PART 1.—DEFINITIONS

28-35-135a. **Definitions.** As used in these regulations, each of the following terms shall have the meaning assigned in this regulation: (a) ''A_1'' means the maximum activity of special form radioactive material permitted in a type A package.

(b) ''A_2'' means the maximum activity of radioactive material, other than special form radioactive material, permitted in a type A package. These values either are listed in table I in K.A.R. 28-35-221b or may be derived in accordance with the procedure specified in K.A.R. 28-35-221b of these regulations.

(c) ''Absorbed dose'' means the energy imparted to matter by ionizing radiation per unit mass of irradiated material at the place of interest. The units of absorbed dose are the rad and the gray (Gy).

(d) ''Absorbed dose rate'' means the absorbed dose per unit of time or, for linear accelerators, the dose monitor unit per unit of time.

(e) ''Accelerator-produced material'' means any material made radioactive by exposing it in a particle accelerator.

(f) ''Accessible surface'' means the surface of equipment or of an equipment part that can be easily or accidentally touched by persons without the use of a tool.

(g) ''Accident'' means an unintended event, including an operating error, equipment failure, and other mishap, that could result in either of the following:

(1) A dose in excess of regulatory limits on site or for the public; or

(2) consequences or potential consequences that cannot be ignored from the point of view of protection or safety, including an actual or potential substantial degradation of the level of protection or safety of the facility or the release of radioactive material in sufficient quantity to warrant consideration of protective actions.

(h) ''Act'' means the ''nuclear energy development and radiation control act,'' K.S.A. 48-1601 et seq., and amendments thereto.

(i) ''Activity'' means the rate of disintegration, transformation, or decay of radioactive material. Activity is expressed in the SI unit of becquerel (Bq) or in the special unit of curie (Ci), or the multiples of either unit, or disintegrations or transformations per unit of time as follows:

(1) One becquerel (Bq) equals one disintegration or transformation per second (dps or tps); and

(2) one curie (Ci) equals 3.7E+10 disintegrations or transformations per second (dps or tps).

One curie also equals 3.7E+10 becquerels (Bq).
(j) ‘‘Added filter’’ means the filter added to the inherent filtration.
(k) ‘‘Address of use’’ means the building or buildings that are identified on the license and each location where radioactive material could be produced, prepared, received, used, or stored.
(l) ‘‘Adult’’ means an individual who is 18 or more years of age.
(m) ‘‘Agreement state’’ means any state with which the United States nuclear regulatory commission enters, or has entered, into an effective agreement pursuant to 42 U.S.C.§ 2021, as in effect on January 4, 1995.
(n) ‘‘Airborne radioactive area’’ means the following:
(1) Any room, enclosure, or operating area in which airborne radioactive material exists in concentrations in excess of the derived air concentrations (DAC) specified in ‘‘appendices to part 4: standards for protection against radiation,’’ effective April 1994, published by the department and hereby adopted by reference; or
(2) any room, enclosure, or operating area in which airborne radioactive material exists in concentrations such that an individual present in the area without respiratory protective equipment could exceed, during the hours an individual is present in a week, an intake of 0.6 percent of the ALI or 12 DAC-hours.
(o) ‘‘Airborne radioactive material’’ means any radioactive material dispersed in the air in the form of dust, fumes, mists, vapors, or gases.
(p) ‘‘Air kerma (K)’’ means the kinetic energy released in air by ionizing radiation. Kerma is determined by dividing dE by dM, where dE is the sum of the initial kinetic energies of all the charged ionizing particles liberated by uncharged ionizing particles in air of mass dM. The SI unit of air kerma is joule per kilogram, and the special name for the unit of kerma is the gray (Gy).
(q) ‘‘Alert’’ means a period during which one of the following could lead to a release of radioactive material that is not expected to require a response by off-site response organizations to protect persons off-site:
(1) Conditions have arisen that could cause an event.
(2) An event is in progress.
(3) An event has occurred.
(r) ‘‘Aluminum equivalent’’ means the thickness of type 1100 aluminum alloy that affords the same attenuation, under specified conditions, as that of the material in question. The nominal chemical composition of type 1100 aluminum alloy is a minimum of 99.00 percent aluminum and

0.12 percent copper.
(s) ‘‘Amendment’’ means any change to a liRADIATION
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cense or registration issued under these
regulations.
(t) ‘‘Analytical X-ray system’’ means a group of
local and remote components utilizing X-rays to
determine the elemental composition or to examine
the microstructure of materials.
(1) Local components shall include those components
that are struck by X-rays, including radiation
source housings, port and shutter assemblies,
collimators, sample holders, cameras,
goniometers, detectors, and shielding.
(2) Remote components may include power
supplies, transformers, amplifiers, readout devices,
and control panels.
(u) ‘‘Annual limit on intake (ALI)’’ means the
derived limit for the amount of radioactive material
taken into the body of an adult worker by
inhalation or ingestion in a year. ALI is the smaller
value of intake of a given radionuclide in a year
by the reference man that would result in a committed
effective dose equivalent of 5 rem(0.05 Sv)
or a committed dose equivalent of 50 rem (0.5 Sv)
to any individual organ or tissue. ALI values for
intake by ingestion and by inhalation of selected
radionuclides are specified in appendix B, table I,
published in ‘‘appendices to part 4: standards for
protection against radiation,’’ which is adopted by
reference in this regulation.
(v) ‘‘Annual refresher safety training’’ means a
review conducted or provided by the licensee or
registrant for its employees on radiation safety aspects
of industrial radiography. The review shall
include, at a minimum, any results of internal inspections,
new procedures or equipment, new or
revised regulations, and accidents or errors that
have been observed. The review shall also provide
opportunities for employees to ask safety
questions.
(w) ‘‘ANSI’’ means the American national standards
institute.
(x) ‘‘Applicator’’ means a structure that determines
the extent of the treatment field at a given
distance from the virtual source.
(y) ‘‘Area of use’’ means a portion of a physical
structure that has been set aside for the purpose
of producing, preparing, receiving, using, or storing
radioactive material.
(z) ‘‘As low as is reasonably achievable
(ALARA),’’ when used to describe exposures to
radiation workers, means that every reasonable effort
has been made to maintain exposures to radiation
workers as far below the dose limits specified

