PART He-P 4022 SURVEYS AND MONITORING

He-P 4022.01 General.

(a) Each licensee or registrant shall make, or cause to be made, surveys of areas, including the subsurface that:

(1) Are necessary for the licensee or registrant to comply with He-P 4020 through He-P 4023; and

(2) Are necessary to evaluate:

a. The magnitude and extent of radiation levels;

b. Concentrations or quantities of residual radioactivity; and

c. The potential radiological hazards of the radiation levels and residual radioactivity detected.

(b) Notwithstanding He-P 4021.03(a), records from surveys describing the locations and amount of subsurface residual radioactivity identified at the site shall be kept with records important for decommissoning, and such records shall be retained in accordance with He-P 4030.09(r).

(c) The licensee or registrant shall ensure that instruments and equipment used for quantitative radiation measurements are calibrated at intervals not to exceed 12 months for the radiation measured, except when a more frequent interval is specified in another applicable part of this chapter or in a license condition.

(d) All personnel dosimeters, except for direct and indirect reading pocket ionization chambers and those dosimeters used to measure the dose to any extremity, that require processing to determine the radiation dose and that are used by licensees and registrants to comply with He-P 4020.05, with other applicable provisions of this chapter, or with conditions specified in a license or registration, shall be processed and evaluated by a dosimetry processor:

(1) Holding current personnel dosimetry accreditation from the National Voluntary Laboratory Accreditation Program (NVLAP) of the National Institute of Standards and Technology; and

(2) Approved in this accreditation process for the type of radiation or radiations included in the NVLAP program that most closely approximates the type of radiation or radiations for which the individual wearing the dosimeter is monitored.

(e) The licensee or registrant shall ensure that adequate precautions are taken to prevent a deceptive exposure of an individual monitoring device.

Source. #5903, eff 2-1-95; ss by #6827, eff 8-6-98; ss by #8488, eff 11-18-05; ss by #8808, eff 1-24-07; ss by #10805, eff 3-28-15

He-P 4022.02 Conditions Requiring Individual Monitoring of External and Internal Occupational Dose.

(a) Each licensee or registrant shall monitor occupational exposures from licensed and unlicensed sources of radiation at levels sufficient to demonstrate compliance with the occupational dose limits of He-P 4020 through He-P 4023.

(b) As a minimum, each licensee or registrant shall monitor occupational exposure to radiation from licensed and unlicensed radiation sources under its control and shall supply and require the use of individual monitoring devices by:

(1) Adults likely to receive, in one year from sources external to the body, a dose in excess of 10 percent of the limits in He-P 4020.05(a);

(2) Minors likely to receive, in one year from sources external to the body, a deep dose equivalent in excess of 1 mSv (0.1 rem), a lens dose equivalent in excess of 1.5 mSv (0.15 rem), or a shallow dose equivalent to the skin or to the extremities in excess of 5 mSv (0.5 rem);

(3) Declared pregnant women likely to receive during the entire pregnancy, from radiation sources external to the body, a deep dose equivalent in excess of 1 mSv ,0.1 rem);

(4) Individuals entering a high or very high radiation area; and

(5) Individuals working with medical fluoroscopic equipment.

(c) To determine compliance with He-P 4020.08, each licensee or registrant shall monitor the occupational intake of radioactive material by, and assess the committed effective dose equivalent to:

(1) Adults likely to receive, in one year, an intake in excess of 10 percent of the applicable ALI in Table 4090.1, Table I, Columns 1 and 2, of He-P 4090;

(2) Minors likely to receive, in one year, a committed effective dose equivalent in excess of 1 mSv (0.1 rem); and

(3) Declared pregnant women likely to receive, during the entire pregnancy, a committed dose equivalent in excess of 1 mSv (0.1 rem).

Source. #5903, eff 2-1-95; ss by #6827, eff 8-6-98; ss by #8488, eff 11-18-05; ss by #8808, eff 1-24-07; ss by #10805, eff 3-28-15

He-P 4022.03 Location of Individual Monitoring Devices.

(a) Each licensee or registrant shall ensure that individuals who are required to monitor occupational doses in accordance with He-P 4022.02(a) wear monitoring devices.

