ILLINOIS EMERGENCY MANAGEMENT AGENCY

NOTICE OF ADOPTED AMENDMENTS

1) Heading of the Part: Standards for Protection Against Radiation

2) Code Citation: 32 Ill. Adm. Code 340

3)

Section Number:	Proposed Action:
340.30	Amendment
340.210	Amendment
340.230	Amendment
340.240	Amendment
340.320	Amendment
340.520	Amendment
340.830	Amendment
340.950	Amendment
340.1010	Amendment
340.1030	Amendment
340.1045	Amendment
340.1060	Amendment
340.1180	Amendment
340.1195	Repealed
340.1220	Amendment
340.1250	Amendment
340.APPENDIX A	Amendment

4) Statutory Authority: Implementing and authorized by Section 10 of the Radiation Protection Act of 1990 [420 ILCS 40/10].

5) Effective Date of Amendments:

6) Does this rulemaking contain an automatic repeal date? No

7) Does this rulemaking contain incorporations by reference? No

8) A copy of the adopted amendments, including any material incorporated by reference is on file at the Agency's headquarters located at 1035 Outer Park Drive, Springfield, Illinois and is available for public inspection

9) Notice of Proposal Published in the Illinois Register: 34 Ill. Reg. 14684; October 8, 2010

10) Has JCAR issued a Statement of Objections to these Amendments? No

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ILLINOIS EMERGENCY MANAGEMENT AGENCY

NOTICE OF ADOPTED AMENDMENTS

11) Differences between proposal and final version: Several grammatical and stylistic changes were made in accordance with JCAR's recommendation.

12) Have all the changes agreed upon by the agency and JCAR been made as indicated in the agreement letter issued by JCAR? Yes

13) Will these amendments replace an emergency rule currently in effect? No

14) Are there any amendments pending on this Part? No

15) Summary and Purpose of amendments: This rulemaking will ensure compatibility with the U.S. Nuclear Regulator Commission's 10 CFR 20 regulations currently in place for use of radioactive materials. Agreement States such as Illinois are required to have these changes in place by November 30, 2010. NRC has assigned this rulemaking a compatibility category of A, which means that the Illinois rule must have language essentially identical to NRC's. This rulemaking will update dose measurement procedures and limits, clarify waste management procedures and provide for disposal of certain radioactive materials.

Section 31 of the Radiation Protection Act of 1990 [420 ILCS 40/31] provides that the Agency is exempt from rulemaking procedures in the Illinois Administrative Procedure Act when regulations that are identical in substance are necessary to implement, secure, or maintain federal authorization for a program. After consideration of comments from the appropriate federal agency, the Agency may adopt the verbatim text of the laws, regulations, or orders as necessary and appropriate for authorization or maintenance of the program. The NRC has reviewed the proposed amendments and has indicated that these amendments are needed to ensure compatibility with 10 CFR 20. Because this rulemaking is not subject to the Illinois Administrative Procedure Act, and in accordance with Section 31, this rulemaking will become effective following the first notice period immediately upon filing for adoption with the Secretary of State or at a date required or authorized by the relevant federal laws, regulations, or orders as stated in the notice of the rulemaking, and shall be published in the Illinois Register.

16) Information and questions regarding these adopted amendments shall be directed to:

Louise Michels
Staff Attorney
Illinois Emergency Management Agency
1035 Outer Park Drive
Springfield, Illinois 62704
(217) 524-0770

ILLINOIS EMERGENCY MANAGEMENT AGENCY

NOTICE OF ADOPTED AMENDMENTS

The full text of the Adopted Amendments begin on the next page:

ILLINOIS EMERGENCY MANAGEMENT AGENCY

NOTICE OF ADOPTED AMENDMENTS

TITLE 32: ENERGY
CHAPTER II: ILLINOIS EMERGENCY MANAGEMENT AGENCY
SUBCHAPTER b: RADIATION PROTECTION

PART 340
STANDARDS FOR PROTECTION AGAINST RADIATION

SUBPART A: GENERAL PROVISIONS

Section
340.10 Purpose
340.20 Scope
340.25 Incorporations by Reference
340.30 Definitions
340.40 Implementation