in these regulations as is practical, consistent with the purpose for which the licensed or registered activity is undertaken, taking the following into account:
(1) The state of technology;
(2) the economics of improvements in relation to the state of technology;
(3) the economics of improvements in relation to benefits to public health and safety and to other societal and socioeconomic considerations; and
(4) the economics of improvements in relation to the utilization of nuclear energy and licensed or registered sources of radiation in the public interest.
(aa) ''Assembler'' means any person engaged in the business of assembling, replacing, or installing one or more components into an X-ray system or subsystem. The term shall include the owner of an X-ray system or any employee or agent of the owner who assembles components into an X-ray system that is subsequently used to provide professional or commercial services.
(bb) ''Associated equipment'' means equipment that is used in conjunction with a radiographic exposure device that makes radiographic exposures and that drives, guides, or comes in contact with the source.
(cc) ''Attenuation block'' means a block or stack, with dimensions of 20 cm by 20 cm by 3.8 cm, made of type 1100 aluminum alloy or other materials having equivalent attenuation.
(dd) ''Authorized user'' means an individual who is identified as an authorized user on a license issued by the department for the use of radioactive material or an individual who is designated by a registered facility as a user of X-ray machines or accelerators. This term shall not apply to part 6 of these regulations.
(ee) ''Automatic exposure control'' means a device that automatically controls one or more technique factors in order to obtain a required quantity of radiation, at one or more preselected locations. (Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1603 and 48-1607; effective Dec. 30, 2005; amended July 27, 2007.)
28-35-135b. **Definitions.** As used in these regulations, each of the following terms shall have the meaning assigned in this regulation: (a) (1) ''Background radiation'' means the following:
(A) Radiation from cosmic sources;
(B) naturally occurring radioactive materials, including radon, except for those radioactive ma28-35-135c KANSAS DEPT. OF HEALTH AND ENVIRONMENT 180
terials that are a decay product of source material or special nuclear material; and

(C) global fallout as it exists in the environment from the testing of nuclear explosive devices.
(2) The term ‘‘background radiation’’ shall not include radiation from radioactive materials regulated by the department.
(b) ‘‘Beam axis’’ means a line from the source through the centers of the X-ray fields.
(c) ‘‘Beam-limiting device’’ means a device that provides a means to restrict the dimensions of the X-ray field.
(d) ‘‘Beam-monitoring filter’’ means a filter used to scatter a beam of electrons.
(e) ‘‘Beam-monitoring system’’ means a system designed to detect and measure the radiation present in the useful beam.
(f) ‘‘Beam-scattering foil’’ means a thin piece of material, usually metallic, placed in a beam of electrons to scatter the beam in order to provide more uniform electron distribution in the useful beam.
(g) ‘‘Becquerel (Bq)’’ means the SI unit of activity . One becquerel is equal to one disintegration per second (dps) or transformation per second (tps).
(h) ‘‘Bent-beam linear accelerator’’ means a linear accelerator in which the accelerated electron beam must change direction by passing through a bending magnet.
(i) ‘‘Bioassay’’ means the determination of kinds, quantities, or concentrations and, in some cases, the locations of radioactive material in the human body, whether by direct measurement, in vivo counting, or analysis and evaluation of materials excreted or removed from the human body. For purposes of these regulations, ‘‘radiobioassay’’ shall be considered an equivalent term.
(j) ‘‘Brachytherapy’’ means a method of radiation therapy in which sealed sources are utilized to deliver a radiation dose at a distance of up to a few centimeters, by surface, intracavitary, or interstitial application.
(k)(1) ‘‘Byproduct material’’ means the following:
(A) Any radioactivematerial, except special nuclear material, yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material; and
(B) the tailings or wastes produced by the extraction or concentration of uranium or thorium from ore processed primarily for its source material content including discrete surface wastes resulting from uranium or thorium solution-extraction processes. Underground ore bodies depleted by these solution-extraction processes shall not constitute ‘‘byproduct material’’ within this

definition.
(2) For the purposes of part 6, ‘‘byproduct material’’ shall mean all radioactive material regulated by the department. (Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1603 and 48-1607; effective Dec. 30, 2005.)

28-35-135c. **Definitions.** As used in these regulations, each of the following terms shall have the meaning assigned in this regulation: (a) ‘‘Cabinet radiography using radiation machines’’ means industrial radiography that is conducted in an enclosed, interlocked cabinet that prevents the radiation machine from operating unless all openings are securely closed and that is sufficiently shielded so that every location on the cabinet’s exterior meets the conditions for an unrestricted area as specified in K.A.R. 28-35-214a.

(b) ‘‘Cabinet X-ray system’’means an X-ray system with the X-ray tube installed in an enclosure, called a ‘‘cabinet,’’ that is independent from existing architectural structures except the floor on which the cabinet could be placed. The cabinet is intended for the following purposes:

(1) To contain at least that portion of amaterial being irradiated;

(2) to provide radiation attenuation; and

(3) to exclude personnel from the interior of the cabinet during the generation of X-rays.

Cabinet X-ray systems may include all X-ray systems designed primarily for the inspection of carry-on baggage at airline, railroad, and bus terminals, and in similar facilities. An X-ray tube that is used within a shielded part of a building, or X-ray equipment that may temporarily or occasionally incorporate portable shielding, shall not be considered a cabinet X-ray system.

(c) ‘‘Calendar quarter’’ means at least 12 but not more than 14 consecutive weeks. The first calendar quarter of each year shall begin in January. Subsequent calendar quarters shall be arranged so that no day is included in more than one calendar quarter and no day in any one year is omitted from inclusion within a calendar quarter. A licensee or registrant shall not change the method of determining and observing calendar quarters for purposes of these regulations except at the beginning of a calendar year.

(d) ‘‘Calibration’’ means the determination of either of the following:

(1) The response or reading of an instrument relative to a series of known radiation values over the range of the instrument; or

(2) the strength of a source of radiation relative to a standard.