(b) Individual monitoring devices shall be worn as follows:

(1) An individual monitoring device used for monitoring the dose to the whole body shall be worn at the unshielded location of the whole body likely to receive the highest exposure;

(2) When a protective apron is worn, the location of the individual monitoring device shall be at the neck;

(3) An individual monitoring device used for monitoring the dose to an embryo/fetus of a declared pregnant woman, pursuant to He-P 4020.12(a), shall be located under the protective apron at the waist;

(4) An individual monitoring device used for monitoring the lens dose equivalent, in accordance with He-P 4020.05(a)(2), a., shall be located:

a. At the neck and outside the protective apron if being worn by the monitored individual; or

b. At an unshielded location close to the eye;

(5) An individual monitoring device used for monitoring the dose to the extremities, in accordance with He-P 4020.05(a)(2), b., shall be worn on the extremity likely to receive the highest exposure;

(6) Each individual monitoring device used in accordance with He-P 4022.03(b)(5) shall be oriented to measure the highest dose to the extremity being monitored;

(7) One individual monitoring device used to determine the effective dose equivalent for external radiation pursuant to He-P 4020.05(g) and He-P 4022.02(b)(5), shall be located at the neck outside the protective apron;

(8) If two individual monitoring devices are used to determine the effective dose equivalent for external radiation pursuant to He-P 4020.05(g) and He-P 4022.02(b)(5), they shall be located:

a. One at the neck outside the protective apron; and

b. One under the protective apron at the waist; and

(9) Two individual monitoring devices shall be used and worn in accordance with He-P 4022.03(b)(8) by declared pregnant woman.

Source. #5903, eff 2-1-95; ss by #6827, eff 8-6-98; ss by #8488, eff 11-18-05; ss by #8808, eff 1-24-07; ss by #10805, eff 3-28-15

He-P 4022.04 Control of Access to High Radiation Areas.

(a) The licensee or registrant shall ensure that each entrance or access point to a high radiation area has one or more of the following features:

(1) A control device that, upon entry into the area, causes the level of radiation to be reduced below that level at which an individual might receive a deep dose equivalent of one mSv (0.1 rem) in one hour at 30 centimeters from the source of radiation or from any surface that the radiation penetrates;

(2) A control device that energizes a conspicuous visible or audible alarm signal so that the individual entering the high radiation area and the supervisor of the activity are made aware of the entry; or

(3) Entryways that are locked, except during periods when access to the areas is required, with positive control over each individual entry.

(b) In place of the controls required by He-P 4022.04(a) for a high radiation area, the licensee or registrant may substitute continuous direct or electronic surveillance that is capable of preventing unauthorized entry.

(c) The licensee or registrant may apply to DHHS/RHS in writing for approval of alternative methods for controlling access to high radiation areas.

(d) The licensee or registrant shall establish the controls required by He-P 4022.04(a) and (c) in a way that does not prevent individuals from leaving a high radiation area.

(e) The licensee or registrant shall not be required to control each access point to an area that is a high radiation area solely because of the presence of radioactive materials prepared for transport, packaged and labeled in accordance with He-P 4037 provided that:

(1) The packages do not remain in the area longer than 3 days; and

(2) The dose rate at one meter from the external surface of any package does not exceed 0.1 mSv (0.01 rem) per hour.

(f) The licensee or registrant shall not be required to control entrance or access to rooms or other areas in hospitals solely because of the presence of patients containing radioactive material, provided that:

(1) There are personnel in attendance who are taking the necessary precautions to prevent the exposure of individuals to radiation or radioactive material in excess of the established limits in He-P 4020 through He-P 4023; and

(2) The licensee's or registrant's radiation protection program operates within the provisions of ALARA.

(g) The registrant shall not be required to control entrance or access to rooms or other areas containing sources of radiation capable of producing a high radiation area as described in He-P 4022.04 if the registrant has met all the specific requirements for access and control specified in other applicable parts of these rules.

Source. #5903, eff 2-1-95; ss by #6827, eff 8-6-98; ss by #8692, INTERIM, eff 7-27-06, EXPIRES: 2-2-07; ss by #8808, eff 1-24-07; ss by #10805, eff 3-28-15

He-P 4022.05 Control of Access to Very High Radiation Areas.

