Kansas Administrative Regulations

Department of Health and Environment

Article 35.—Radiation—Part 1. Definitions.

28-35-135t. Definitions.

As used in these regulations, each of the following terms shall have the meaning assigned in this regulation: (a) "Target" means the part of a radiation head that by design intercepts a beam of accelerated particles, with the subsequent emission of other radiation.

(b) "Target-to-skin distance (TSD)" means the distance measured along the beam axis from the center of the front surface of the X-ray target or electron virtual source to the irradiated object or patient.

(c) "Technique factors" means the conditions of operation specified as follows:

(1) For capacitor energy storage equipment, peak tube potential in kV and quantity of charge in mAs;

(2) for field emission equipment rated for pulsed operation, peak tube potential in kV and number of X-ray pulses; and

(3) for all equipment not specified in paragraphs (c)(1) and (2), peak tube potential in kV and either the tube current in mA and the exposure time in seconds or the product of the tube current and the exposure time in mAs.

(d) "Teletherapy" means therapeutic irradiation in which the source of radiation is located at a distance from the body.

(e) "Teletherapy physicist" means an individual identified as the qualified teletherapy physicist on a department license.

(f) "Temporary job site" means a location where operations are performed and where sources of radiation may be stored, other than the location or locations of use authorized on the license or registration.

(g) "Tenth-value layer (TVL)" means the thickness of a specified material that attenuates X-radiation or gamma radiation to the extent that the air kerma rate,

exposure rate, or absorbed dose rate is reduced to one-tenth of the value measured without the material at the same point.

(h) "Termination of irradiation" means the stopping of irradiation in a fashion not permitting the continuance of irradiation without the resetting of operating conditions at the control panel.

(i) "Test" means the process of verifying compliance with an applicable regulation.

(j) "Therapeutic dosage" means a dosage of unsealed by-product material that is intended to deliver a radiation dose to a patient or human research subject for palliative or curative treatment.

(k) "Therapeutic dose" means a radiation dose delivered from a source containing by-product material to a patient or human research subject for palliative or curative treatment.

(l) "Therapeutic-type tube housing" means the following:

(1) For X-ray equipment not capable of operating at 500 kVp or above, an X-ray tube housing constructed so that the leakage radiation, at a distance of one meter from the source, does not exceed one roentgen in an hour when the tube is operated at its maximum rated continuous current for the maximum rated tube potential; and

(2) for X-ray equipment capable of operating at 500 kVp or above, an X-ray tube housing constructed so that the leakage radiation, at a distance of one meter from the source, does not exceed 0.1 percent of the useful beam dose rate at one meter from the source for any of the tube's operating conditions.

Areas of reduced protection shall be acceptable if the average reading over any area of 100 cm^2, at a distance of one meter from the source, does not exceed any of the values specified in this subsection.

(m) "These regulations" means article 35 in its entirety.

(n) "Tomogram" means the depiction of the X-ray attenuation properties of a section through the body.

(o) "Total effective dose equivalent" and "TEDE" mean the sum of the effective dose equivalent for external exposures and the committed effective dose equivalent for internal exposures.

(p) "Total organ dose equivalent" and "TODE" mean the sum of the deep dose equivalent and the committed dose equivalent delivered to the organ receiving the highest dose.

(q) "Traceable to a national standard" means that a quantity or a measurement has been compared to a national standard directly or indirectly through one or more intermediate steps and that all comparisons are documented.

(r) "Transport index" means the dimensionless number, rounded up to the first decimal place, placed on the label of a package to designate the degree of control to be exercised by the carrier during transportation. The transport index is the maximum radiation level in millirems per hour at one meter from the external surface of the package.

(s) "Tritium neutron-generator-target source" means a tritium source used within a neutron generator tube to produce neutrons for use in welllogging applications.

(t) "Tube" means an X-ray tube, unless otherwise specified.

(u) "Tube housing assembly" means the tube housing with a tube installed, including high-voltage transformers or filament transformers, or both, and other appropriate elements when contained within the tube housing.

(v) "Treatment site" means the anatomical description of the tissue intended to receive a radiation dose, as specified in a written directive.

(w) "Tube rating chart" means the set of curves that describes the rated limits of operation of the tube in terms of the technique factors.

(x) "Type A package" means packaging that, together with the radioactive contents limited to A_1 or A_2 as appropriate, is designed to retain the integrity of containment and shielding under normal conditions of transport as demonstrated by the tests specified in 49 CFR 173.465 or 49 CFR 173.466, as appropriate.

(y) "Type B package" and "type B transport container" mean packaging that meets the applicable requirements specified in 10 CFR 71.51.

(Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1603 and 48-1607; effective Dec. 30, 2005; amended March 18, 2011.)

***** Authenticated Kansas Administrative Regulation *****