007.15.90--001

SEVERABILITY

If any provision of these Rules and Regulations or the application thereof to any person or circumstances is held invalid, such invalidity shall not affect other provisions or applications of the Rules and Regulations which can be given effect without the invalid provision or application and to this end the provisions of these Rules and Regulations are declared to be severable.

REPEAL

All Regulations and parts of Regulations in conflict herewith are hereby repealed.

CERTIFICATION

This will certify that the foregoing Rules and Regulations Pertaining to The Management of Special Waste From Health Care Related Facilities were adopted by the Arkansas State Board of Health at a regular session of the Board held in Hot Springs, Arkansas on the 4th Day of May, 1990 and after a Public Hearing on the 4th Day of January, 1990 held in Little Rock, Arkansas at the State Health Department Building.

M. Joycelyn Elders, M.D.
Secretary
Arkansas Board of Health

The foregoing Rules and Regulations having been filed in my office are hereby adopted on the 14th Day of May, 1990.

Bill Clinton
Governor of Arkansas

RULES AND REGULATIONS PERTAINING TO THE MANAGEMENT OF SPECIAL WASTE FROM HEALTH CARE RELATED FACILITIES

Section I - AUTHORITY

These Rules and Regulations pertaining to the definition, segregation, packaging, storage, transport, treatment and disposal of special waste from health care related facilities (SWHCRF) are hereby promulgated pursuant to the authority conferred by Act 96 of 1913, as amended, the same being A.C.A. 20-7-109.

Section II - PURPOSE

The purpose of these sections is to provide a definition of the term "special waste from health care related facilities", identify the entities that are subject to the provisions of these sections and to establish criteria for proper management of such waste materials in order to protect public health.

Section III - DEFINITIONS

A. Disposal - the final place of rest of SWHCRF or the residue remaining after treatment of SWHCRF.

B. Generator - any person producing SWHCRF as defined in these sections.

C. Special waste from health care related facilities - a waste which if improperly treated, handled or disposed of may serve to transmit an infectious disease(s) and which includes the following:

1. Pathological waste - all human tissues and anatomical parts which emanate from surgery, obstetrical procedures, dental surgery, autopsy and laboratory. Such waste shall be exclusive of bulk formaldehyde and other preservative agents.

2. Bulk human blood and regulated body fluids - waste human blood, including serum, plasma, and other blood components and certain regulated body fluids to include cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid and amniotic fluid not to include urine or feces, in quantities greater than 100 ml (approximately half cup) which cannot be discarded into the collection system of a publicly owned treatment works within the generating facility.

3. Blood and body fluid soaked waste - includes dressings, bandages, packings, gauze, gowns, sponges, wipes, etc., from which blood, blood components or regulated body fluids drip freely and which cannot be laundered.

4. Microbiological waste - includes, but is not limited to, cultures and stocks of infectious agents, culture dishes, devices used to transfer, inoculate and mix cultures, paper and cloth which has come in contact with specimens or cultures and discarded live vaccines.

5. Contaminated sharps - includes, but is not limited to, hypodermic needles, IV tubing with needles attached, syringes with attached needles, razor blades used in surgery, scalpel blades, pasteur pipettes and broken glass from laboratories.

6. Animal waste - carcasses, body parts, bulk blood and blood products and bedding of animals exposed to pathogens known to cause human disease.

D. Labeling - to write on or affix a sign to the outermost package that is water resistant, legible and readily visible.

E. Packaging - containing of SWHCRF in disposable or reusable containers in such a manner as to prevent exposure to the waste material.

F. Person - any individual, partnership, company, corporation, association, firm, organization, federal and state government, or any other group of individuals, or any officer or employee thereof.

G. Segregation - the separation of SWHCRF from other routine waste at the time the waste is generated within the generating facility.

H. Storage - the containment of SWHCRF in such a manner as not to constitute disposal.

I. Transport - the movement of SWHCRF from the point of generation to any intermediate points and finally to the point of ultimate disposal.

J. Treatment - any method, technique, or process designed to change the character or composition of any SWHCRF so as to either neutralize such waste or to render it potentially noninfectious.

