APPENDIX A

EMERGENCY PRE-PLAN OPERATING PROCEDURES

ADVANCED MEDICAL SYSTEMS, INC.
1020 LONDON ROAD
CLEVELAND, OHIO 44110

REV. JANUARY, 1995

Contents

EMERGENCY CONTACT PERSONNEL
Advanced Medical Systems, Inc.

Primary:	OFFICE PHONE	HOME PHONE
Mr. Robert Meschter Radiation Safety Officer	216/692-3269	216/298-1462
Secondary:		
Mr. Stephen Haddock	216/692-3269	216/953-3966
Mr. Christopher Reed	216/692-3269	216/428-1424

Other Contact Personnel

AMS Geneva	Office: 216/466-4671	
Edward Svigel	Office: 216/466-4671	Home: 216/428-6096
David Cesar	Office: 216/466-4671	Home: 216/731-5235

Emergency Civil Response Agencies

University Hospital of Cleveland	216/844-3835
Cleveland City Fire Department	Dial 911 or 216/621-1212
Cleveland City Police	Dial 911 or 216/621-1234
Cleveland Emergency Medical Services	Dial 911 or 216/623-4545
Ohio State Highway Patrol	216/587-4305
ADT Security Services	216/526-9539
Ohio Emergency Management	614/889-7150
U.S. Nuclear Regulatory Commission - Region III	708/829-9500
Operations Center	301/816-5100

FIRE/EXPLOSION/MEDICAL EMERGENCY PROCEDURES

1.0 PURPOSE

This procedure is intended to define Advanced Medical Systems' administrative actions on discovery of a fire, explosion, responses to fires, use of fire alarms as well as medical emergencies.

2.0 SCOPE

This procedure applies to fire, explosion, or medical emergency within AMS' London Road facility during working hours as well as procedures to be followed by responding authorities during non-working hours.

3.0 RESPONSIBILITY

1. The Radiation Safety Officer (RSO) or a designated alternative will review this procedure with the Cleveland City Fire Department and Cleveland City Police. This plan shall be periodically updated and verified for correct information.

2. All training of affected personnel will be the responsibility of the Radiation Safety Officer or a designated alternate.

3. No one shall make any public announcements/statements concerning an emergency situation except the Director of Regulatory Affairs or designated alternate.

4. A review and update of all names and telephone numbers of personnel listed in this plan will be on a quarterly basis and will be the responsibility of the Director of Regulatory Affairs.

5. Any responsibility or action item assigned to an individual in this procedure may be performed by a designated alternate.

4.0 RSO EMERGENCY RESPONSIBILITIES

- Personnel evacuation
- Fire prevention
- Fire/safety inspections (monthly)
- Safety Committee meetings (quarterly)
- Fire fighter information assistance
- Overseeing of salvage operations (post emergency)

5.0 DEFINITIONS

5.1 Fire

Fire or combustion is an exothermic, self-sustaining reaction involving a solid, liquid and/or gas phase fuel. The process is usually associated with the emission of light. For purposes of this procedure, any incident that has potential to escalate into a fire condition or non-radiological emergency life-threatening situation shall be acted upon as a fire.

It is the policy of AMS that fire fighting by personnel be limited to fighting incipient stage fires. Incipient stage fires are defined as fires that can be controlled or extinguished with portable fire extinguishers or 1-1/2" hose streams without the use of self-contained breathing apparatus or personal protective equipment.

6.0 EMERGENCY CONTACT PERSONNEL

See Page 1.

7.0 GENERAL EMERGENCY PROCEDURES

7.1 Reporting an Emergency - General

In the event of an emergency, the following action should be taken by the person reporting such emergencies.

7.2 Applicability

All personnel on AMS property are responsible to report life or property-threatening emergencies.

7.3 Fire During Working Hours

It is recommended fires within restricted areas be fought with dry chemicals - CO_2, Halon or equivalent - to prevent possible run-off of contaminated water. Unrestricted areas can be fought with water. The water run-off would be uncontaminated as unrestricted areas have no detectable contamination.