SUBPART B: RADIATION PROTECTION PROGRAMS

Section
340.110 Radiation Protection Programs

SUBPART C: OCCUPATIONAL DOSE LIMITS

Section
340.210 Occupational Dose Limits for Adults
340.220 Compliance with Requirements for Summation of External and Internal Doses
340.230 Determination of External Dose from Airborne Radioactive Material
340.240 Determination of Internal Exposure
340.250 Determination of Prior Occupational Dose
340.260 Planned Special Exposures
340.270 Occupational Dose Limits for Minors
340.280 Dose Equivalent to an Embryo/Fetus

SUBPART D: RADIATION DOSE LIMITS FOR INDIVIDUAL MEMBERS OF THE PUBLIC

Section
340.310 Dose Limits for Individual Members of the Public
340.320 Compliance with Dose Limits for Individual Members of the Public

ILLINOIS EMERGENCY MANAGEMENT AGENCY

NOTICE OF ADOPTED AMENDMENTS

SUBPART E: TESTING FOR LEAKAGE OR CONTAMINATION OF SEALED SOURCES

Section
340.410 Testing for Leakage or Contamination of Sealed Sources

SUBPART F: SURVEYS AND MONITORING

Section
340.510 General
340.520 Conditions Requiring Individual Monitoring of External and Internal Occupational Dose
340.530 Location of Individual Monitoring Devices
340.540 Calibration of Survey Instruments

SUBPART G: CONTROL OF EXPOSURE FROM EXTERNAL SOURCES IN RESTRICTED AREAS

Section
340.610 Control of Access to High Radiation Areas
340.620 Control of Access to Very High Radiation Areas
340.630 Control of Access to Very High Radiation Areas - Irradiators

SUBPART H: RESPIRATORY PROTECTION AND CONTROLS TO RESTRICT INTERNAL EXPOSURE IN RESTRICTED AREAS

Section
340.710 Use of Process or Other Engineering Controls
340.720 Use of Other Controls
340.730 Use of Individual Respiratory Protection Equipment

SUBPART I: STORAGE AND CONTROL OF LICENSED OR REGISTERED SOURCES OF RADIATION

Section
340.810 Security and Control of Licensed or Registered Sources of Radiation
340.820 Storage of Volatiles and Gases
340.830 Control of Volatiles~~Aerosols~~ and Gases

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ILLINOIS EMERGENCY MANAGEMENT AGENCY

NOTICE OF ADOPTED AMENDMENTS

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340.920 Posting Requirements
340.930 Exceptions to Posting Requirements
340.940 Labeling Containers and Radiation Machines
340.950 Exemptions to Labeling Requirements
340.960 Procedures for Receiving and Opening Packages

SUBPART K: WASTE DISPOSAL

Section
340.1010 General Requirements
340.1020 Method for Obtaining Approval of Proposed Disposal Procedures
340.1030 Disposal by Release into Sanitary Sewerage
340.1040 Treatment of Disposal by Incineration
340.1045 Decay-In-Storage
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SUBPART L: RECORDS

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340.1110 General Provisions
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340.1135 Records of Tests for Leakage or Contamination of Sealed Sources
340.1140 Records of Prior Occupational Dose
340.1150 Records of Planned Special Exposures
340.1160 Records of Individual Monitoring Results
340.1170 Records of Dose to Members of the Public
340.1180 Records of Waste Disposal
340.1190 Records of Testing Entry Control Devices for Very High Radiation Areas
340.1195 Form of Records (Repealed)

SUBPART M: REPORTS AND NOTIFICATIONS

ILLINOIS EMERGENCY MANAGEMENT AGENCY

NOTICE OF ADOPTED AMENDMENTS

Section
340.1205 Notification of Credible Threats
340.1210 Reports of Stolen, Lost or Missing Sources of Radiation
340.1220 Notification of Incidents
340.1230 Reports of Exposures, Radiation Levels and Concentrations of Radioactive Material Exceeding the Constraints or Limits
340.1240 Reports of Planned Special Exposures
340.1250 Notifications and Reports to Individuals
340.1260 Reports of Leaking or Contaminated Sealed Sources
340.1270 Reports of Missing Waste Shipments

SUBPART N: ADDITIONAL REQUIREMENTS

Section
340.1310 Vacating Premises
340.1320 Removal of Radioactive Contamination
340.APPENDIX ~~Appendix~~ A Decontamination Guidelines
340.ILLUSTRATION ~~Illustration~~ A Radiation Symbol

AUTHORITY: Implementing and authorized by the Radiation Protection Act of 1990 [420 ILCS 40].