(a) In addition to the requirements in He-P 4022.04, the licensee or registrant shall institute measures to ensure that an individual is not able to gain unauthorized or inadvertent access to areas in which radiation levels could be encountered at 5 Gy, (500 rad) or more in one hour at one meter from a source of radiation or any surface through which the radiation penetrates.

(b) He-P 4022.05(a) does not apply to rooms or areas in which diagnostic x-ray systems are the only source of radiation, or to non-self-shielded irradiators.

(c) The registrant shall not be required to control entrance or access to rooms or other areas containing sources of radiation capable of producing a very high radiation area as described in He-P 4022.05(a) if the registrant has met all the specific requirements for access and control specified in:

(1) He-P 4034 and 4042 for industrial radiography;

(2) He-P 4040 and 4041 for x-rays in the healing arts; and

(3) He-P 4044 for particle accelerators.

Source. #5903, eff 2-1-95; ss by #6827, eff 8-6-98; ss by #8692, INTERIM, eff 7-27-06, EXPIRES: 2-2-07; ss by #8808, eff 1-24-07; ss by #10805, eff 3-28-15

He-P 4022.06 Control of Access to Very High Radiation Areas; Irradiators.

(a) This section shall apply to licensees or registrants with sources of radiation in non-self-shielded irradiators.

(b) This section shall not apply to sources of radiation that are used:

(1) In teletherapy;

(2) In industrial radiography; or

(3) In completely self-shielded irradiators in which the source of radiation is both stored and operated within the same shielding radiation barrier and, in the designed configuration of the irradiator, is always physically inaccessible to any individual and cannot create high levels of radiation in an area that is accessible to any individual.

(c) Each area in which there may exist radiation levels in excess of 5 Gy (500 rad) in one hour at one meter from a source of radiation that is used to irradiate materials shall meet the following requirements:

(1) Each entrance or access point shall be equipped with entry control devices which shall:

a. Function automatically to prevent any individual from inadvertently entering a very high radiation area;

b. Permit deliberate entry into the area only after a control device is actuated that causes the radiation level within the area, from the source of radiation, to be reduced below that at which it would be possible for an individual to receive a deep dose equivalent in excess of one mSv (0.1 rem) in one hour; and

c. Prevent operation of the source of radiation if it would produce radiation levels in the area that could result in a deep dose equivalent to an individual in excess of one mSv (0.1 rem) in one hour;

(2) Upon failure of the entry control devices to function as required by He-P 4022.06(c)(1), additional control devices shall be provided so that:

a. The radiation level within the area, from the source of radiation, shall be reduced below that at which it would be possible for an individual to receive a deep dose equivalent in excess of one mSv (0.1 rem) in one hour; and

b. Conspicuous visible and audible alarm signals shall be generated to make:

1. An individual attempting to enter the area aware of the hazard; and

2. At least one other authorized individual, who is physically present, familiar with the activity, prepared to render or summon assistance, and is aware of the failure of the entry control devices;

(3) Upon failure or removal of physical radiation barriers other than a sealed source's shielded storage container, the licensee or registrant shall provide control devices so that:

a. The radiation level from the source of radiation shall be reduced below that at which it would be possible for an individual to receive a deep dose equivalent in excess of one mSv (0.1 rem) in one hour; and

b. Conspicuous visible and audible alarm signals shall be generated to make:

1. Potentially affected individuals aware of the hazard; and

2. The licensee or registrant or at least one other individual, who is familiar with the activity and prepared to render or summon assistance, aware of the failure or removal of the physical barrier;

(4) When a shield for stored sealed sources is a liquid, the licensee or registrant shall provide means to monitor the integrity of the shield and to signal, automatically, loss of adequate shielding;

(5) Physical radiation barriers that comprise permanent structural components, such as walls, that have no credible probability of failure or removal in ordinary circumstances shall not need to meet the requirements of He-P 4022.06(c)(3) and (4);