The individual who discovers the fire shall:

1. Promptly notify the RSO and nearby personnel through the intercom system at the nearest available telephone.

2. The RSO or alternate will determine if fire will cause release of airborne activity to the environment. Based on this evaluation, the RSO will direct the manual dampers in the HEPA Equipment Room to be shut as long as there is no significant risk to personnel.

3. The ADT Security Services 24-hour supervisory electronics monitoring sound alarm system will call AMS prior to notifying the Fire Department.

4. Evacuate building and proceed to assigned area.

5. The RSO or desigrated alternate will notify the Cleveland City Fire Department at 621-1212. The RSO is to provide the following information:

   a. State your name and that you are calling from Advanced Medical Systems, Inc. at 1020 London Road.

   b. Describe the location of the fire.

   c. Describe the type of fire; i.e., what is burning.

   d. The approximate fire conditions; i.e., smoke only, smoke with flames, rolling smoke, etc.

   e. Describe any personnel injuries.

   f. If safe to stay at the telephone, will answer all questions and let the person answering hang up before you do.

PROVIDE EMERGENCY ASSISTANCE IF ABLE TO DO SO.

7.4 Fire or Explosion During Unoccupied Hours

1. Background

The 1020 London Road, Cleveland, Ohio facility is equipped with an ADT Security Services 24-hour supervisory electronics monitoring alarm system. In the event of a fire or explosion, the signal is automatically transmitted to the ADT Central Office and the proper response civil service group (Cleveland Fire and Police Depart- ments) is immediately notified. During working hours or periods when AMS personnel are occupying the facility, ADT also calls this location. During periods when the building is unoccupied, ADT calls key AMS emergency response personnel.

2. Procedures

a. In the event that local fire and police response groups reach the facility before the designated AMS representative, they have been advised to remain outside the building until either the AMS representative or the designated Cleveland City Fire Department Radiation Officer arrives.

b. In the event of the emission of detectable quantities of smoke or other gases, response personnel and agencies should remain upwind of the emergency site. Police should establish road blocks to prevent normal civilian traffic from passing through the downwind area.

c. Upon arrival, the AMS representative should confer with the civil authorities as to the nature of the emergency and establish a control point.

d. Verify the existence and location of radioactive materials.

e. Using locator floor plans, determine whether the fire/explosion is in restricted or non-restricted area.

f. If fire/explosion involves a restricted area, obtain emergency protection and detection equipment from the AMS pumphouse storage point.

g. Primary entry personnel should be issued and instructed in reading a survey meter and pocket dosimeters in order to make an initial radiation hazard survey. Pocket dosimeters must be zeroed prior to use. If radiation levels are acceptable, then additional fire fighters may be authorized to enter. Fire fighters must wear respiratory protection -- SCBA type. The maximum dose allowable to save equipment is 25 REM.

h. The RSO or alternate will determine if fire will cause release of high airborne activity to the environment. Based on this evaluation, the RSO will direct the manual dampers in the HEPA Equipment Room to be shut as long as there is no significant risk to personnel.

i. The best method of fire suppression in restricted areas would be determined by both professional firemen and AMS personnel. The method chosen should be the one least likely to spread contamination.

j. All fire fighting personnel should be monitored for contamination upon exiting the facility before leaving the site.

k. Exit contamination surveys will be performed to insure that the facility has been restored to a safe condition after an accident.

8.0 MEDICAL EMERGENCIES

The individual discovering the emergency shall notify the RSO who, in turn, shall:

1. Call the Cleveland Ambulance Emergency Medical Services at 911 or 623-4545 and/or provide the following information:

   a. Your name and that you are from Advanced Medical Systems located at 1020 London Road.

   b. Describe the problem.

   c. Answer all of their questions and let them hang up before you do.

PROVIDE EMERGENCY ASSISTANCE IF ABLE TO DO SO.