Section IV - APPLICATION

All the requirements of these sections shall apply, without regard to the quantity of SWHCRF produced per month, to any person producing SWHCRF to include, but not be limited to, the following:

A. ambulatory surgical centers;
B. abortion clinics;
C. birthing centers;
D. blood banks and blood drawing centers;

E. clinics, including but not limited to medical, dental, veterinary;
F. educational institution health centers and research facilities;
G. emergency medical services and minor emergency centers;
H. employee health clinics;
I. funeral establishments;
J. health maintenance organizations (HMO);
K. home health agencies;
L. hospices;
M. hospitals;
N. laboratories, including but not limited to clinical, diagnostic, pathological, veterinary, biomedical research;
O. long term care facilities;
P. mental health and mental retardation facilities;
Q. pharmacies;
R. pharmaceutical manufacturing plants and research facilities;
S. professional offices, including but not limited to the offices of physicians, dentists and veterinarians;
T. public health units;
U. renal dialysis centers; and
V. special residential care facilities.

Section V - EXEMPTIONS

These sections do not apply to waste generated by the operation of the following entities:

A. single or multi-family dwellings; and
B. hotels, motels or other accommodations which provide lodging for the public.

Section VI - TREATMENT AND DISPOSAL OF SWHCRF

A. Treatment of SWHCRF shall be by one of the following methods:

1. Incineration - burning of waste in conformance with the standards prescribed by the Arkansas Department of Pollution Control and Ecology (ADPC&E).

2. Steam sterilization - autoclaving at a temperature of at least 120'C., (248'F.), and a pressure of at least 15 pounds per square inch for at least 30 minutes. Longer times are required depending on the amount of waste, the presence of water and the type of container used.

3. Discharge to the public sewer system - grinding and/or flushing of waste into the collection system of any publicly owned treatment works (POTW), except as prohibited by the Arkansas Department of Health (ADH) or the superintendent/manager of the POTW.

4. Thermal inactivation - dry heat of at least 160'C., (320'F.), under atmospheric pressure for at least 2 hours. This relates to time of exposure after attaining the specific temperature and does not include lag time.

5. Chemical disinfection - the use of a chemical agent to significantly reduce microbial activity. One part household bleach to ninety-nine parts water (1:100 dilution) for 10 minutes or other EPA-approved chemical disinfectant or sterilant may be used according to manufacturers directions. Excess liquid should be drained prior to disposal.

6. Encapsulation - complete encapsulation in a solid matrix which will significantly reduce the possibility of exposure.

7. Irradiation - the use of gamma rays with wavelengths between 3×10^{-12} and 3×10^{-14} meters possess the needed amount of energy to render pathogens non-infectious.

8. Other available technology - if approved by the Board of Health as meeting the intent of these regulations.

B. Disposal of SWHCRF shall be by one of the following methods:

1. Deposition in a sanitary landfill - deposition in a sanitary landfill in accordance with the most current Solid Waste Management Codes of ADPC&E. Material considered as SWHCRF in Section III must be treated as in Section VI A and labeled as in Section VII E prior to landfilling.

2. Interment - the disposition of pathological waste by burial or cremation.

3. Burial under the supervision of a licensed veterinarian - the disposition of animal carcasses or body parts by burial. The carcass must be treated with lye or other suitable disinfectant and covered with at least two feet of soil.

4. Other available technology - if approved by the Board of Health as meeting the intent of these regulations.

C. Table 1 describes which methods are approved for treatment and disposal of each specific category of SWHCRF.
Note: Not all methods of treatment and disposal are approved for all categories of SWHCRF.

D. If the generator of SWHCRF has treated the waste by an accepted method prior to disposal, it may be included in the normal waste stream if labeled as in Section VII E.

Section VII - REQUIREMENTS FOR GENERATORS OF SWHCRF

A. SWHCRF must be segregated from other wastes at the point of origin in the producing facility.

B. SWHCRF, except for sharps capable of cutting or puncturing shall be contained at the site of generation in disposable plastic bags which are impervious to moisture and have a strength sufficient to preclude ripping, tearing, or bursting under normal conditions of usage. Full bags shall be securely tied so as to prevent leakage or loss of solid or liquid wastes.

C. Contaminated sharps shall be packaged for disposal at the site of generation in leakproof, rigid, puncture-resistant containers. When full, they should be taped closed or tightly lidded to prevent loss of the contents.

D. All bags used for packaging and disposal of SWHCRF shall be red in color and conspicuously labeled as required in Section VII E. Rigid containers of contaminated sharps shall be labeled in the same way.

E. Each package shall be prominently labeled with a sign indicating "Infectious Waste" or the universal biohazard symbol. If SWHCRF leaves the facility where it was generated it must also bear the name and address of the generator and whether the waste is treated or untreated. The label must be water resistant and legible.