SOURCE: Filed April 24, 1970 by the Department of Public Health; transferred to the Department of Nuclear Safety by P.A. 81-1516, effective December 3, 1980; amended at 5 Ill. Reg. 9586, effective September 10, 1981; codified at 7 Ill. Reg. 16027; recodified at 10 Ill. Reg. 11273; amended at 10 Ill. Reg. 17538, effective September 25, 1986; amended at 16 Ill. Reg. 11538, effective July 7, 1992; old Part repealed, new Part adopted at 17 Ill. Reg. 18507, effective January 1, 1994; amended at 19 Ill. Reg. 8264, effective June 12, 1995; emergency amendment at 27, Ill. Reg. 17273, effective November 18, 2002, for a maximum of 150 days; amended at 27 Ill. Reg. 5445, effective March 17, 2003; recodified from the Department of Nuclear Safety to the Illinois Emergency Management Agency at 27 Ill. Reg. 13641; amended at 29 Ill. Reg. 20841, effective December 16, 2005; amended at 31 Ill. Reg. 11593, effective July 26, 2007; amended at 35 Ill. Reg. _____, effective _____.

Section 340.30 Definitions

"Air-purifying respirator" or "APR" means a respirator with an air-purifying filter, cartridge or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

"Annual limit on intake" or "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 0.05 Sv (5 rem) or a committed dose equivalent of 0.5 Sv (50 rem) to any individual organ or tissue. ALI values for intake by ingestion and by inhalation of selected radionuclides are given in table 1, columns 1 and 2 of appendix B to 10 CFR 20, published at 72 Fed. Reg. 55922, October 1, 2007 ~~effective March 27, 2006~~, exclusive of subsequent amendments or editions.

"Assigned protection factor" or "APF" means the expected workplace level of respiratory protection that would be provided by a properly functioning respirator or a class of respirators to properly trained and fitted users.

"Atmosphere-supplying respirator" means a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.

"Chelating agent" means amine polycarboxylic acids (e.g., EDTA, DTPA), hydroxy-carboxylic acids, and polycarboxylic acids (e.g., citric acid, carbolic acid, and glucinic acid).

"Class" (lung class or inhalation class) means a classification scheme for inhaled material according to its rate of clearance from the pulmonary region of the lung. Materials are classified as D, W or Y, which applies to a range of clearance half-times: for Class D (Days) of less than 10 days, for Class W (Weeks) from 10 to 100 days, and for Class Y (Years) of greater than 100 days.

"Collector" means a licensee whose principal purpose is to collect and consolidate waste generated by others, and to transfer this waste, without processing or repackaging the collected waste, to another licensed waste collector, licensed waste processor or licensed land disposal facility.

"Consignee" means the designated receiver of a shipment of low-level radioactive waste.

"Constraint" (dose constraint) means a value above which specified licensee actions are required.

"Demand respirator" means an atmosphere-supplying respirator that admits breathing air to the face piece only when a negative pressure is created inside the face piece by inhalation.

"Derived air concentration" or "DAC" means the concentration of a given radionuclide in air, which, if breathed by the reference man for a working year of 2,000 hours under conditions of light work would result in an intake of one ALI. For purposes of this definition, 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. DAC values are given in table 1, column 3 of appendix B to 10 CFR 20, published at 72 Fed. Reg. 55922, October 1, 2007~~effective March 27, 2006~~, exclusive of subsequent amendments or editions.

"Derived air concentration-hour" or "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 (expressed in hours). A licensee may take 2,000 DAC-hours to represent one ALI, equivalent to a committed effective dose equivalent of 0.05 Sv (5 rem).

"Disposal container" means a container principally used to confine low-level radioactive waste during disposal operations at a land disposal facility (also see "high integrity container"). Note that, for some shipments, the disposal container may be the transport package.