The first aid supplies are located in the Chemistry Lab.

9.0 MINOR INJURIES

1. Administer first aid to the injured victim.

2. Call or have an emergency call placed for ambulance service (911 or 623-4545) and notify the hospital of its impending arrival.

   a. Using a Frisker, assess the injured person for possible radioactive contamination.

   b. Remove contaminated clothing or cover patient with clean plastic and tape wrap.

3. If victim cannot be moved from the restricted area, the following procedures should be followed:

   a. Secure all sources of radiation near the location and access path to the victim.

   b. Roll out a Kraft paper path or similar clean floor covering to the victim for emergency response traffic.

c. Using a survey meter, determine the radiation dose rates in the response area.

d. Using a Frisker, assess the person for possible radioactive contamination.

e. Meet the emergency response team at the entrance and inform them of the situation including:

1. Nature of injury
2. Location
3. Dose rates
4. Contamination level
5. Need for exit contamination surveys

f. Escort the response team to the victim and advise of potential exposure points along the access path.

g. Conduct exit contamination survey to insure that the facility is in safe condition after an accident.

4. Prepare the transport vehicle for use by spreading plastic sheets in the area to be occupied by the patient.

5. Accompany the patient to the hospital if no further emergency exists or if backup AMS response personnel are at the AMS site.

6. The following equipment should be transported with the patient:

a. Survey meter
b. Frisker
c. Plastic waste bags and tape

7. Inform the ambulance personnel that the AMS representative should supervise the decontamination of the transport vehicle before its next response.

8. In all cases, the maximum dose allowable for lifesaving action is 75 REM.

10.0 POLICE EMERGENCIES

The individual discovering the emergency shall notify the RSO who, in turn, shall:

1. Call the Cleveland City Police Department at 911 or 621-1234.

a. State your name and that you are from Advanced Medical Systems, Inc. located at 1020 London Road.

b. Describe the problem.

c. Answer all questions and let them hang up before you do.

11.0 EVACUATION PROCEDURE

11.1 Decision

The decision to evacuate any section of the facility because of fire or other occurrence will be made by the RSO or his/her designee.

11.2 Notification

If time permits, the RSO will notify the Director of Regulatory Affairs located at the Geneva, Ohio office that a portion of the building has been evacuated.

11.3 Evacuation

1. Each employee will, if possible, shut off any electrical equipment being used, including coffee pot, before evacuating the premises.

2. Supervisory personnel will assemble their personnel in the parking lot and stand ready to assist in the control of the emergency.

3. The RSO is responsible for the communication of information to all personnel concerning the resumption of plant operation following an evacuation.

11.4 Training

It is the responsibility of the RSO to inform each employee of their emergency evacuation exit and their alternative exit(s).

11.5 Equipment Alarms

ADT maintains and is responsible for all fire detection and security equipment. ADT conducts monthly inspections and performs all necessary repairs.

12.0 GENERAL RULES FOR SECURITY BREACHES FOR RESPONDING LAW ENFORCEMENT AGENCIES AND ADT

AMS has ADT Security Service throughout the restricted and non-restricted areas of the London Road facility. During unoccupied hours, this system is armed and breaches of security are electronically transmitted to the ADT office. During occupied hours, these systems are disarmed to avoid the inadvertent transmission of alarm signals by the AMS staff.

12.1 Response

1. During occupied hours, any breach of security will be reported by AMS staff personnel to the Cleveland City Police Department at 621-1234.

2. During unoccupied hours, breaches in security are first detected by the ADT supervisory monitoring system.

3. ADT immediately calls AMS emergency response personnel.

4. ADT security personnel (armed guards) or local law enforcement agencies responding to and ADT call report to the London Road site and await the arrival of either trained emergency response personnel or an AMS representative.

5. An escorted and supervised search of the facility is conducted by the law enforcement officers and either an AMS representative or trained emergency response personnel.