(e) ‘‘Camera’’ means a radiographic exposure device.
(f) ‘‘Central axis of the beam’’ means a line passing through the virtual source and the center of the plane figure formed by the edge of the first beam-limiting device.
(g) ‘‘Cephalometric device’’ means a device intended for the radiographic visualization and measurement of the dimensions of the human head.
(h) ‘‘Certifiable cabinet X-ray system’’ means an existing, uncertified X-ray system that has been modified to meet the certification requirements specified in 21 CFR 1020.40, as in effect on April 30, 1984.
(i) ‘‘Certified cabinet X-ray system’’ means a cabinet X-ray system that has been certified as manufactured and assembled as specified in 21 CFR 1020.40, as in effect on April 30, 1984.
(j) ‘‘Certified components’’ means the components of X-ray systems that are subject to regulations promulgated under public law 90-602, the radiation control for health and safety act of 1968 and amendments thereto.
(k) ‘‘Certified system’’ means any X-ray system that has one or more certified components.
(l) ‘‘Certifying entity’’ means an independent certifying organization or state regulatory program meeting the requirements in K.A.R. 28-35-292.
(m) ‘‘Changeable filter’’ means any filter, exclusive of inherent filtration, that can be removed from the useful beam through any electronic, mechanical, or physical process.
(n) ‘‘Chelating agent’’ means amine polycarboxylic acids, hydroxycarboxylic acids, gluconic acids, and polycarboxylic acids.
(o) ‘‘Class’’ means a classification scheme for inhaled material according to its rate of clearance from the pulmonary region of the lung. For the purposes of these regulations, ‘‘lung class’’ and ‘‘inhalation class’’ shall be considered equivalent terms. Materials are classified as D, W, or Y, which applies to the following range of clearance half-times:
(1) For class D, fewer than 10 days;
(2) for class W, from 10 through 100 days; and
(3) for class Y, more than 100 days.
(p) ‘‘Coefficient of variation’’ or ‘‘C’’ means the ratio of the standard deviation to the mean value of a population of observations. This ratio is estimated using the following equation:
C 5 sx
5 1

$$x \left(\sum_{i=1}^{n} (x_i - x)^2 \right)^{1/2}$$

$$n-1$$

where
s 5Estimated standard deviation of the
population.
x 5Mean value of observations in sample.
x_i 5ith observation in sample
(q) ‘‘Collective dose’’ means the sum of the individual
doses received in a given period of time
by a specified population from exposure to a specified
source of radiation.
(r) ‘‘Collimator’’ means a radiation shield that
is placed at the end of a guide tube or directly
onto a radiographic exposure device to restrict the
size of the radiation beam when the sealed source
is cranked into position to make a radiographic
exposure.
(s) ‘‘Committed dose equivalent ($H_{T,50}$)’’means
the dose equivalent to organs or tissues of reference
(T) that will be received from an intake of
radioactive material by an individual during the
50-year period following the intake.
(t) ‘‘Committed effective dose equivalent ($H_{E,50}$)’’ means the sum of the products of the weighting
factors applicable to each of the body organs
or tissues that are irradiated and the committed
dose equivalent to each of these organs or tissues
($H_{E,50} 5 w_T H_{T,50}$).
(u) ‘‘Computed tomography’’ means the production
of a tomogram by the acquisition and
computer processing of X-ray transmission data.
(v) ‘‘Contact therapy’’ means therapy in which
the X-ray tube port is put in contact with, or within
five centimeters of, the surface being treated.
(w) ‘‘Contact therapy system’’ means a therapeutic
radiation machine with a short target-toskin
distance (TSD), usually less than five
centimeters.
(x) ‘‘Control cable’’ means the cable that is connected
to the source assembly and used to drive
the source to and from the exposure location.
(y) ‘‘Control drive mechanism’’ means a device
that enables the source assembly to be moved into
and out of the exposure device.

(z) ‘‘Controlled area’’ means an area outside of a restricted area but inside the site boundary, access to which can be limited by the licensee or registrant for any reason.
(aa) ‘‘Control panel’’ means that part of the X-ray system where the switches, knobs, push buttons, and other hardware necessary for manually setting the technique factors are mounted.
(bb) ‘‘Control tube’’ means a protective sheath for guiding the control cable. The control tube connects the control drive mechanism to the radiographic exposure device.
(cc) ‘‘Cooling curve’’ means the graphical relationship between the heat units stored and the cooling time.
(dd) ‘‘Curie’’means a unit of activity.One curie (Ci) is the quantity of radioactive material that decays at the rate of 3.7 2 10_{10} transformations per second (tps). Commonly used submultiples of the curie are the millicurie and the microcurie. One millicurie (mCi) 5 0.001 curie 5 3.7 2 10_{7} tps. One microcurie (Ci) 5 0.000001 curie 5 3.7 2 10_{4} tps. (Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1603 and 48-1607; effective Dec. 30, 2005.)
28-35-135d. **Definitions.** As used in these regulations, each of the following terms shall have the meaning assigned in this regulation: (a) ‘‘Deadman switch’’ means a switch constructed so that circuit closure can be maintained only by continuous pressure by the operator.
(b) ‘‘Declared pregnant woman’’ means a woman who has voluntarily informed her employer, in writing, of her pregnancy and the estimated date of delivery. The written declaration shall remain in effect until the declared pregnant woman withdraws the declaration in writing or is no longer pregnant.
(c) ‘‘Decommission’’ means to remove a facility or site safely from service and reduce residual radioactivity to a level that permits either of the following:
(1) The release of the property for unrestricted use and the termination of the license; or
(2) the release of the property under restricted conditions and the termination of the license.
(d) ‘‘Dedicated check source’’ means a radioactive source that is used to ensure the constant operation of a radiation detection ormeasurement device over several months or years. This source may also be used for other purposes.
(e) ‘‘Deep dose equivalent (H_d),’’ which applies to external whole body exposure, means the dose equivalent to a tissue depth of one centimeter (1,000 mg/cm_2).
(f) ‘‘Deliberate misconduct’’ means a person’s

intentional act or omission about which the person knows one of the following:
(1) If not detected, the act or omission would cause a licensee, a registrant, or an applicant to be in violation of any statute, regulation, or order or any term, condition, or limitation of any license issued by the secretary.
(2) The act or omission constitutes a violation of a requirement, procedure, instruction, contract, purchase order, or policy of a licensee, registrant, applicant, contractor, or subcontractor.
(3) The act or omission involves the person's deliberate submission to the department, a licensee, a registrant, an applicant, or a licensee's contractor or subcontractor of information relating to a licensee's, a registrant's, or an applicant's operations that the person knows to be incomplete or inaccurate in some respect.
(g) ''Dentistry''means the functions authorized by K.S.A. 65-1421 et seq., and amendments thereto.
(h) ''Department'' means the department of health and environment.
(i) ''Depleted uranium'' means source material uranium in which the isotope uranium 235 is less than 0.711 percent of the total weight of uranium present. This term shall not include special nuclear material.
(j) ''Derived air concentration (DAC)'' means the concentration of a given radionuclide in air that, if breathed by the reference man for a working year of 2,000 hours under conditions of light work, results in an intake of one ALI. For purposes of these regulations, the condition of light work is an inhalation rate of 1.2 cubic meters of air per hour for 2,000 hours in a year. The DAC are values specified in ''appendices to part 4: standards for protection against radiation,'' effective April 1994, which is adopted by reference in K.A.R. 28-35-135a.
(k) ''Derived air concentration-hour (DAC-hour)'' means the product of the concentration of radioactive material in air, expressed as a fraction or multiple of the derived air concentration for each radionuclide, and the time of exposure to that radionuclide, in hours. A licensee or registrant may assume that a total of 2,000 DAC-hours represents one ALI, which is equivalent to a comRADIATION
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mitted effective dose equivalent of 5 rem (0.05 Sv).
(l) ''Diagnostic clinical procedures manual'' means a collection of written procedures that describes each method and other instructions and precautions by which the licensee performs diagnostic