"Disposable respirator" means a respirator for which maintenance is not intended and that is designed to be discarded after excessive breathing resistance, sorbent exhaustion, physical damage, or end-of-service-life renders it unsuitable for use. Examples of this type of respirator are a disposable half-mask respirator or a disposable escape-only self-contained breathing apparatus (SCBA).

"EPA identification number" means the number received by a transporter following application to the Administrator of USEPA as required by 40 CFR 263.

"Filtering face piece" or "dust mask" means a negative pressure particulate respirator with a filter as an integral part of the face piece or with the entire face piece composed of the filtering medium, not equipped with elastomeric sealing surfaces and adjustable straps.

"Fit factor" means a quantitative estimate of the fit of a particular respirator to a specific individual and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

"Fit Test" means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual.

"Helmet" means a rigid respiratory inlet covering that also provides head protection against impact and penetration.

"Hood" means a respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso.

"Inhalation class" (see "class").

"Land disposal facility" means the land, buildings, structures and equipment which are intended to be used for the disposal of radioactive wastes.

"Lens dose equivalent" or "LDE" applies to the external exposure of the lens of the eye and is taken as the dose equivalent at a tissue depth of 0.3 centimeter (300 mg/cm^2).

"Loose-fitting face piece" means a respiratory inlet covering designed to form a partial seal with the face.

"Lung class" (see "class").

"Negative pressure respirator (tight fitting)" means a respirator in which the air pressure inside the face piece is negative during inhalation with respect to the ambient air pressure outside the respirator.

"Nonstochastic effect" (deterministic effect) means a health effect, the severity of which varies with the dose and for which a threshold is believed to exist. Radiation-induced cataract formation is an example of a nonstochastic effect.

"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 to radioactive material from licensed and unlicensed sources of radiation, whether in the possession of the licensee or another person. Occupational dose does not include doses received from background radiation,

from any medical administration the individual has received, from exposure to individuals administered radioactive material and released under 32 Ill. Adm. Code 335, from voluntary participation in medical research programs or as a member of the public.

"Physical description" means the items called for on NRC Form 541 to describe a low-level radioactive waste.

"Planned special exposure" means an infrequent exposure to radiation, the dose from which is separate from and in addition to the annual occupational dose limits.

"Positive pressure respirator" means a respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

"Powered air-purifying respirator" or "PAPR" means an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

"Pressure demand respirator" means a positive pressure atmosphere-supplying respirator that admits breathing air to the face piece when the positive pressure is reduced inside the face piece by inhalation.

"Public dose" means the dose received by a member of the public from exposure to radiation or to radioactive material released by a licensee or to any other source of radiation under the control of a licensee. Public dose does not include occupational dose or doses received from background radiation, from any medical administration the individual has received, from exposure to individuals administered radioactive material and released under 32 Ill. Adm. Code 335, or from voluntary participation in medical research programs.

"Qualitative fit test" or "QLFT" means a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

"Quantitative fit test" or "QNFT" means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

"Reference Man" means a hypothetical aggregation of human physical and physiological characteristics determined by international consensus. These characteristics may be used by researchers and public health workers to

standardize results of experiments and to relate biological insult to a common base.
AGENCY NOTE: A description of the Reference Man is contained in the International Commission on Radiological Protection report, ICRP Publication 23, "Report of the Task Group on Reference Man."

"Respiratory protective equipment" means an apparatus, such as a respirator, used to reduce an individual's intake of airborne radioactive materials.

"Sanitary sewerage" means a system of public sewers for carrying off waste water and refuse, but excluding sewage treatment facilities, septic tanks, and leach fields owned or operated by the licensee.

"Self-contained breathing apparatus" or "SCBA" means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.

"Shipping paper" means NRC Form 540 and, if required, NRC Form 540A, which includes the information required by DOT in 49 CFR 172, revised October 1, 2008, exclusive of subsequent amendments or editions.

"Stochastic effect" (probabilistic effect) means a health effect that occurs randomly and for which the probability of the effect occurring, rather than its severity, is assumed to be a linear function of dose without threshold. Hereditary effects and cancer incidence are examples of stochastic effects.

"Supplied-air respirator" or "SAR" or "airline respirator" means an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

"Tight-fitting face piece" means a respiratory inlet covering that forms a complete seal with the face.

