immediately.

5.3.2 Alert

Plant Emergency Director

a. Proceed to and take charge of the Emergency Coordination Center.

b. Determine if the assembly point is in a safe area through the use of portable survey instruments.

c. Evaluate the emergency as quickly as possible, and determine if the incident is causing a release of activity outside the plant which could result in a site emergency.

d. Dispatch monitoring team to the scene of the emergency with the emergency kit to evaluate the extent and magnitude of the emergency and survey the area along the boundary.

e. Direct Radiopharmaceutical Production Supervisors to make a check of time card rack and visitors' log book to determine what personnel other than the emergency team personnel have not left the plant.

f. Notify the following members of management:

- Radiopharmaceutical Manfuacturing Department Head
- Squibb Plant Manager
- Radiopharmaceutical Quality Control Department Head
- Plant Security Head
- Plant Medical Department Head
- Other personnel as required

g. Set up necessary auxiliary communications (walkie-talkie), if necessary.

h. Establish barricades with Plant Security force at the plant boundary to restrict access to the plant.

i. If there are injured personnel, notify the senior medical representative.

j. Provide a health physics representative to accompany the patient to the hospital with the ambulance emergency kit, to maintain radiological controls in the hospital.

k. Supervise collection of emergency data in the Emergency Monitoring Log.

5.3.3 Site Area Emergency

Plant Emergency Director

a. Proceed to and take charge of the Emergency Coordination Center.

b. Determine if the assembly point is in a safe area through the use of portable survey instruments. If this assembly point is not safe (greater than 100 mr/hr), direct personnel to the Squibb parking lot.

c. Evaluate the emergency and, as quickly as possible, determine if the incident is causing a release of activity offsite and could result in a general emergency.

d. Dispatch monitoring team to the scene of the emergency with the emergency kit, to evaluate the extent and magnitude of the emergency and survey the area along the site boundary. If levels exceed 10 mr/hr or MPC, declare a General Emergency.

e. Direct Radiopharmaceutical Production Supervisors to make a check of time card rack and visitors' log book to determine what personnel other than the emergency team personnel have not left the plant.

f. Notify the following members of management:

- Radiopharmaceutical Manufacturing Department Head
- Squibb Plant Manager
- Radiopharmaceutical Quality Control Department Head
- Plant Security Head

c. Determine if the Emergency Coordination Center is in a safe condition through the use of protable survey instruments.

d. Proceed to take charge of the Emergency Coordination Center.

e. Dispatch a monitoring team to scene of the emergency to evaluate the extent and magnitude of the emergency.

f. Evaluate the emergency and, as quickly as possible, using meteorological data, overlay and area maps, determine the extent of the offsite release of radioactivity. See Addendum V for methodology and parameters used in calculating atmospheric dispersion and dose rates to individuals.

g. If there are any injured personnel, assign the Senior Medical Representative to administer first aid and prepare the patient(s) for transfer to the hospital.

h. Provide a health physics representative to accompany the patient(s) to the hospital with the ambulance emergency kit, to maintain radiological control in the hospital.

i. Evaluate monitoring data from survey teams as it becomes available.

j. Provide monitoring team for State Department of Environmental Protection.

k. Inform company management, State Department of Environmental Protection and Nuclear Regulatory Commission of offsite radiological conditions.

5.4 Protective Actions

Notification of Unusual Event

a. If a Notification of Unusual Event should occur, an individual's first responsibility is his own safety. All persons shall evacuate the emergency area immediately, holding their breath, if possible.

b. Person(s) discovering an emergency condition shall warn personnel in the immediate area and notify the Health Physics Department by the most expeditious means available and relate all pertinent data.

c. The emergency assistance team or alternate shall announce on the plant intercom system that a local emergency exists and all personnel shall retreat and remain out of the affected area.

d. If there is an injured individual, the Medical Department shall be notified (Extension 3033) to provide proper medical aid to the patient and make the necessary arrangements, if hospitalization is required.

e. Persons in the immediate area of the emergency condition shall take appropriate action to limit the extent of the incident with available means to every extent possible without endangering themselves, then retreat to a safe location and await assistance. In the case of a fire, the fire department shall be notified immediately (Ext. 3011.)

Alert

a. All emergency assistance team personnel onsite are to proceed to the designated Emergency Coordination Center and prepare to render assistance.

b. Pick up tags from the emergency assignment tag board and perform functions delineated on the tags or as directed by the Plant Emergency Director.

c. The following priorities are to be used by the Plant Emergency Assistance and Monitoring teams when approaching their assigned areas.

- Determine maximum dose rates (mr/hr) in area.
- Determine magnitude and extent of surface contamination and/or dose rates.
- Determine air contamination levels with high volume air samples.
- Erect barricades and posting to establish control points points, if necessary.
- Equip the control point with protective clothing and monitoring equipment, if necessary.
- Record names of personnel who were in plant during emergency.
- Keep the Plant Emergency Director advised and take action as directed by him.

Site Area Emergency

a. All emergency monitoring team personnel onsite are to proceed to the designated Emergency Coordination Center and prepare to render assistance.

b. Pick up tags from the emergency assignment tag board and perform functions delineated on the tags or as directed by the Plant Emergency Director.

c. The following priorities are to be used by the Plant Emergency Monitoring Team when approaching its assigned area.

- Determine maximum dose rates (mr/hr) in area.
- Determine magnitude and extent of surface contamination and/or area dose rates.
- Determine air contamination levels with high volume air samples.
- Erect barricades and posting to establish control points, if necessary.
- Equip the control point with protective clothing and monitoring equipment, if necessary.
- Record names of personnel at the emergency site.
- Keep the Plant Emergency Director advised and take action as directed by him.

General Emergency

a. All Emergency monitoring team personnel are to proceed to the designated Emergency Coordination Center and prepare to render assistance.

b. Pick up tags from the emergency assignment tag board and perform function delineated on the tags or as directed by the emergency.

c. The following priorities are to be used by the emergency monitoring team when approaching its assigned areas.

- Determine maximum dose rates (mr/hr) in area.
- Determine magnitude and extent of surface contaminations and/or area dose rates.

The following is the communications message used in reporting a Site Area Emergency or General Emergency:

STATE POLICE NOTIFICATION MESSAGE

THIS IS _____(name)_____, _____(title)_____ AT _____(facility)_____. I AM REPORTING A NUCLEAR INCIDENT. CONTACT THE BUREAU OF RADIATION PROTECTION IMMEDIATELY.

In the event of a drill, the message must begin and end with the words:

"THIS IS A DRILL, REPEAT, THIS IS A DRILL."

5/18/82

ADDENDUM IV

INTER-OFFICE MEMO

SQUIBB

2018

TO Mr. J. P. Gresh

DATE April 30, 1982

FROM H. G. Seidler

COPY TO Mr. F. T. Golub
Mr. P. A. Rava

SUBJECT RADIOLOGICAL CONTINGENCY EMERGENCY PASS LIST

John -

I have placed your "Radiological Contingency Emergency Pass List" in our Operational File. Immediately upon notification of such an emergency, this pass list will be forwarded to the New Brunswick and North Brunswick Police Departments who will afford access to the employees listed.

H. G. Seidler
SECURITY MANAGER

/ps