clinical procedures, each of which has
been approved by the authorized user and includes
the radiopharmaceutical, dosage, and route
of administration.
(m) ‘‘Diagnostic source assembly’’ means the
tube housing assembly with a beam-limiting device
attached.
(n) ‘‘Diagnostic-type tube housing’’ means an
X-ray tube housing constructed so that the leakage
radiation, at a distance of one meter from the target,
does not exceed 100 milliroentgens in one
hour when the tube is operated at the maximum
rate of continuous tube current and the maximum
rate of tube potential.
(o) ‘‘Diagnostic X-ray imaging system’’ means
an assemblage of components for the generation,
emission, and reception of X-rays and the transformation,
storage, and visual display of the resultant
X-ray image.
(p) ‘‘Diagnostic X-ray system’’ means an X-ray
system designed for irradiation of any part of the
human body for the purpose of diagnosis or
visualization.
(q) ‘‘Direct scattered radiation’’ means scattered
radiation that has been deviated in direction
only by materials irradiated by the useful beam.
(r) ‘‘Dose’’ is a generic term that means the absorbed
dose, dose equivalent, effective dose
equivalent, committed dose equivalent, committed
effective dose equivalent, total organ dose
equivalent, or total effective dose equivalent. For
purposes of these regulations, ‘‘radiation dose’’
shall be considered an equivalent term.
(s) ‘‘Dose equivalent (H_T)’’ means the product
of the absorbed dose in tissue, quality factor, and
all other necessary modifying factors at the location
of interest. The units of dose equivalent are
the rem and sievert (Sv).
(t) ‘‘Dose limits’’ means the permissible upper
bounds of radiation doses established in accordance
with these regulations. For purposes of these
regulations, ‘‘limits’’ is an equivalent term.
(u) ‘‘Dose-monitoring system’’ means a system
of devices for the detection, measurement, and
display of quantities of radiation.
(v) ‘‘Dose monitor unit’’ means a unit response
from the dose-monitoring system from which the
absorbed dose can be calculated.
(w) ‘‘Dosimetry processor’’ means an individual
or an organization that processes and evaluates
individual monitoring devices in order to determine
the radiation dose delivered to the monitoring
devices.
(x) ‘‘Doubly encapsulated sealed source’’
means a sealed source in which the radioactive
material is sealed within an inner capsule and that

capsule is sealed within an outer capsule.
(y) ‘‘Drill’’ means a supervised, hands-on instruction period intended to test, develop, or maintain a specific emergency response capability. A drill may be a component of an exercise.
(Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1603 and 48-1607; effective Dec. 30, 2005; amended July 27, 2007.)
28-35-135e. **Definitions.** As used in these regulations, each of the following terms shall have the meaning assigned in this regulation: (a) ‘‘Effective dose equivalent (H_E)’’ means the sum of the products of the dose equivalent to each organ or tissue (H_T) and the weighting factor (w_T) applicable to each of the body organs or tissues that are irradiated ($H_E 5 \ w_T H_T$).
(b) ‘‘Embryo or fetus’’ means the developing human organism at any stage of development until the time of birth.
(c) ‘‘Emergency’’ means an event requiring prompt action to mitigate a threat to the health and safety of workers or the public or a threat of damage to the environment.
(d) ‘‘Emergency planning zone’’ means a geographic area surrounding a specific facility for which special planning and preparedness efforts are carried out to ensure that prompt and effective protective actions will reduce or minimize the impact of releases of radioactive material on public health and safety or the environment.
(e) ‘‘Energy compensation source (ECS)’’ means a small sealed source, with an activity not exceeding 3.7Mbq (100 microcuries), used within a logging tool or other tool components to provide a reference standard to maintain the tool’s calibration when in use.
(f) ‘‘Entrance exposure rate’’ means the roentgens per unit of time at the point where the center of the useful beam enters any individual.
(g) ‘‘Entrance or access point’’ means any opening through which an individual or extremity of an individual could gain access to radiation ar28-35-135f KANSAS DEPT. OF HEALTH AND ENVIRONMENT
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eas or to licensed or registered radioactive materials . This term shall include entry and exit portals of sufficient size to permit human entry, irrespective of the intended use.
(h) ‘‘Evacuation’’ means the urgent removal of people from an area to avoid or reduce high-level, short-term exposure.
(i) ‘‘Event’’ means a situation reasonably discrete in time, location, and consequences.
(j) ‘‘Exercise’’ means a multifaceted activity that test the plans, procedures, adequacy of training, resources, and integrated capability of an

emergency response system.
(k) ‘‘Existing equipment’’ means therapy systems subject to K.A.R. 28-35-250a that were manufactured on or before January 1, 1985.
(l) ‘‘Explosive material’’ means any chemical compound, mixture, or device that produces a substantial, instantaneous release of gas and heat spontaneously or by contact with sparks or flame.
(m) ‘‘Exposure’’ means the quotient of dQ divided by dm. ‘‘dQ’’ is the absolute value of the total charge of the ions of one sign produced in air when all the electrons, negatrons, and positrons liberated by photons in a volume element of air having mass, expressed as ‘‘dm,’’ are completely stopped in air. The special unit of exposure is the roentgen (R). One roentgen equals 2.58 x 10^{-4} coulombs per kilogram of air.
(n) ‘‘Exposure head’’ means a device that locates the sealed source in the selected working position. For the purposes of these regulations, ‘‘source stop’’ is an equivalent term.
(o) ‘‘Exposure rate’’ means the exposure per unit of time, including roentgens per minute (R/min) and milliroentgens per hour (mR/hr).
(p) ‘‘External beam radiation therapy’’ means therapeutic irradiation in which the source of radiation is at a distance from the body.
(q) ‘‘External dose’’ means that portion of the dose equivalent received from any source of radiation outside the body.
(r) ‘‘Extremity dose’’ means the external dose equivalent to the hand, elbow, arm below the elbow, foot, knee, and leg below the knee.
(s) ‘‘Eye dose equivalent’’ means the external dose equivalent to the lens of the eye, at a tissue depth of 0.3 centimeter or 300 mg/cm_2. (Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1603 and 48-1607; effective Dec. 30, 2005.)
28-35-135f. **Definitions.** As used in these regulations, each of the following terms shall have the meaning assigned in this regulation: (a) ‘‘Facility’’ means the specific location at which a person is licensed or registered to use radioactivematerial or radiation-producing devices. Separate physical locations shall be considered to be separate facilities.
(b) ‘‘Fail-safe characteristic’’ means a design feature that causes beam port shutters to close, or otherwise prevents emergence of the primary beam, upon the failure of a safety or warning device.
(c) ‘‘Field emission equipment’’ means equipment that uses an X-ray tube in which electron emission from the cathode is due solely to the action of an electric field.
(d) ‘‘Field-flattening filter’’ means a filter used

