



ADMINISTRATIVE RULES OF MONTANA



37.14.710 PERMISSIBLE DOSES, LEVELS, AND CONCENTRATIONS: RADIOACTIVITY IN EFFLUENTS TO UNRESTRICTED AREAS

- (1) A licensee shall not possess, use, or transfer licensed material so as to release to an unrestricted area radioactive material in concentrations which exceed the limits specified in Appendix A, Table II of this subchapter except as authorized pursuant to ARM 37.14.741 or (2) of this rule. For purposes of this rule, concentrations may be averaged over a period not greater than 1 year.
- (2) An application for a license or amendment may include proposed limits higher than those specified in (1) of this rule. The department will approve the proposed limits if the applicant demonstrates:
 - (a) that the applicant has made a reasonable effort to minimize the radioactivity contained in effluents to unrestricted areas; and
 - (b) that it is not likely that radioactive material discharged in the effluent would result in the exposure of an individual to concentrations of radioactive material in air or water exceeding the limits specified in Appendix A, Table II of this subchapter.
- (3) An application for higher limits pursuant to (2) of this rule shall include information demonstrating that the applicant has made a reasonable effort to minimize the radioactivity discharged in effluents to unrestricted areas, and shall include, as pertinent:
 - (a) information as to flow rates, total volume of effluent, peak concentration of each radionuclide in the effluent, and concentration of each radionuclide in the effluent averaged over a period of 1 year at the point where the effluent leaves a stack, tube, pipe, or similar conduit;
 - (b) a description of the properties of the effluents, including:
 - (i) chemical composition,
 - (ii) physical characteristics, including suspended solids content in liquid effluents, and nature of gas or aerosol for air effluents,
 - (iii) the hydrogen ion concentrations (pH) of liquid effluents, and
 - (iv) the size range of particulates in effluents released into air;
 - (c) a description of the anticipated human occupancy in the unrestricted area where the highest concentration of radioactive material from the effluent is expected, and, in the case of a river or stream, a description of water uses downstream from the point of release of the effluent;

- (d) information as to the highest concentration of each radionuclide in an unrestricted area, including anticipated concentrations averaged over a period of 1 year:
 - (i) in air at any point of human occupancy, or
 - (ii) in water at points of use downstream from the point of release of the effluent;
 - (e) the background concentration of radionuclides in the receiving river or stream prior to the release of liquid effluent;
 - (f) a description of the environmental monitoring equipment, including sensitivity of the system, and procedures and calculations to determine concentrations of radionuclides in the unrestricted area and possible reconcentrations of radionuclides; and
 - (g) a description of the waste treatment facilities and procedures used to reduce the concentration of radionuclides in effluents prior to their release.
- (4) For the purposes of this rule, the concentration limits in Appendix A, Table II of this subchapter shall apply at the boundary of the restricted area. The concentration of radioactive material discharged through a stack, pipe or similar conduit may be determined with respect to the point where the material leaves the conduit. If the conduit discharges within the restricted area, the concentration at the boundary may be determined by applying appropriate factors for dilution, dispersion, or decay between the point of discharge and the boundary.
- (5) In addition to limiting concentrations in effluent streams, the department may limit quantities of radioactive material released in air or water during a specified period of time if it appears that the daily intake of radioactive material from air, water, or food by a suitable sample of an exposed population group, averaged over a period not exceeding 1 year, would otherwise exceed the daily intake resulting from continuous exposure to air or water containing one-third the concentration of radioactive material specified in Appendix A, Table II of this subchapter.
- (6) The provisions of this rule do not apply to disposal of radioactive material into sanitary sewerage systems, which is governed by ARM 37.14.742 .

Authorizing statute(s): Sec. 75-3-201, MCA

Implementing statute(s): Sec. 75-3-201, MCA

History: NEW, 1980 MAR p. 1069, Eff. 3/28/80; TRANS, from DHES, 1996 MAR p. 433; TRANS, from DEQ, 2000 MAR p. 189.