"Uniform Low-Level Radioactive Waste Manifest" or "uniform manifest" means the combination of NRC Forms 540, 541 and, if necessary, 542, and their respective continuation sheets as needed, or equivalent.

"User seal check" or "fit check" means an action conducted by the respirator user to determine if the respirator is properly seated to the face. Examples include negative pressure check, positive pressure check, irritant smoke check, or isoamyl acetate check.

"Waste description" means the physical, chemical and radiological description of a low-level radioactive waste as called for on NRC Form 541.

"Waste processor" means an entity, operating under an Agency, Nuclear Regulatory Commission or Agreement State license, whose principal purpose is to process, repackage, or otherwise treat low-level radioactive material or waste generated by others prior to eventual transfer of waste to a licensed low-level radioactive waste land disposal facility.

"Waste type" means a waste within a disposal container having a unique physical description (i.e., a specific waste descriptor code or description or a waste sorbed on or solidified in a specifically defined media).

"Weighting factor" (w_T), means the proportion of the risk of stochastic effects resulting from irradiation of an organ or tissue (T) to the total risk of stochastic effects when the whole body is irradiated uniformly. For calculating the effective dose equivalent, the values of (w_T) are:

Organ or Tissue	(w_T)
Gonads	0.25
Breast	0.15
Red bone marrow	0.12
Lung	0.12
Thyroid	0.03
Bone surfaces	0.03
Remainder	0.30[a]
Whole Body	1.00[b]

[a]0.30 results from 0.06 for each of 5 "remainder" organs, excluding the skin and the lens of the eye, that receive the highest doses.

[b]For the purpose of weighting the external whole-body dose, for adding it to the internal dose, a single weighting factor, (w_T) = 1.0, has been specified.

(Source: Amended at 3534 Ill. Reg. _____, effective _____)

ILLINOIS EMERGENCY MANAGEMENT AGENCY

NOTICE OF ADOPTED AMENDMENTS

SUBPART C: OCCUPATIONAL DOSE LIMITS

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Section 340.210 Occupational Dose Limits for Adults

a) The licensee or registrant shall control the occupational dose to individual adults, except for planned special exposures pursuant to Section 340.260 ~~of this Part~~, to the following dose limits:

1) An annual limit, which is the more limiting of:

A) The total effective dose equivalent being equal to 0.05 Sv (5 rem); or

B) The sum of the deep dose equivalent and the committed dose equivalent to any individual organ or tissue other than the lens of the eye being equal to 0.5 Sv (50 rem).

2) The annual limits to the lens of the eye, to the skin and to the extremities which are:

A) A lens dose equivalent of 0.15 Sv (15 rem)~~;~~, and

B) A shallow dose equivalent of 0.5 Sv (50 rem) to the skin or to any extremity.

b) Doses received in excess of the annual limits, including doses received during accidents, emergencies and planned special exposures, shall be subtracted from the limits for planned special exposures that the individual may receive during the current year and during the individual's lifetime (see Section 340.260(e) ~~of this Part~~).

c) When the external exposure is determined by measurement with an external personal monitoring device, the deep dose equivalent shall be used in place of the effective dose equivalent unless the effective dose equivalent is determined by a dosimetry method approved by the Agency. The assigned deep dose equivalent shall be for the portion of the body receiving the highest exposure. The assigned shallow dose equivalent shall be the dose averaged over the contiguous 10 square centimeters of skin receiving the highest dose.

AGENCY NOTE: The deep dose equivalent, lens dose equivalent or shallow dose equivalent may be assessed from surveys or other radiation measurements for the purpose of demonstrating compliance with the occupational dose limits if the individual monitoring device was not in the region of highest potential exposure or the results of individual monitoring are unavailable.