to provide dose uniformity over the area of a useful beam of X-rays at a specified depth.
(e) ‘‘Field size’’ means the dimensions along the major axes of an area in a plane perpendicular to the specified direction of the beam of incident radiation at the normal treatment distance. Field size is defined by the intersection of the major axes and the 50 percent isodose line. Material shall be placed in the beam so that the maximum dose is produced at the normal treatment distance when the field size is being determined.
(f) ‘‘Field station’’ means a facility where radioactive sources or radiation-processing devices are stored or used and from which equipment is dispatched to temporary job sites.
(g) ‘‘Filter’’ means material placed in the path of the useful beam of X-rays to selectively absorb the less penetrating radiation.
(h) ‘‘Fluoroscopic imaging assembly’’ means a component that comprises a reception system in which X-ray photons produce a fluoroscopic image . This term shall include equipment housings, any electrical interlocks, the primary protective barrier, and structural material providing linkage between the image receptor and the diagnostic source assembly.
(i) ‘‘Focal spot’’ means the area projected on the anode of the X-ray tube by the electrons accelerated from the cathode and from which the useful beam originates.
(j) ‘‘Full-cost reimbursement’’ means reimbursement of the total cost of staff time and any contractual support services expended. (Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1603 and 48-1607; effective Dec. 30, 2005.)
28-35-135g. **Definitions.** As used in these

regulations, each of the following terms shall have the meaning assigned in this regulation: (a) ‘‘Gantry’’ means that part of the system supporting and allowing possible movements of the radiation head.
(b) ‘‘General emergency’’ means that an accident has occurred or is in progress, involving actual or imminent catastrophic reduction of facility safety systems with the potential for loss of containment or confinement integrity or release of radioactive material that can be reasonably expected to exceed off-site protective action guides.
(c) ‘‘Generally applicable environmental radiation standards’’ means standards issued by the U.S. environmental protection agency (EPA) under the authority of the atomic energy act of 1954, as amended, that impose limits on radiation exposures or levels, or concentrations or quantities

of radioactive material, in the general environment outside the boundaries of locations under the control of persons possessing or using radioactive material.
(d) ‘‘General purpose radiographic X-ray system’’ means any radiographic X-ray system that, by design, is not limited to the radiographic examination of specific anatomical regions.
(e) ‘‘Gonadal shield’’ means a protective barrier for the testes or ovaries.
(f) ‘‘Gray (Gy)’’ means the SI unit of absorbed dose. One gray is equal to an absorbed dose of one joule per kilogram. One gray is also equal to 100 rads.
(g) ‘‘Group I’’ means prepared radiopharmaceuticals that are used for diagnostic studies involving measurements of uptake, dilution, and excretion , as specified in 10 CFR 35.100, which is adopted by reference in KA.R. 28-35-264.
(h) ‘‘Group II’’ means prepared radiopharmaceuticals that are used for diagnostic studies involving imaging and tumor localizations and any radioactive material in a radiopharmaeutical prepared from a group II kit or providing a single dose. With respect to radiopharmaceuticals prepared from group II kits or as single doses, group II shall refer to the unsealed byproduct material specified in 10 CFR 35.200, which is adopted by reference in K.A.R. 28-35-264.
(i) ‘‘Group III’’ means generators and reagent kits that are used following the manufacturer’s instructions for the preparation of diagnostic radiopharmaceuticals. With respect to generators and reagent kits, group III shall refer to the unsealed byproduct material specified in 10 CFR 35.200, which is adopted by reference in K.A.R. 28-35-264.
(j) ‘‘Group IV’’ means prepared radiopharmaceuticals that are used for certain therapeutic uses that do not normally require hospitalization for purposes of radiation safety. With respect to uses that do not normally require hospitalization, group IV shall refer to the unsealed byproduct material specified in 10 CFR 35.300, which is adopted by reference in K.A.R. 28-35-264.
(k) ‘‘Group V’’ means prepared radiopharmaceuticals for certain therapeutic uses that normally require hospitalization for purposes of radiation safety. With respect to uses that normally require hospitalization, group V shall refer to unsealed byproduct material specified in 10 CFR 35.300, which is adopted by reference in K.A.R. 28-35-264.
(l) ‘‘Group VI’’ means sources and devices containing radioactive material used for medical diagnosis and therapy, as specified in 10 CFR

35.400, which is adopted by reference in K.A.R. 28-35-264.
(m) ‘‘Guide tube’’means a flexible or rigid tube for guiding the source assembly and the attached control cable from the exposure device to the exposure head. This term may include the connections necessary for attachment to the exposure device and to the exposure head. (Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1603 and 48-1607; effective Dec. 30, 2005.)
28-35-135h. **Definitions.** As used in these regulations, each of the following terms shall have the meaning assigned in this regulation: (a) ‘‘Half-life’’ means the time required for the activity of any given radioisotope to decay to one-half of its original activity.
(b) ‘‘Half-value layer (HVL)’’ means the thickness of specified material that attenuates the beam of radiation to an extent that the exposure rate is reduced to one-half of its original value.
(c) ‘‘Hands-on experience,’’ as applied to industrial radiology, means experience in all areas considered to be directly involved in the radiography process. This term shall include taking radiographs , the calibration of survey instruments, operational and performance testing of survey instruments and devices, film development, the posting of radiation areas, transporting radiography equipment, the posting of records and radiation area surveillance, and other areas as applicable. A disproportionate amount of time spent in