(6) Each area shall be equipped with devices that automatically generate conspicuous visible and audible alarm signals to:

a. Alert personnel in the area before the source of radiation can be put into operation; and

b. Allow time for any individual in the area to operate a clearly identified control device, which:

1. Shall be installed in the area; and

2. Shall prevent the source of radiation from being put into operation when the control device is actuated;

(7) Each area shall be controlled by use of such administrative procedures and such devices as are necessary to ensure that the area is cleared of personnel prior to each use of the source of radiation;

(8) Each area shall be checked by a radiation measurement prior to the first individual's entry into the area and after any use of the source of radiation to ensure that the radiation level from the source of radiation in the area is below that at which it would be possible for an individual to receive a deep dose equivalent in excess of one mSv (0.1 rem) in one hour;

(9) The entry control devices required in He-P 4022.05(c)(1) shall be tested for proper functioning:

a. Prior to initial operation with the source of radiation on any day, unless operations were continued uninterrupted from the previous day; and

b. Prior to resumption of operation of the source of radiation after any unintentional interruption;

(10) The licensee or registrant shall adhere to and submit to DHHS/RHS a schedule for periodic tests of the entry control and warning systems;

(11) The licensee or registrant shall not conduct operations, other than those necessary to place the source of radiation in safe condition or to effect repairs on controls, unless control devices are functioning properly;

(12) Entry and exit portals that are used in transporting materials to and from the irradiation area, and that are not intended for use by individuals, shall be controlled by such devices and administrative procedures as are necessary to physically protect and warn against inadvertent entry by any individual through these portals; and

(13) Exit portals for irradiated materials shall be equipped to detect and automatically signal the presence of any loose radioactive material that is carried toward such an exit to prevent loose radioactive material from being carried out of the area.

(d) Licensees, registrants, or applicants for licenses or registrations for sources of radiation within the purview of He-P 4022.06(c) which will be used in a variety of positions or in locations that make it impracticable to comply with certain requirements of He-P 4022.06(c) may apply to DHHS/RHS for approval of alternative safety measures.

(e) Alternative safety measures shall:

(1) Provide personnel protection at least equivalent to those specified in He-P 4022.06(c); and

(2) Have at least one of the alternative measures to include an entry-preventing interlock control based on a measurement of the radiation that ensures the absence of high radiation levels before an individual can gain access to the area where such sources of radiation are used.

(f) The entry control devices required by He-P 4022.06(c) and (d) shall not prevent an individual from leaving the area.

Source. #5903, eff 2-1-95; ss by #6827, eff 8-6-98; ss by #8692, INTERIM, eff 7-27-06, EXPIRES: 2-2-07; ss by #8808, eff 1-24-07; ss by #10805, eff 3-28-15

He-P 4022.07 Control of Radioactive Material in the Air.

(a) The licensee shall use, to the extent practicable, process or other engineering controls, such as containment, decontamination, or ventilation, to control the concentrations of radioactive material in air.

(b) When it is not practicable to apply process or other engineering controls to control the concentrations of radioactive material in air to values below those that define an airborne radioactivity area, the licensee or registrant shall, consistent with maintaining the total effective dose equivalent, as low as is reasonably achievable (ALARA), increase monitoring and limit intakes by one or more of the following means:

(1) Control of access;

(2) Limitation of exposure times;

(3) Use of respiratory protection equipment; or

(4) Other controls.

(c) If the licensee performs an ALARA analysis to determine whether or not respirators should be used, the licensee may also consider the impact of respirator use of workers' industrial health and safety.

Source. #5903, eff 2-1-95; ss by #6827, eff 8-6-98; ss by #8488, eff 11-18-05; ss by #8808, eff 1-24-07; ss by #10805, eff 3-28-15

He-P 4022.08 Use of Individual Respiratory Protection Equipment.