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d) The deep dose equivalent, lens dose equivalent and shallow dose equivalent may be assessed from surveys or other radiation measurements for the purpose of demonstrating compliance with the occupational dose limits, if the individual monitoring device was not in the region of highest potential exposure, or the results of individual monitoring are unavailable.

e) Derived air concentration (DAC) and annual limit on intake (ALI) values are specified in table 1 of appendix B to 10 CFR 20, published at 72 Fed. Reg. 55922, October 1, 2007~~effective March 27, 2006~~, exclusive of subsequent amendments or editions, and may be used to determine the individual's dose (see Section 340.1160~~ of this Part~~) and to demonstrate compliance with the occupational dose limits.

f) Notwithstanding the annual dose limits, the licensee shall limit the soluble uranium intake by an individual to 10 milligrams in a week in consideration of chemical toxicity (see footnote 3 of appendix B to 10 CFR 20, published at 72 Fed. Reg. 55922, October 1, 2007~~effective March 27, 2006~~, exclusive of subsequent amendments or editions.)

g) The licensee or registrant shall reduce the dose that an individual may be allowed to receive in the current year by the amount of occupational dose received while employed by any other person during the current year (see Section 340.250(a) and (d)~~ of this Part~~).

AGENCY NOTE: The purpose of this requirement is to ensure that no individual receives an annual occupational dose in excess of the occupational dose limits set forth in this Section.

(Source: Amended at 35~~34~~ Ill. Reg. _____, effective _____)

Section 340.230 Determination of External Dose from Airborne Radioactive Material

a) Licensees shall, when determining the dose from airborne radioactive material, include the contribution to the deep dose equivalent, lens dose equivalent and

shallow dose equivalent from external exposure to the radioactive cloud (see footnotes 1 and 2 of appendix B to 10 CFR 20, published at 72 Fed. Reg. 55922, October 1, 2007,~~effective March 27, 2006,~~ exclusive of subsequent amendments or editions).

b) Airborne radioactivity measurements and DAC values shall not be used as the primary means to assess the deep dose equivalent when the airborne radioactive material includes radionuclides other than noble gases or if the cloud of airborne radioactive material is not relatively uniform. The determination of the deep dose equivalent to an individual shall be based upon measurements using instruments or individual monitoring devices.

(Source: Amended at 35~~34~~ Ill. Reg. _____, effective _____)

Section 340.240 Determination of Internal Exposure

a) For purposes of assessing dose used to determine compliance with occupational dose equivalent limits, the licensee shall, when required pursuant to Section 340.520 ~~of this Part~~, take measurements of:

1) Concentrations of radioactive materials in air in work areas during conditions of operations; or

2) Quantities of radionuclides in the body after exposure to materials that could result in an intake; or

3) Quantities of radionuclides excreted from the body after exposure to materials that could result in an intake; or

4) Combinations of these measurements.

b) Unless respiratory protective equipment is used, as provided in Section 340.730 ~~of this Part~~, or the assessment of intake is based on bioassays, the licensee shall assume that an individual inhales radioactive material at the airborne concentration in which the individual is present.

c) When specific information on the physical and biochemical properties of the radionuclides taken into the body or the behavior of the material in an individual is known, the licensee may:

1) Use that information to calculate the committed effective dose equivalent, and if used, the licensee shall document that information in the individual's record; and

2) Upon prior approval of the Agency, adjust the DAC or ALI values to reflect the actual physical and chemical characteristics of airborne radioactive material (e.g., aerosol size distribution or density); and

3) Separately assess the contribution of fractional intakes of Class D, W or Y compounds of a given radionuclide (see appendix B to 10 CFR 20, published at 72 Fed. Reg. 55922, October 1, 2007~~effective March 27, 2006,~~ exclusive of subsequent amendments or editions~~),~~ to the committed effective dose equivalent~~)~~.

d) If the licensee chooses to assess intakes of Class Y material using the measurements specified in subsections (a)(2) or (3)~~ of this Section~~, the licensee may delay the recording and reporting of the assessments for periods up to 7 months, unless otherwise required by Sections 340.1220 or 340.1230~~ of this Part~~.