only one or two of these areas shall not be counted toward the 2,000 hours of hands-on experience required for a radiation safety officer or a radiographer .
(d) ‘‘Hazardous waste’’ shall have the meaning assigned in K.A.R. 28-31-3.
(e) ‘‘Healing arts’’ means the activities authorized in K.S.A. 65-2801 et seq., and amendments thereto.
(f) ‘‘Healing arts screening’’ means the testing of human beings using X-ray machines for the detection or evaluation of health indications when the test is performed without any prior examination and without any specific and individual order by a licensed practitioner of the healing arts who is legally authorized to perform examinations and to prescribe X-ray tests for the purpose of diagnosis or treatment.
(g) ‘‘Heat unit’’ means a unit of energy equal to the product of the peak kilovoltage, milliamperes, and seconds (kVp 2 mA 2 second).
(h) ‘‘High dose-rate remote afterloader’’means a brachytherapy device that remotely delivers a

dose rate in excess of 12 grays (1,200 rads) per hour at the point or surface where the dose is prescribed.
(i) ‘‘High-radiation area’’ means any area that is accessible to individuals, in which there exists radiation at such levels that a major portion of the body could receive, in any one hour and at 30 centimeters from the source of the radiation or any surface that the radiation penetrates, a dose to the whole body in excess of 100 millirems. For purposes of these regulations, rooms or areas in which diagnostic X-ray systems are used for healing arts purposes shall not be considered highradiation areas.
(j) ‘‘Human use’’means the intentional internal or external administration of radiation or radioactive material to any individual. (Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1603 and 48-1607; effective Dec. 30, 2005.)
28-35-135i. **Definitions.** As used in these regulations, each of the following terms shall have the meaning assigned in this regulation: (a) ‘‘Image intensifier’’ means a device that instantaneously converts, by means of photoemissive surfaces and electronic circuitry, an X-ray pattern into a light pattern of greater intensity than would have been provided by the original X-ray pattern.
(b) ‘‘Image receptor’’ means any device, including a fluorescent screen and radiographic film, that transforms incident X-ray photons into a visible image or into another form that can be made into a visible image by further transformations.
(c) ‘‘Image receptor support,’’ for mammographic systems, means that part of the system designed to support the image receptor in a horizontal plane during a mammographic examination
.
(d) ‘‘Immediate’’ means within not more than 15 minutes or as otherwise defined in a license condition.
(e) ‘‘Incident’’ means an individual event or series of related events that caused or threatened to cause any violation of these regulations or license conditions. For the purposes of part 13, ‘‘incident’’ means any unintended event involving radioactive material for which the public dose is a fraction of regulatory limits and safety provisions are sufficient, but further degradation of safety systems could lead to an accident.
(f) ‘‘Independent certifying organization’’ means an independent organization that meets all of the criteria specified in K.A.R. 28-35-292.
(g) ‘‘Individual’’ means any human being.
(h) ‘‘Individual monitoring’’ means the assessment of either of the following:

(1) A dose equivalent by the use of individualmonitoring devices or by the use of survey data;
or
(2) a committed effective dose equivalent determined by bioassay or by computation of the number of DAC-hours to which an individual is exposed.
(i) ''Individual-monitoring device'' means any device designed to be worn by a single individual for the assessment of dose equivalent. ''Individual-monitoring device'' shall include any film badge, thermoluminescent dosimeter (TLD), optically stimulated dosimeter, pocket ionization chamber, and personal air-sampling device. For purposes of these regulations, ''personnel dosimeter'' and ''dosimeter'' shall be considered terms equivalent to ''individual-monitoring device.''
(j) ''Industrial radiography'' means the examination of the structure of materials by nondestructive methods utilizing sources of radiation.
(k) ''Inherent filtration'' means the filtration permanently mounted in the useful beam, including the window of the X-ray tube and any permanent tube or source enclosure.
(l) ''Injection tool'' means a device used for

controlled subsurface injection of radioactive tracer material.
(m) ''Inspection''means an official examination or observation that may include tests, surveys, and monitoring to determine compliance with federal rules, state regulations, orders, requirements, and license and registration conditions.
(n) ''Installation'' means the location where one or more sources of radiation are used, operated, or stored.
(o) ''Interlock'' means a device for precluding access by an individual to an area of radiation hazard without warning, either by preventing admission or by automatically removing the hazards.
(p) ''Internal dose'' means that portion of the dose equivalent received from radioactive material taken into the body.
(q) ''Interruption of irradiation'' means the stopping of irradiation with the possibility of continuing irradiation without the resetting of operating conditions at the control panel.
(r) ''Ionizing radiation'' means radiation capable of producing an ionization event, including gamma rays and X-rays, alpha and beta particles, high-speed electrons, neutrons, and other nuclear particles.
(s) ''Irradiation'' means the exposure of matter to ionizing radiation.
(t) ''Irradiator'' means a facility that uses radioactive

sealed sources for the irradiation of objects or materials and in which radiation dose rates exceeding five grays (500 rads) per hour exist at one meter from the sealed radioactive sources in air or water, as applicable for the irradiator type. This term shall not include any irradiator in which both the sealed source and the area subject to irradiation are contained within a device and are not accessible to personnel.

(u) ‘‘Irradiator operator’’ means an individual who has successfully completed the required training and testing and is authorized by the terms of the license to operate an irradiator without a supervisor present.

(v) ‘‘Irretrievable well-logging source’’ means any sealed source containing licensed material that is pulled off or not connected to the wireline that suspends the source in the well and for which all reasonable effort at recovery has been expended.

(w) ‘‘Isocenter’’ means a fixed point in space that is located at the center of the smallest sphere through which the central axis of the beams passes under all conditions. (Authorized by K.S.A. 48-1607; implementing K.S.A 48-1603 and 48-1607; effective Dec. 30, 2005.)

28-35-135k. **Definitions.** As used in these regulations, each of the following terms shall have the meaning assigned in this regulation: (a) ‘‘Kilovolts (kV)’’ means the energy equal to that acquired by a particle with one electron charge in passing through a potential difference of 1,000 volts in a vacuum.

(b) ‘‘Kilovolts peak (kVp)’’ has the meaning assigned to ‘‘peak tube potential.’’

(c) ‘‘kWs’’ means kilowatt second. This term is calculated using the following equation:

kWs 5 (X)kV 2 (Y)mA 2 (Z)s 2

kWs

10_3kv 2 mA 2 s

5

XYZ kWs

10_3

(Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1603 and 48-1607; effective Dec. 30, 2005.)

28-35-135*l*. **Definitions.** As used in these regulations, each of the following terms shall have the meaning assigned in this regulation: (a) ‘‘Lead equivalent’’ means the thickness of lead affording the same attenuation, under specified conditions, as the material in question.