F. SWHCRF packaged in disposable containers as prescribed above, shall be placed for storage or transport in disposable or reusable pails, cartons, drums, dumpsters or portable bins. Reusable systems shall be leakproof, have tight-fitting covers and be kept clean and in good repair. Disposable systems shall be leakproof and sealed for storage prior to transport or disposal. The containers shall be of any color and shall be conspicuously labeled as required in Section VII E.

G. Storage of SWHCRF shall be in a manner and location which affords protection from animals, rain and wind, does not provide a breeding place or a food source for insects and rodents, and minimizes exposure.

H. Storage time within the generating facility should be kept at a minimum. If it is necessary to hold SWHCRF it must be held in a cool secure location with limited access as specified in Section VII G.

I. Compactors or grinders shall not be used to process SWHCRF until after the waste has been rendered non-infectious by an acceptable method of treatment as listed in Section VI.

J. The generator shall transfer custody of untreated SWHCRF only to a transporter who is registered as a SWHCRF transporter by the ADH as required in Section VIII C.

K. Any person generating SWHCRF shall maintain a log of all such wastes that are transported from their facility for treatment. The log must include a description of the waste, quantity, the date and to whom it was given.

Section VIII - REQUIREMENTS FOR TRANSPORTERS OF SWHCRF

A. SWHCRF may be transported by the generator to an off-site treatment or disposal facility in a leakproof, fully enclosed container as required in Section VII F, within a vehicle compartment.

B. The transporter shall deliver SWHCRF for treatment or disposal only to a facility that is registered as a SWHCRF treatment, storage or disposal facility by ADH as required in Section IX A.

C. Any person transporting SWHCRF for a generator other than themselves shall register with ADH by submitting each of the following:

1. A completed and signed registration on forms provided by ADH. The forms shall contain the following:

   a. A statement certifying that the registrant understands and will comply with the applicable requirements of this chapter;

   b. A list of all vehicles and containers to be used by the registrant for transporting SWFHCRF, and

   c. The name and address of the registrants insurance company.

2. An operation plan for the handling and transport of SWHCRF. The operation plan shall include the following:

   a. A method of handling SWHCRF separately from other waste which prevents unauthorized persons from having access to or contact with the waste.

   b. A method of loading and unloading of SWHCRF which limits the number of persons handling the wastes and minimizes the possibility of exposure of employees and the public to SWHCRF.

   c. A method of decontaminating emptied reusable SWHCRF containers, transport vehicles or facility equipment which are known or believed to be contaminated with SWHCRF.

d. The provision and required use of clean protective gloves and uniforms for persons manually loading or unloading containers of SWHCRF on or from transport vehicles. Soiled protective gear shall be disposed of at the facility or decontaminated.

e. The means of decontamination of any person having had bodily contact with SWHCRF while transporting the waste to the treatment or disposal site or while handling or disposing of the waste at the site.

3. Assurance that each truck, trailer, semitrailer, vacuum tank, cargo tank or container used for transporting SWHCRF shall be so designed and constructed, and its contents so limited, that under conditions incident to transportation, there shall be no release of SWHCRF to the environment.

Section IX - REQUIREMENTS FOR SWHCRF TREATMENT, STORAGE AND DISPOSAL FACILITIES

A. Any person operating a SWHCRF treatment, storage or disposal facility, not to include a POTW, shall register with ADH by submitting each of the following:

1. A completed and signed registration on forms provided by ADH. The forms shall contain the following:

a. A statement certifying that the registrant understands and will comply with the applicable requirements of this chapter, and

b. Proof of any appropriate permits as required by ADPC&E or other state or federal agencies.

2. An operation plan for the handling and disposal of SWHCRF. The operation plan shall include the following:

a. A method of receiving wastes which ensures that SWHCRF are handled separately from other waste until treatment or disposal is accomplished and which prevents unauthorized persons from having access to or contact with the waste.

b. A method of unloading and processing of SWHCRF which limits the number of persons handling the wastes and minimizes the possibility of exposure of employees and the public using or visiting the facility to SWHCRF.

c. A method of decontaminating emptied reusable SWHCRF containers, transport vehicles or facility equipment which are known or believed to be contaminated with SWHCRF.

d. The provision and required use of clean protective gloves, uniforms or other protective gear to provide protection of employees against exposure to SWHCRF. Soiled protective gear shall be disposed of at the facility or decontaminated.

e. The means of decontamination of any person having had bodily contact with SWHCRF while transporting the waste to the treatment or disposal site or while handling or disposing of the waste at the site.

Section X - RESPONSIBILITY

Any person generating SWHCRF or registering with the Department as an SWHCRF transporter, or an SWHCRF treatment, storage and disposal facility shall be responsible for compliance with these rules and regulations and all other state and local laws.