(a) If the licensee assigns or permits the use of respiratory protection equipment to limit intakes pursuant to He-P 4022.07, the licensee or registrant shall:

(1) Except as provided in He-P 4022.08(a)(2), use only respiratory protection equipment that is tested and certified or had certification extended by the National Institute for Occupational Safety and Health (NIOSH);

(2) Submit an application to DHHS/RHS for authorized use of equipment which:

a. Has not been tested or certified by NIOSH; or

b. Has no schedule for testing or certification;

(3) Include in the application specified in He-P 4022.08(a)(2) above a demonstration by testing, or a demonstration on the basis of reliable test information, that the material and performance characteristics of the equipment are capable of providing the proposed degree of protection under anticipated conditions of use;

(4) Implement and maintain a respiratory protection program that includes:

a. Air sampling sufficient to identify the potential hazard, permit proper equipment selection, and estimate doses;

b. Surveys and bioassays, as appropriate, to evaluate actual intakes;

c. Testing of respirators for operability, including user seal check for face sealing devices and functional checks for other devices, immediately prior to each use;

d. Written procedures regarding:

1. Supervision and training of respirator users;

2. Monitoring, including air sampling and bioassays;

3. Fit testing;

4. Respirator selection;

5. Breathing air quality;

6. Inventory and control;

7. Storage, issuance, maintenance, repair, testing, and quality assurance of respiratory protection equipment;

8. Record-keeping; and

9. Limitations on periods of respiratory use and relief from respirator use;

e. A determination by a physician that the individual user is medically fit to use the respiratory protection equipment prior to:

1. The initial fitting of a face-sealing respirator:

2. The first field use of non-face-sealing respirators; and

3. Either every 12 months thereafter, or periodically at a frequency determined by a physician; and

f. Fit testing, performed with the facepiece operating in the negative pressure mode, with a fit factor greater than 10 times the assigned protection factor (APF) for negative pressure devices, and a fit factor greater than 500 times the APF for any positive pressure, continuous flow, and pressure-demand devices, before the first field use of tight fitting, face sealing respirators, and periodically thereafter at a frequency not to exceed one year;

(5) Issue a written policy statement on respirator usage covering:

a. The use of process or other engineering controls, instead of respirators;

b. The routine, non-routine, and emergency use of respirators; and

c. The length of periods of respirator use and relief from respirator use;

(6) Advise each respirator user that the user may leave the area at any time for relief from respirator use in the event of:

a. Equipment malfunction;

b. Physical or psychological distress;

c. Procedural or communication failure;

d. Significant deterioration of operating conditions; or

e. Any other conditions that might require such relief;

(7) Use respiratory protection equipment within the equipment manufacturer's expressed limitations for type and mode of use and shall provide vision correction, adequate communication, low temperature work environments, and the concurrent use of other safety or radiological protection equipment;

(8) Use safety, radiological protection or other equipment in such a way as not to interfere with the proper operation of the respirator;

(9) Provide standby rescue personnel whenever one-piece atmosphere-supplying suits, or any combination of supplied air respiratory protection device and personnel protective equipment are used from which an unaided individual would have difficulty extricating himself or herself, with the following:

a. Respiratory protection devices or other apparatus appropriate for the potential hazards;

b. Continuous communication with the workers, by one or more of the following methods:

1. By sight;

2. By voice;

3. By signal line;

4. By telephone;

5. By radio; and

6. By other suitable means;

c. Immediate availability to assist the workers in case of a failure of the air supply or for any other reason that requires relief from distress; and

d. Sufficient numbers and immediate availability to assist all users of this type of equipment and to provide effective emergency rescue, if needed;

(10) Supply atmosphere-supplying respirators with respirable air of grade D quality or better, as defined by the Compressed Gas Association in Publication G-7.1, "Commodity Specification for Air," 1997, and included in the regulations of the Occupational Safety and Health Administration (29 CFR 1910.134(i)(1)(ii)(A) through (E)), which contains:

a. Oxygen content (v/v) of 19.5 – 23.5%;

b. Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less;

c. Carbon monoxide (CO) content of 10 ppm or less;

d. Carbon dioxide content of 1,000 ppm or less; and

e. Lack of noticeable odor; and

(11) Ensure that no objects, materials or substances, such as facial hair, or any conditions that interfere with the face to facepiece seal or valve function, and that are under the control of the wearer, are present between the skin of the wearer's face and the sealing surface of a tight-fitting respirator facepiece.