(b) ‘‘Leakage radiation’’ means radiation emanating from the device source assembly, except for the following:

(1) The useful beam; and

(2) radiation produced when the exposure switch or timer is not activated for diagnosis or therapy.

(c) ‘‘Leakage technique factors’’ means the technique factors associated with the tube housing assembly that are used in measuring leakage radiation. The leakage technique factors shall be defined as follows:
(1) For diagnostic source assemblies intended for capacitor energy storage equipment, the maximum rated number of exposures in an hour for operation at the maximum rated peak tube potential, with the quantity of charge per exposure being 10 millicoulombs or the minimum obtainable from the unit, whichever is larger;
(2) for diagnostic source assemblies intended for field emission equipment rated for pulsed operation, the maximum rated number of X-ray pulses in an hour for operation at the maximum rated peak tube potential; and
(3) for all other diagnostic or therapeutic source assemblies, the maximum rated peak tube potential and the maximum rated continuous tube

current for the maximum rated peak tube potential.
(d) ‘‘License’’ means a document issued in accordance with these regulations specifying the conditions of use of radioactive material.
(e) ‘‘Licensed or registered material’’ means radioactive material received, possessed, used, transferred, or disposed of under a general or specific license or registration issued by the department.
(f) ‘‘Licensee’’ means any person who is licensed in accordance with these regulations.
(g) ‘‘Licensing state’’ means any state that has been granted final designation by the conference of radiation control program directors, inc., for the regulatory control of NARM, as defined in K.A.R. 28-35-135n.
(h) ‘‘Light field’’ means that area of the intersection of the light beam from the beam-limiting device and one plane in the set of planes parallel to and including the plane of the image receptor, whose perimeter is the locus of points at which the illumination is one-fourth of the maximum in the intersection.
(i) ‘‘Line-voltage regulation’’ means the difference between the no-load and the load line potentials, expressed as a percent of the load line potential, using the following equation:
Percent line-voltage regulation 5
100 $(V_n-V_1)/V_1$
where
V_n 5 No-load line potential and
V_1 5 Load line potential.
(j) ‘‘Local component’’ means any part of an

analytical X-ray system. This term shall include components that are struck by X-rays, including radiation source housings, port and shutter assemblies, collimators, sample holders, cameras, goniometers, detectors, and shielding. This term shall not include power supplies, transformers, amplifiers, readout devices, and control panels.
(k) ‘‘Logging supervisor’’ means the individual who uses sources of radiation or provides personal supervision of the utilization of sources of radiation at a well site.
(l) ‘‘Logging tool’’ means a device used subsurface to perform well logging.
(m) ‘‘Lost or missing licensed or registered source of radiation’’ means a licensed or registered source of radiation whose location is unknown. This term shall include licensed or registered material that has been shipped but has not reached its planned destination and whose location cannot be readily traced in the transportation system.
(n) ‘‘Lot tolerance percent defective’’ means the poorest quality, expressed as the percentage of defective units, in an individual inspection lot that may be accepted.
(o) ‘‘Low dose-rate remote afterloader’’ means a brachytherapy device that remotely delivers a dose rate in excess of 12 grays per hour at the point or surface where the dose is prescribed. (Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1603 and 48-1607; effective Dec. 30, 2005.)
28-35-135m. **Definitions.** As used in these regulations, each of following terms shall have the meaning assigned in this regulation: (a) ‘‘mA’’ means milliampere.
(b) ‘‘Major processor’’ means a user processing, handling, or manufacturing radioactive material exceeding type A quantities as unsealed sources or material, or exceeding four times the type B quantities as sealed sources. This termshall not include nuclear medicine programs, universities, industrial radiographers, and small industrial programs. Type A and B quantities are specified in K.A.R. 28-35-221b of these regulations.
(c) ‘‘Management’’ means the chief executive officer or other individual having the authority to manage, direct, or administer the licensee’s activities, or that person’s delegate or delegates.
(d) ‘‘Manual brachytherapy’’ means a type of brachytherapy in which the brachytherapy sources, including seeds and ribbons, are manually placed topically on or inserted either into the body cavities that are in close proximity to a treatment site or directly into the tissue volume.
(e) ‘‘mAs’’ means the product of milliamperes and seconds.
(f) ‘‘Maximum line current’’ means the rootmean-

square current in the supply line of an X-ray machine operating at its maximum rating.
(g) ‘‘Medical event’’ means an event that meets the criteria specified in part 6 of these regulations.
(h) ‘‘Medical institution’’ means an organization in which several medical disciplines are practiced.
(i) ‘‘Medical use’’ means the intentional internal or external administration of radioactive material, or radiation, to humans in the practice of the healing arts.
(j) ‘‘Medium dose-rate remote afterloader’’

means a brachytherapy device that remotely delivers a dose rate of greater than two grays, but less than 12 grays per hour at the point or surface where the dose is prescribed.
(k) ‘‘Megavolt (MV)’’ means the energy equal to that acquired by a particle with one electron charge in passing through a potential difference of one million volts in a vacuum.
(l) ‘‘Member of the public’’ means an individual, except when that individual is receiving an occupational dose.
(m) ‘‘Mineral logging’’ means logging performed for the purpose of mineral exploration other than oil or gas.
(n) ‘‘Minor’’ means an individual younger than 18 years of age.
(o) ‘‘Mobile nuclear medicine service’’ means the transportation and medical use of radioactive material.
(p) ‘‘Mobile X-ray equipment’’ means X-ray equipment mounted on a permanent base with wheels or casters, or both, for moving while completely assembled. This term shall include X-ray equipment mounted in a vehicle.
(q) ‘‘Monitoring’’ means the measurement of radiation, radioactive material concentrations, surface area activities, or quantities of radioactive material and the use of the results of these measurements to evaluate potential exposures and doses. For purposes of these regulations, ‘‘radiation monitoring’’ and ‘‘radiation protection monitoring’’ shall be considered terms equivalent to ‘‘monitoring.’’
(r) ‘‘Moving beam therapy’’ means radiation therapy with relative displacement of the useful beam and the patient during irradiation, including therapy, skip therapy, and rotational therapy. (Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1603 and 48-1607; effective Dec. 30, 2005.)
28-35-135n. **Definitions.** As used in these regulations, each of the following terms shall have the meaning assigned in this regulation: (a)

‘‘NARM’’ means any naturally occurring or accelerator-produced radioactive material, not including byproduct, source, or special nuclear material.