TABLE 1

METHODS FOR TREATMENT OF SWHCRF

Type of Infectious Waste	Treatment/Disposal Methods *				
	Steam Sterilization	Incineration	Thermal Inactivation	Chemical Disinfection	Other
(1) PATHOLOGICAL WASTES:					
(a) the following materials removed during surgery, labor & delivery, autopsy, biopsy or dental work					
(i) body parts, bone or teeth	X[C]	X[A]			X[C]
(ii) tissues, fetuses or organs	X[C]	X[A]			X[C]
(b) products of spontaneous human abortion	X[C]	X[A]			X[C]
(c) laboratory specimens of blood and tissue	X[AB]	X[A]			X[B]
(d) anatomical remains		X[C]			X[C]
(2) BULK BLOOD/BLOOD PRODUCTS/ BODY FLUIDS	X[AB]	X[A]	X[AB]	X[B]	X[B]
(3) BLOOD/BODY FLUID SOAKED WASTE	X[A]	X[A]	X[A]		
(4) MICROBIOLOGICAL WASTES	X[A]	X[A]	X[A]	X[A]	X[F]
(5) CONTAMINATED SHARPS: hypodermic needles, syringes with needles, scalpel blades, razor blades, pasteur pipettes and broken glass from laboratories	X[D]	X[A]		X[D]	X[EF]
(6) ANIMAL WASTE EXPOSED TO PATHOGENS KNOWN TO CAUSE HUMAN DISEASE:					
(a) carcasses	X[A]	X[A]			X[G]
(b) body parts	X[A]	X[A]			X[G]
(c) bulk blood and blood products	X[AB]	X[A]	X[AB]	X[B]	X[B]
(d) animal bedding	X[A]	X[A]			

* Any one of the treatment methods listed for a given item may be used.

METHODS OF DISPOSAL OF SWHCRF

A Deposition in a sanitary landfill in accordance with the most current solid waste management codes of ADPC&E.

B Grinding and/or flushing into a public sewer system in accordance with local sewage discharge requirements.

C Interment

D Placed in a puncture-resistant container and deposited in a sanitary landfill in accordance with the most current solid waste management codes of ADPC&E.

E Encapsulation in a solid matrix followed by deposition in a sanitary landfill in accordance with the most current solid waste management codes of ADPC&E.

F Irradiation

G Burial under supervision of a licenced veterinarian as described in Section VI-B-3.

RULES AND REGULATIONS FOR

HOSPITALS AND RELATED INSTITUTIONS

IN ARKANSAS

PREFACE

These rules and regulations have been prepared for the purpose of establishing a criterion for minimum standards for licensure, operation and maintenance of hospitals and related institutions in Arkansas that is consistent with current trends in patient care practices. By necessity they are of a regulatory nature but are considered to be practical minimum design and operational standards for these facilities. These standards are not static and are subject to periodic revisions in the future as new knowledge and changes in patient care trends become apparent. However, it is expected that facilities will exceed these minimum requirements and that they will not be dependent upon future revisions in these standards as a necessary prerequisite for improved services. Hospitals and related institutions have a strong moral responsibility for providing optimum patient care and treatment for the population it serves.

AUTHORITY

The following Rules and Regulations for Hospitals and Related Institutions in Arkansas are duly adopted and promulgated by the Arkansas State Board of Health pursuant to the authority expressly conferred by the laws of the State of Arkansas in Act 414 of 1961, as amended by Act 258 of 1971, Act 190 of 1975, Act 536 of 1977, Act 273 of 1983, Act 980 of 1985, and Act 516 of 1987. And other acts covered under these regulations: Act 143 of 1987; Act 348 of 1987; and Act 399 of 1987

APPENDIX E

HOSPITAL WASTE MANAGEMENT

All hospital waste should be disposed of by one (1) of the following methods:

1. sterilizing by heating in an autoclave;
2. incineration;
3. approved sewer system;
4. sanitary landfill.

1. Pathological Waste. Includes tissue, amputated limbs, fetuses, placentas, etc. Pathological wastes must be destroyed in an incinerator, Class VI (6) for destruction of type four (4) waste in accordance with NFPA 82, 72 as shown in the 1975 National Fire Codes. The hearth must be solid, with a liquid retaining curb. The incinerator must reach a temperature hign enough to completely destroy the material. The incinerator must have a permit issued by the Arkansas Department of Pollution Control and Ecology. (The specific requirements for incinerators are listed in another section of these regulations.)