AGENCY NOTE: This delay permits the licensee to make additional measurements basic to the assessments.

e) If the identity and concentration of each radionuclide in a mixture are known, the fraction of the DAC applicable to the mixture for use in calculating DAC-hours shall be either:

1) The sum of the ratios of the concentration to the appropriate DAC value (e.g., D, W or Y) from appendix B to 10 CFR 20, published at 72 Fed. Reg. 55922, October 1, 2007~~effective March 27, 2006~~, exclusive of subsequent amendments or editions, for each radionuclide in the mixture; or

2) The ratio of the total concentration for all radionuclides in the mixture to the most restrictive DAC value for any radionuclide in the mixture.

f) If the identity of each radionuclide in a mixture is known, but the concentration of one or more of the radionuclides in the mixture is not known, the DAC for the mixture shall be the most restrictive DAC of any radionuclide in the mixture.

g) When a mixture of radionuclides in air exists, a licensee may disregard certain radionuclides in the mixture if:

1) The licensee uses the total activity of the mixture in demonstrating compliance with the dose limits in Section 340.210~~ of this Part~~ and in complying with the monitoring requirements in Section 340.520(b)~~ of this Part~~;

2) The concentration of any radionuclide disregarded is less than 10~~ten~~ percent of its DAC; and

3) The sum of these percentages for all of the radionuclides disregarded in the mixture does not exceed 30 percent.

h) When determining the committed effective dose equivalent, the following information may be considered:

1) In order to calculate the committed effective dose equivalent, the licensee may assume that the inhalation of one ALI, or an exposure of 2,000 DAC-hours, results in a committed effective dose equivalent of 0.05 Sv (5 rem) for radionuclides that have their ALIs or DACs based on the committed effective dose equivalent.

2) For an ALI (and the associated DAC) determined by the nonstochastic organ dose limit of 0.5 Sv (50 rem), the intake of radionuclides that would result in a committed effective dose equivalent of 0.05 Sv (5 rem) (the stochastic ALI) is listed in parentheses in table 1 of appendix B to 10 CFR 20, published at 72 Fed. Reg. 55922, October 1, 2007~~effective March 27, 2006~~, exclusive of subsequent amendments or editions. The licensee may, as a simplifying assumption, use the stochastic ALI to determine committed effective dose equivalent. However, if the licensee uses the stochastic ALI, the licensee shall also demonstrate that the limit in Section 340.210(a)(1)(B)~~ of this Part~~ is met.

(Source: Amended at 35~~34~~ Ill. Reg. _____, effective _____)

Section 340.320 Compliance with Dose Limits for Individual Members of the Public

a) The licensee or registrant shall make or cause to be made surveys of radiation levels in unrestricted areas. In addition, licensees shall survey radioactive

materials in effluents released to unrestricted areas. These surveys are to demonstrate compliance with the dose limits for individual members of the public in Section 340.310 ~~of this Part~~.

b) A licensee or registrant shall show compliance with the annual dose limit in Section 340.310 ~~of this Part~~ by:

1) Demonstrating by measurement or calculation that the total effective dose equivalent to the individual likely to receive the highest dose from the licensed or registered operation does not exceed the annual dose limit; or

2) Demonstrating that:

A) The annual average concentrations of radioactive material released in gaseous and liquid effluents at the boundary of the unrestricted area do not exceed the values specified in table 2 of appendix B to 10 CFR 20, published at 72 Fed. Reg. 55922, October 1, 2007~~effective March 27, 2006~~, exclusive of subsequent amendments or editions; and

B) If an individual were continuously present in an unrestricted area, the dose from external sources would not exceed 0.02 mSv (0.002 rem) in an hour and 0.5 mSv (0.05 rem) in a year.

c) Upon approval from the Agency, the licensee may adjust the effluent concentration values in table 2 of appendix B to 10 CFR 20, published at 72 Fed. Reg. 55922, October 1, 2007~~effective March 27, 2006~~, exclusive of subsequent amendments or editions, for members of the public~~,~~ to take into account the actual physical and chemical characteristics of the effluents (e.g., aerosol size distribution, solubility, density, radioactive decay equilibrium and chemical form).

(Source: Amended at 35~~34~~ Ill. Reg. _____, effective _____)

Section 340.520 Conditions Requiring Individual Monitoring of External and Internal Occupational Dose

Each licensee or registrant shall monitor doses from sources of radiation at levels sufficient to demonstrate compliance with the occupational dose limits of this Part. As a minimum:

a) Each licensee or registrant shall monitor occupational dose from sources of radiation and shall supply and require the use of individual monitoring devices by:

1) Adults likely to receive, in 1 year from sources external to the body, a dose in excess of 10~~ten~~ percent of the limits in Section 340.210(a)~~ of this Part~~;