(b) ‘‘Nationally tracked source’’ means a sealed source containing any quantity of radioactive material equal to or greater than any threshold listed in the table in this subsection. For purposes of the definition of ‘‘nationally tracked source,’’ ‘‘sealed source’’ shall be defined as radioactive material that is sealed in a capsule or closely bonded, that is in a solid form, and that is not exempt from regulatory control. For purposes of the definition of ‘‘nationally tracked source,’’ ‘‘sealed source’’ shall not include any radioactive material encapsulated solely for disposal and any nuclear material contained in any fuel assembly, subassembly, fuel rod, or fuel pellet. Category I nationally tracked sources contain radioactive material in quantities equal to or greater than the category 1 threshold. Category 2 nationally tracked sources contain radioactive material in quantities equal to or greater than the category 2 threshold but less than the category 1 threshold.

Nationally tracked source thresholds

Radioactive material	**Category 1 (TBq)***	**Category 1 (Ci)****	**Category 2 (TBq)***	**Category 2 (Ci)****
Actinium-227	20	540	0.2	5.4
Americium-241	60	1,600	0.6	16
Americium-241/Be	60	1,600	0.6	16
Californium-252	20	540	0.2	5.4
Cobalt-60	30	810	0.3	8.1
Curium-244	50	1,400	0.5	14
Cesium-137	100	2,700	1	27
Gadolinium-153	1,000	27,000	10	270
Iridium-192	80	2,200	0.8	22
Plutonium-238	60	1,600	0.6	16
Plutonium-239/Be	60	1,600	0.6	16
Polonium-210	60	1,600	0.6	16
Promethium-147	40,000	1,100,000	400	11,000
Radium-226	40	1,100	0.4	11
Selenium-75	200	5,400	2	154
Strontium-90	1,000	27,000	10	270
Thorium-228	20	540	0.2	5.4
Thorium-229	20	540	0.2	5.4
Thulium-170	20,000	540,000	200	5,400
Ytterbium-169	300	8,100	3	81

* The Terabecquerel (TBq) values are the regulatory standard.

** The curie (Ci) values specified are obtained by converting from the TBq value. The curie values are provided for practical usefulness only and are rounded after conversion.

(c) ‘‘Natural radioactivity’’ means the radioactivity of naturally occurring nuclides.

(d) ‘‘New equipment’’ means any system subject to K.A.R. 28-35-249 that was manufactured

after January 1, 1985.
(e) ‘‘Nonionizing radiation’’ means radiation not capable of producing ionization, including sound and radio waves and visible, infrared, or ultraviolet light.
(f) ‘‘Non-stochastic effect’’ means a health effect, the severity of which varies with the dose and for which a threshold is believed to exist. For purposes of these regulations, ‘‘deterministic effect’’ shall be considered an equivalent term.
(g) ‘‘Normal operating procedures’’ means operating procedures for conditions suitable for routine purposes with shielding and barriers in place, including routine alignment procedures. This term shall not include maintenance procedures and routine and emergency radiation safety considerations.
(h) ‘‘Normal treatment distance’’ means either of the following:
(1) For electron irradiation, the distance from the virtual source to the surface along the central axis of the useful beam, as specified by the manufacturer; or
(2) for X-ray irradiation, the distance from the virtual source to the isocenter along the central axis of the useful beam. For non-isocentric equipment, this distance shall be the distance specified by the manufacturer.
(i) ‘‘Nuclear regulatory commission (NRC)’’ means the U.S. nuclear regulatory commission or its duly authorized representatives.
(j) ‘‘NVLAP’’ means the national voluntary laboratory accreditation program. (Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1603 and 48-1607; effective Dec. 30, 2005; amended July 27, 2007.)

28-35-135o. **Definitions.** As used in these regulations, each of the following terms shall have the meaning assigned in this regulation: (a) ‘‘Occupational dose’’ means the dose received by an individual in the course of employment in which the individual’s assigned duties involve exposure to radiation or radioactive material from licensed or unlicensed sources of radiation. The term ‘‘occupational dose’’ shall not include any dose received under any of the following circumstances:
(1) As background radiation;
(2) as a patient from medical practices;
(3) from voluntary participation in medical research programs; or
(4) as a member of the public.
(b) ‘‘Off-site response organization’’ means any non-licensee off-site organization that could be needed to respond to an emergency, including local fire, police, ambulance, and hospital emergency management services.

(c) ‘‘Open-beam configuration’’ means an Xray system in which an individual could accidentally place some part of the individual’s body in the primary beam path during normal operation.
(d) ‘‘Output’’ means the exposure rate or dose rate, or a quantity related in a known manner to these rates from a teletherapy unit for a specified set of exposure conditions. (Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1603 and 48-1607; effective Dec. 30, 2005.)
28-35-135p. **Definitions.** As used in these regulations, each of the following terms shall have the meaning assigned in this regulation: (a) ‘‘Package’’ means a container and packing material, together with the radioactive contents, as presented for transport.
(b) ‘‘Panoramic dry-source-storage irradiator’’ means an irradiator in which the irradiations occur in air in areas potentially accessible to personnel and in which the sources are stored in shields made of solid materials. This term shall include beam-type dry-source-storage irradiators in which one narrow beam of radiation is produced for performing irradiations.
(c) ‘‘Panoramic wet-source-storage irradiator’’ means an irradiator in which the irradiations occur in air in areas potentially accessible to personnel and in which the sources are stored underwater in a storage pool.
(d) ‘‘Particle accelerator’’ means any machine capable of accelerating electrons, protons, deuterons, or other charged particles in a vacuum and of discharging the resultant particulate or other radiation into a medium at energies usually in excess of one mega electron volt (MeV).
(e) ‘‘Patient’’ means an individual subjected to examination, diagnosis, or treatment.
(f) ‘‘Patient intervention’’ means any action by the patient or human research subject, whether

intentional or unintentional, that affects the prescribed treatment. This term shall include dislodging or removing any treatment device and prematurely terminating the prescribed treatment.
(g) ‘‘Peak tube potential’’ means the maximum value of the potential differences across an X-ray tube during an exposure. This term is also referred to as ‘‘kilovolts peak (kVp).’’
(h) ‘‘Periodic quality-assurance check’’means a procedure that is performed to ensure that the previous calibration continues to be valid.
(i) ‘‘Permanent radiographic installation’’ means an enclosed, shielded room, cell, or vault, not located at a temporary job site, in which radiography

is performed.
(j) ‘‘Person’’ means any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, agency, political subdivision of this or any other state, or political subdivision or agency, excluding federal government agencies.
(k) ‘‘Personnel-monitoring equipment’’ m