2. Used Syringes and Needles. These items should not be clipped or broken in order to prevent a potentially dangerous aerosol from forming. The syringe and needle, as an intact unit, should be dropped into a leakproof, puncture proof container (such as a widemouth, thick plastic jug). In order to prevent needle-stick injuries, the needle cover should not be placed back on the needle. If the needle has been used on a patient that has a contagious disease, like hepatitis, then five percent (5%) phenol (or equivalent disinfectant, such as one-to-ten (1-10) dilution of bleach (sodium hypochlorite), should be poured into the container. The waste container should be placed as close as practical to the site where the needle was used. After the container is full, the used needles should be taken to the incinerator by a designated person, and the container should be thrown directly into the operating incinerator. Used needles and syringes should not be allowed to "wait their turn" before being placed into the incinerator. Sharp instruments, like scalpels, should be disposed of in the manner outlined above. Broken glass is included in this category. Suitable materials for sharp containers include glass, metal, rigid plastic, and heavy cardboard. Used syringes and needles also may be disposed of by autoclaving and then buried in a landfill.

3. Infected Dressings. These are items that are likely to contain pathogenic microorganisms. They should be placed into a double, red, plastic bag inside the room where the dressings were removed. The double bag should be securely tied inside the room of use, and taken to the incinerator for destruction, as soon as possible. A single bag is acceptable if the bag is impervious, not easily penetrated and if the dressings can be placed in the bag without contaminating the outside of the bag; otherwise, double bagging should be used. Infected, but reusable items like towels, should be placed in a double bag with the inside bag being water soluble. At the washing machine, the outer bag should be discarded but the inner bag, without being opened, should be tossed directly into the washing machine. A cup of bleach is recommended when washing infected linens.

4. Isolation Room Waste. All waste from isolation rooms should be placed inside a plastic bag, securely tied, and then destroyed by incineration.

5. Antineoplastic (Anti-Cancer) Drugs. These cytotoxic drugs should be destroyed only by incineration. This includes needles and all equipment used to prepare chemotherapy. A specially labeled impervious container, with a removable lid will be placed in the chemotherapy preparation area. These containers will be double lined. Full bags will be tied securely and promptly incinerated in a Class VI Type 4 incinerator.

6. Laboratory Cultures. Old cultures must be destroyed by either autoclaving, incineration or in a microwave oven. If a microwave is used, it must be capable of producing at least six hundred and fifty (650) watts of power at two thousand four hundred and fifty (2450) MHz. The microwave should be operated for at least ten (10) minutes in order to destroy all microorganisms present. Following autoclaving, incineration or microwaving, the residual material may be buried in a sanitary landfill.

7. Blood. Left over liquid blood from laboratory analyses can be poured down the sewer system. If the blood is clotted it must be "ground" in a garbage disposal prior to flushing down the sewer. Clotted blood may also be destroyed by incineration. Blood from patients who have hepatitis should be incinerated. Suctioned fluids, excretions and secretions may be poured into the sewer system.

8. Renal Dialysis Units. All waste from ESRD's is considered to be potentially hazardous and must be disposed of by incineration.

9. Communicable Disease. All waste from a patient who has a communicable disease should be destroyed by incineration.

10. Radioactive Wastes. These should be stored in a safe manner (like lead enclosed containers) until the radioactive level is equal to the background level. Radioactive waste should be disposed of in a manner that follows the guidelines of the Radiological Health Division.

11. Flammable Liquids. Most flammable liquids can be destroyed by burial in a landfill. Small amounts of highly volatile chemicals, like ether or chloroform, may be discarded by open-dish evaporation under a chemical fume hood.

RECOMMENDATIONS

A. Use bags with distinctive colors for infectious waste. Red bags are most often used for infectious waste. These bags should be seamless, impervious and tear resistant. Bags should be tied securely.

B. Treat infectious waste fast. Incinerate it as soon as possible. If it cannot be treated immediately, it should be stored no longer than twenty-four (24) hours at room temperature or three (3) days at refrigerator temperatures (40-45°F).

C. Waste storage areas should have limited access.

D. When transporting waste, select a route which will minimize exposure to patients and the public.

E. Carts used to transport infectious waste should be used only for infectious waste. Frequent cleaning and disinfection are necessary.

F. Never compact infectious waste. This prevents penetration of steam in an autoclave and impedes the quick burning in an incinerator. It is permissible to compact waste after it has been sterilized.

G. All facilities must develop a written contingency plan for handling wastes when the autoclave or incinerator is inoperable. It is recommended that a letter of agreement be obtained from another nearby facility to destroy wastes.