6. If possible, the source of the security breach is determined and the nature or type of security breach recorded.

7. All locks and secured entrances are checked for status. If any of the secured systems have been damaged, they should be repaired before the building is vacated by the AMS representative.

8. All sources of radioactive materials storage are checked to determine tampering or accountability. This includes stored radioactive materials, instrument calibration sources and any source of depleted uranium shielding.

9. The AMS representative should check the supervisory panel to assure that all systems are functioning properly.

10. If a breach of security into restricted areas is detected, wipes of the floor areas will be taken to determine if any radioactive contamination has occurred.

11. Should either the theft of the radioactive material be detected or the release of radioactive contamination occur as a result of the security breach, the NRC will be notified according to the requirements of 10 CFR 20.

12. Following an all-clear situation, ADT systems are reset before exiting the facility.

13.0 GENERAL RULES FOR AMBULANCE-RESCUE SQUADS

REFERENCE: Based on DOE/EV-0020, Department of Energy, October, 1978

13.1 Background

1. Ambulance-rescue squad personnel are usually the first persons of the medical team to see the case of radiation exposure or radioactive contamination. Their first acts will vary in degree. Trained, knowledgeable co-workers, supervisors or health physicists are usually on hand.

2. When the accident has occurred, the health physicist, supervisor, co-workers and the patient(s) should be able to inform members of the rescue squad of the nature of the accident, number of patients and type of radiation exposure or radioactive contamination involved, and possible body areas that may be affected.

   A gross measurement of the amount of radiation involved may be available; such information is most helpful.

3. The maximum dose allowable for lifesavings actions is 75 REM.

13.2 General Rules

1. For the patient.

   a. Give lifesaving emergency assistance if needed.

   b. Secure pertinent information including any radiation exposure from those in attendance.

   c. Determine if physical injury or open wounds are involved. Cover wound with clean dressing; use elastic bandage to hold wound-cover in place; do not use adhesive.

   d. Cover stretcher, including pillow, with open blanket; wrap victim in blanket to limit spread of contamination.

   e. Notify the hospital by radio or telephone of available information.

2. For rescue squad personnel:

   a. Perform survey of clothing, ambulance, etc., on arrival at the hospital before undertaking further activity.

   b. If contaminated, discard clothing in container marked "Radioactive--Do Not Discard". Cleanse self by washing and/or showering, as appropriate.

c. If in contaminated area, rescue squad personnel must be surveyed by radiation-survey meter; measurements must be recorded. Cleansing must continue until responsible physician indicates person may leave.

14.0 GENERAL RULES FOR PHYSICIANS AND NURSES

REFERENCES: Based on DOE/EV-0017, 0018 and 0019, Department of Energy, October, 1978

14.1 Background

The content of each set of general rules will vary with the role of the user; i.e., ambulance or rescue squad, emergency room physician or nurse, or hospital administrator. Additional variations in standing orders can occur if a hospital has:

a. a pre-arranged procedure that is periodically updated and tested;

b. a staff of trained physicians, aides and technicians;

c. proper radiation-measuring equipment;

d. available space for isolation.

What follows is directed to meet the situation of a small community or rural hospital.

14.2 General Rules

If the ambulance or rescue squad that picks up the radiation accident case has a radio or telephone, the emergency room will be alerted to expect a patient who may have had radiation exposure or radioactive contamination.

It is the responsibility of the senior hospital emergency room person on duty, nurse or physician, on receipt of notification of the momentary arrival of a case involving radiation exposure or contamination, to:

a. Notify responsible staff physician or nurse and aides (trained health physicists or trained technicians from x-ray or nuclear medicine departments).

b. Get appropriate survey meter, if one is on hand in the hospital. If hospital has no meter, notify hospital administrator or responsible hospital official so he/she may obtain a survey meter and other pertinent equipment by calling the Police Department.

c. Notify the hospital administrator so he/she may seek expert professional consultation for technical management of the case.

d. If contamination is suspected, prepare separate space, using either isolation room or cubicle, if available. Some hospitals use the morgue, since the autopsy table lends itself to washing with water. The morgue entrance would then be used rather than the emergency room. When the morgue is used, the patient and his/her family must be reassured of why that space is used. If no separate space is available, cover a floor area immediately adjacent to the entranceway to the emergency room with absorbent paper. The area must be adequate for stretcher-cart, disposal hampers and working space for professional attendants. Mark and close off this area. If dust is involved, be prepared to shut off air circulation system to prevent spread of contamination.