(b) In estimating the dose to individuals from intake of airborne radioactive materials, the concentration of radioactive material in the air that is inhaled when respirators are worn shall be initially assumed to be the ambient concentration in air without the respiratory protection, divided by the APF.

(c) If the dose to individuals from intake of airborne radioactive materials is subsequently found to be greater than the estimated dose, the corrected value shall be used.

(d) If the dose to individuals from intake of airborne radioactive materials is subsequently found to be less than the estimated dose, the corrected value may be used.

(e) DHHS/RHS shall impose restrictions in addition to the provisions of He-P 4022.07, 4022.08, and 4095, in order to:

(1) Ensure that the respiratory protection program of the licensee or registrant is adequate to limit doses to individuals from intakes of radioactive materials consistent with maintaining total effective dose equivalent ALARA; and

(2) Limit the extent to which a licensee or registrant may use respiratory protection equipment instead of process or other engineering controls.

(f) The licensee or registrant shall seek and obtain authorization from DHHS/RHS before using assigned protection factors in excess of those specified in He-P 4095.

(g) DHHS/RHS shall authorize a licensee or registrant to use higher protection factors only upon receipt and approval of an application that:

(1) Describes the situation for which a need exists for higher protection factors; and

(2) Demonstrates that the respiratory protection equipment provides these higher protection factors under the proposed conditions of use.

Source. #5903, eff 2-1-95; ss by #6827, eff 8-6-98; ss by #8488, eff 11-18-05; ss by #8808, eff 1-24-07; ss by #10805, eff 3-28-15

He-P 4022.09 Security of Stored Sources of Radiation. The licensee or registrant shall secure from unauthorized removal or access licensed or registered sources of radiation that are stored in controlled or unrestricted areas.

Source. #5903, eff 2-1-95; ss by #6827, eff 8-6-98; ss by #8692, INTERIM, eff 7-27-06, EXPIRES: 2-2-07; ss by #8808, eff 1-24-07; ss by #10805, eff 3-28-15

He-P 4022.10 Control of Sources of Radiation not in Storage.

(a) The licensee shall control and maintain constant surveillance of licensed material that is in a controlled or an unrestricted area and that is not in storage.

(b) The registrant shall maintain control of radiation machines that are in an unrestricted area and that are not in storage.

Source. #5903, eff 2-1-95; ss by #6827, eff 8-6-98; ss by #8692, INTERIM, eff 7-27-06, EXPIRES: 2-2-07; ss by #8808, eff 1-24-07; ss by #10805, eff 3-28-15

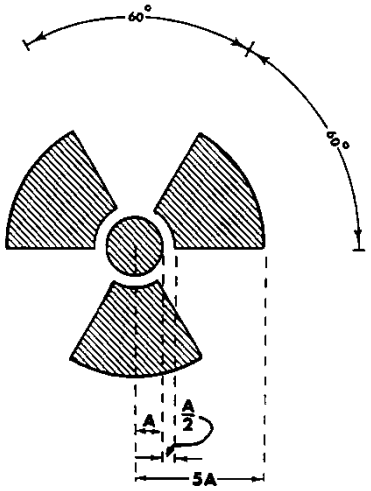
He-P 4022.11 Caution Signs.

(a) Unless otherwise authorized by DHHS/RHS, the symbol illustrated in Figure 4022.1 shall be the standard radiation symbol.

(b) The colors used for the cross-hatched area shall be magenta, or purple, or black, and the background shall be yellow.

(c) The symbol prescribed shall be the three-bladed design as follows:

Figure 4022.1 Radiation Symbol



(d) Notwithstanding the requirements of He-P 4022.11, licensees or registrants are authorized to label sources, source holders, or device components containing sources of radiation that are subjected to high temperatures, with conspicuously etched or stamped radiation caution symbols and without a color requirement.

(e) In addition to the contents of signs and labels prescribed in He-P 4022, the licensee or registrant may provide, on or near the required signs and labels, any additional information to make individuals aware of potential radiation exposures and to minimize the exposures.

Source. #5903, eff 2-1-95; ss by #6827, eff 8-6-98; ss by #8692, INTERIM, eff 7-27-06, EXPIRES: 2-2-07; ss by #8808, eff 1-24-07; ss by #10805, eff 3-28-15

He-P 4022.12 Posting Requirements.