Upon ambulance arrival, the responsible physician or nurse in the emergency room should:

a. Check patient on stretcher for contamination (preferably as stretcher is removed from the ambulance) by use of a survey meter.

b. If seriously injured, give emergency lifesaving assistance immediately.

c. Handle contaminated patient and wound as one would a surgical procedure: i.e., gown, gloves, cap, mask, etc.

d. If possible external contamination is involved, save all clothing and bedding from ambulance, blood, urine, stool, vomitus, and all metal objects (e.g., jewelry, belt buckles, dental plates, etc.). Label with name, body location, time and date. Save each in appropriate containers. Mark containers clearly, "Radioactive -- Do not Discard."

e. Decontamination should start, if medical status permits, with cleansing and scrubbing area of highest contamination first. If an extremity alone is involved, clothing may serve as an effective barrier and the affected limb alone may be scrubbed and cleansed. Initial cleansing should be done with soap and warm water. If the body as a whole is involved or clothing generally permeated by contaminated material, showering and scrubbing will be necessary. Pay special attention to hair parts, body orifices and body folds areas. Remeasure and record measurement after each washing or showering. Non-radioactive wash water waste may be flushed into community sewage system. Follow hospital procedures for radioactive liquid waste.

If a wound is involved, p epare and cover the wound with self-adhering disposable su gical drape. Cleanse neighboring surfaces of skin. Seal off cleansed areas with self-adhering disposable surgical d:apes. Remove wound covering and irrigate wound with s'erile water, catching the irrigating fluid in a basin. Washings can be marked and handled as described in Rule (d) above. Each step in the decontamination should be preceded an(followed by monitoring and recording of the location and exte:1t of contamination.

f. Save physicians', nurses' and attendants' scrub or protective clothing, as described for patients. Nurses, doctors and attendants must follow the same monitoring and decontamination routing as the patients.

g. The physician in attendance in the emergency room, if confronted with a highly contaminated wound with dirt particles and crushed tissue, should be prepared to do a preliminary simple wet debridement. An emergency minor surgical set should be used. Further measurements may necessitate sophisticated wound counting detection instruments supplied by the consultant who will advise if further definitive debridement is necessary.

h. AMS personnel should be able to inform the rescue squad of the nature of the accident, type of radiation exposure or radioactive contamination involved, and possible areas of the body that may be affected. A gross measurement of the amount of radiation involved is always helpful. An AMS representative may come to the hospital with the patient and can be a source of immediate consultation.

i. The emergency room's nurses' calm, assured, friendly greeting, attitude and conversations with the patient can be a tremendous aid.

j. The maximum allowable dose for lifesaving actions is 75 REM.

15.0 GENERAL RULES FOR HOSPITAL ADMINISTRATORS

REFERENCE: Based on DOE/EV-0019, Department of Energy, October, 1978

15.1 Background

The hospital administrator, in contrast to other members of the medical team, is particularly concerned with what the situation will do to his/her other patients or to the hospital as a physical plant, and that relationships with community organizations and specialists are vital.