(a) The licensee or registrant shall post each radiation area with a conspicuous sign or signs bearing the radiation symbol and the words:

"CAUTION, RADIATION AREA".

(b) The licensee or registrant shall post each high radiation area with a conspicuous sign or signs bearing the radiation symbol and the words:

"CAUTION, HIGH RADIATION AREA"

or

"DANGER, HIGH RADIATION AREA".

(c) The licensee or registrant shall post each very high radiation area with a conspicuous sign or signs bearing the radiation symbol and words:

"GRAVE DANGER, VERY HIGH RADIATION AREA".

(d) The licensee shall post each airborne radioactivity area with a conspicuous sign or signs bearing the radiation symbol and the words:

"CAUTION, AIRBORNE RADIOACTIVITY AREA"

or

"DANGER, AIRBORNE RADIOACTIVITY AREA".

(e) The licensee shall post each area or room in which there is used or stored an amount of licensed material exceeding 10 times the quantity of such material specified in He-P 4092 with a conspicuous sign or signs bearing the radiation symbol and the words:

"CAUTION, RADIOACTIVE MATERIAL(S)"

or

"DANGER, RADIOACTIVE MATERIAL(S)".

Source. #5903, eff 2-1-95; ss by #6827, eff 8-6-98; ss by #8692, INTERIM, eff 7-27-06, EXPIRES: 2-2-07; ss by #8808, eff 1-24-07; ss by #10805, eff 3-28-15

He-P 4022.13 Exceptions to Posting Requirements.

(a) A licensee or registrant shall not be required to post caution signs in areas or rooms containing sources of radiation for periods of less than 8 hours, if each of the following conditions is met:

(1) The sources of radiation are constantly attended during these periods by an individual who takes the precautions necessary to prevent the exposure of individuals to sources of radiation in excess of the limits established in He-P 4020; and

(2) The area or room is subject to the licensee's or registrant's control.

(b) Rooms or other areas in hospitals that are occupied by patients shall not be required to be posted with caution signs pursuant to He-P 4022.12 provided that the patient could be released from licensee control pursuant to the requirements of He-P 4035.25.

(c) Rooms or other areas in hospitals that are occupied by patients shall not be required to be posted with caution signs, provided that:

(1) A patient being treated with a permanent implant could be released from confinement pursuant to He-P 4035.25; or

(2) A patient being treated with a therapeutic radiopharmaceutical could be released from confinement pursuant to He-P 4035.25.

(d) A room or area is not required to be posted with a caution sign because of the presence of a sealed source provided the radiation level at 30 centimeters from the surface of the sealed source container or housing does not exceed 0.05 mSv (0.005 rem) per hour.

(e) A room or area is not required to be posted with a caution sign because of the presence of radiation machines used solely for diagnosis in the healing arts.

(f) Rooms in hospitals or clinics that are used for teletherapy are exempt from the requirement to post caution signs under He-P 4022.12 if:

(1) Access to the room is controlled pursuant to He-P 4035.51; and

(2) Personnel in attendance take necessary precautions to prevent the inadvertent exposure of workers, other patients, and members of the public to radiation in excess of the limits established in this part.

Source. #5903, eff 2-1-95; ss by #6827, eff 8-6-98; ss by #8488, eff 11-18-05; ss by #8808, eff 1-24-07; ss by #10805, eff 3-28-15

He-P 4022.14 Labeling Containers and Radiation Machines.

(a) The licensee shall ensure that each container of licensed material bears a durable, clearly visible label bearing the radiation symbol and the words:

"CAUTION, RADIOACTIVE MATERIAL"

or

"DANGER, RADIOACTIVE MATERIAL".

(b) The licensee shall also provide information to permit individuals handling or using the containers, or working in the vicinity of the containers, to take precautions to avoid or minimize exposures, such as:

(1) The radionuclides present;

(2) An estimate of the quantity of radioactivity;

(3) The date for which the activity is estimated;

(4) Radiation levels;

(5) Kinds of materials; and

(6) Mass enrichment.