15.2 General Rules

a. The hospital administrator or senior administrator on duty should inform the DOE and other public officials, such as town, city or county, and/or state health departments, police and fire departments, as appropriate. Before any accidents have occurred, he/she should establish telephone contact with appropriate DOE officials. They can always give immediate advice over the telephone on cleanup of accident site, equipment,etc., and put the hospital's physician in immediate contact with a physician-specialist with knowledge of such accidents. The specialist can be on his way to the hospital within minutes of the first telephone contact.

b. The hospital administrator should also know if the community's police or fire departments have survey meters and who has access to stockpiled civil defense supplies. He/she should also know whether police or fire departments in the community clear up public accident sites.

c. The hospital administrator should have the survey meters checked periodically to be sure that the equipment is operating and fresh batteries are available.

d. The maximum allowable dose for lifesaving action is 75 REM.

16.0 GENERAL RULES FOR HEALTH PHYSICISTS AND RADIOLOGICAL SAFETY OFFICERS

REFERENCE: (From Saenger, E. L., Medical Aspects of Radiation Accidents, USAEC, 1963)

1. When and if an accident is suspected, evacuate personnel and segregate them. Remove all personnel dosimeters and/or film badges immediately from exposed personnel. Read dosimeters and record the reading. Send dosimeters and film badges immediately to a safe area.

2. Notify Radiological Safety Officer who will then activate emergency plan.

3. Close off radiation area. Shut off air conditioning. Seal area if contamination is likely.

4. Evaluate situation in regard to:

   a. Extent of contamination
   b. Level of radiation exposure

5. Save all samples of clothing, blood, urine, stool, vomitus. Label with name, date, time. Send film badges for emergency processing by standard technique.

6. Portable battery-operated tape recorder will be very useful in collecting and storing information and for obtaining a complete history of the accident. It is often difficult to record all of the events, opinions and statements available in an emergency situation. The taped records can be typed later, thus providing a more complete history of the accident.

7. A camera will provide an excellent method of showing exactly what happened. If a movie camera is not available, suitable still photographs will be used.

8. In a major accident, management should obtain the aid of consulting health physicists. These individuals can also be found in neighboring installations and at Perry Nuclear Power Plant and will be essential for the proper handling of the accident during the first week, particularly if it is necessary to work a 24-hour day.

EMERGENCY RESPONSE KIT

Location: Advanced Medical Systems fire pumphouse located on Mandalay Avenue, approximately 300 feet west of the London Road facility.

Contents:

- Frisker
- Survey Meter
- Flashlight
- Batteries for above
- Respirator
- Air Sampler
- 100-foot Extension Cord
- Pocket Dosimeters - 200MR and 5R
- Dosimeter Charger
- Protective Clothing - Shoe Covers, Head Covers, Coveralls and Gloves
- 2-inch Masking Tape
- Contamination Wipes, Soap, Spray Bottle
- Rope, Signs and Placards
- Ziploc Plastic Bags
- Polydrum Liners - 6 Mil.
- Marking Pens
- Graphite Pencils
- Survey Date Forms
- Facility Drawings
- Emergency Phone Numbers
- $3.00 in Quarters
- Building Keys

RESPONSE NO._____

Ohio Emergency Management Agency

RADIOLOGICAL INCIDENT RESPONSE CHECKLIST

DATE_____ TIME_____ DUTY OFFICER_____

1. Incident Reported by _____ ( ) _____
NAME TELEPHONE

_____
TITLE AGENCY

2. Type of Incident:
_____ A. Improper Disposal/Handling
_____ B. Industrial
_____ C. Well Logging
_____ D. Power Plant (complete Initial Notification Form for the affected site - see TAB 4)
_____ E. Transportation: 1) Highway 2) Air 3) Rail 4) Water
_____ F. Other_____

3. Description of Incident_____

4. Incident Location_____

_____

5. Date and Time of Accident_____

6. Type of Material/Packaging Involved_____

7. Amount/Type of Contamination_____

8. Type of Assistance Required_____

9. Public or Private Property_____

10. Hazard to Public_____

11. Other Agencies Notified: _____
_____
_____

12. Response Team Members/Man-Hours_____
_____
_____

13. Resolution/Remarks:
(Continue on back)

(Rev. 10/90)

APPENDIX B

22" X 17" FACILITY DRAWINGS