(c) Each licensee shall, prior to removal or disposal of empty uncontaminated containers to unrestricted areas, remove or deface the radioactive material label or otherwise clearly indicate that the container no longer contains radioactive materials.

(d) Each registrant shall ensure that each radiation machine is labeled in a conspicuous manner which cautions individuals that radiation is produced when it is energized.

Source. #5903, eff 2-1-95; ss by #6827, eff 8-6-98; ss by #8692, INTERIM, eff 7-27-06, EXPIRES: 2-2-07; ss by #8808, eff 1-24-07; ss by #10805, eff 3-28-15

He-P 4022.15 Exemptions to Labeling Requirements.

(a) A licensee shall not be required to label:

(1) Containers holding licensed material in quantities less than the quantities listed in He-P 4092;

(2) Containers holding licensed material in concentrations less than those specified in Table 4090.1, Table III of He-P 4090;

(3) Containers attended by an individual who takes the precautions necessary to prevent the exposure of individuals in excess of the limits established by He-P 4020;

(4) Containers when they are in transport and packaged and labeled in accordance with the regulations of the U.S. Department of Transportation;

(5) Containers that are accessible only to individuals authorized to handle or use them, or to work in the vicinity of the containers, if the contents are identified to these individuals by a readily available written record; or

(6) Installed manufacturing or process equipment, such as piping and tanks.

(b) The record specified in He-P 4022.15(a)(5) shall be retained as long as the containers are in use for the purpose indicated on the record.

Source. #5903, eff 2-1-95; ss by #6827, eff 8-6-98; ss by #8692, INTERIM, eff 7-27-06, EXPIRES: 2-2-07; ss by #8808, eff 1-24-07; ss by #10805, eff 3-28-15

He-P 4022.16 Procedures for Receiving and Opening Packages.

(a) Each licensee who expects to receive a package containing quantities of radioactive material in excess of a Type A quantity, as defined in 10 CFR 71.4 and Appendix A to 10 CFR 71, shall make arrangements to receive:

(1) The package when the carrier offers it for delivery; or

(2) The notification of the arrival of the package at the carrier's terminal and to take possession of the package expeditiously.

(b) Each licensee shall:

(1) Monitor the external surfaces of a package labeled with a Radioactive White I, Yellow II, or Yellow III label as specified in U.S. Department of Transportation regulations 49 CFR 172.403 and 172.436-440 for radioactive contamination unless the package contains only radioactive material in the form of gas or in special form as defined in He-P 4003;

(2) Monitor the external surfaces of a package labeled with a Radioactive White I, Yellow II, or Yellow III label as specified in U. S. Department of Transportation regulations 49 CFR 172.403 and 172.436-440 for radiation levels unless the package contains quantities of radioactive material that are less than or equal to the Type A quantity, as defined in 10 CFR 71.4 and appendix A to 10 CFR 71; and

(3) Monitor all packages known to contain radioactive material for radioactive contamination and radiation levels if there is evidence of degradation of package integrity, such as packages that are crushed, wet, or damaged.

(c) The licensee shall perform the monitoring required by He-P 4022.16(b) as soon as practicable after receipt of the package, but not later than 3 hours after the package is received at the licensee's facility if it is received during the licensee's normal working hours, or not later than 3 hours from the beginning of the next working day if it is received after working hours.

(d) The licensee shall immediately notify the final delivery carrier and DHHS/RHS when:

(1) Removable radioactive surface contamination exceeds the limits of He-P 4037.04(a); or

(2) External radiation levels exceed the limits of He-P 4037.04(a).

(e) Notification required by He-P 4022.16(d) shall occur by telephone, mail, or facsimile.

(f) Each licensee shall:

(1) Establish, maintain, and retain written procedures for safely opening packages in which radioactive material is received; and

(2) Ensure that the procedures are followed and that due consideration is given to special instructions for the type of package being opened.

(g) Licensees transferring special form sources in vehicles owned or operated by the licensee to and from a work site are exempt from the contamination monitoring requirements of He-P 4022.16(b), but shall not be exempt from the monitoring requirement in He-P 4022.16(b) for measuring radiation levels that ensures that the source is still properly lodged in its shield.