2) Minors likely to receive, in 1 year from sources external to the body, a dose in excess of 10~~ten~~ percent of any of the applicable limits in Section 340.270~~ of this Part~~;

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); and

4) Individuals entering a high or very high radiation area.

b) Each licensee shall monitor, to determine compliance with Section 340.240~~ of this Part~~, the occupational intake of radioactive material by and assess the committed effective dose equivalent to:

1) Adults likely to receive, in 1 year, an intake in excess of 10~~ten~~ percent of the applicable ALIs in table 1, columns 1 and 2 of appendix B to 10 CFR 20, published at 72 Fed. Reg. 55922, October 1, 2007~~effective March 27, 2006~~, exclusive of subsequent amendments or editions; and

2) Minors and declared pregnant women likely to receive, in 1 year, a committed effective dose equivalent in excess of 0.5 mSv (0.05 rem).

(Source: Amended at 35~~34~~ Ill. Reg. _____, effective _____)

SUBPART I: STORAGE AND CONTROL OF LICENSED OR REGISTERED SOURCES OF RADIATION

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Section 340.830 Control of Volatiles and Gases

a) A licensee who uses or stores radioactive volatile materials or gases shall do so with a system that will keep airborne concentrations within the limits prescribed in this Part.

b) The system shall either be directly vented to the atmosphere through an air exhaust or provide for collection and decay or disposal of the volatile material or gas in a shielded container.

c) A licensee shall use or store radioactive gases only in rooms that are at negative pressure compared to surrounding rooms or hallways.

d) A licensee shall post, at the area of use or storage, emergency procedures to be followed in the event of a gas spill.

e) In the event of evacuation because of a spill or leak, the licensee shall use a radiation detection survey instrument upon room re-entry to ensure radiation levels have returned to background levels.

f) A licensee shall check the operation of reusable collection systems monthly and measure the ventilation rates available in areas of use at intervals not to exceed 6 months. The licensee shall maintain a record of these checks and measurements for 5 years. The record shall include the model and serial number of the collection system, results of all checks recommended by the manufacturer of the collection system, the ventilation rates measured, the date of the checks and measurements and the identity of the individual who performed the checks and measurements.

g) Contaminated charcoal trap filters, air handling systems and respiratory equipment shall be disposed of in accordance with this Part.

(Source: Amended at 35~~34~~ Ill. Reg. _____, effective _____)

SUBPART J: PRECAUTIONARY PROCEDURES

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Section 340.950 Exemptions to Labeling Requirements

A licensee is not required to label:

a) Containers holding licensed material in quantities less than the quantities listed in appendix C to 10 CFR 20, published at 60 Fed. Reg. 20186, April 25, 1995~~effective January 1, 2004~~, exclusive of subsequent amendments or editions; or

b) Containers holding licensed material in concentrations less than those specified in Table 3 of appendix B to 10 CFR 20, published at 72 Fed. Reg. 55922, October 1, 2007~~effective March 27, 2006~~, exclusive of subsequent amendments or editions; or

c) Containers attended by an individual who takes the precautions (e.g., controlling access) necessary to prevent the exposure of individuals in excess of the limits established by this Part; or

d) Containers when they are in transport, provided the containers are packaged and labeled in accordance with the regulations of the U.S. Department of Transportation; or

AGENCY NOTE: Labeling of packages containing radioactive materials is required by the U.S. Department of Transportation if the amount and type of radioactive material exceeds the limits for an excepted quantity or article as defined and limited by 49 CFR 173.403 and 173.421 through 173.424, revised October 1, 2008~~current as October 1, 2004~~, exclusive of subsequent amendments or editions.

e) 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 (examples of containers of this type are containers in locations such as water-filled canals, storage vaults or hot cells). The record shall be retained as long as the containers are in use for the purpose indicated on the record; or

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

(Source: Amended at 3~~4~~ Ill. Reg. _____, effective _____)

SUBPART K: WASTE DISPOSAL

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Section 340.1010 General Requirements

a) A licensee shall dispose of licensed material only:

1) By transfer to an authorized recipient as provided in Section 340.1060 ~~of this Part~~ or in 32 Ill. Adm. Code 330, 332 or 601, or to the U.S. Department of Energy; or

2) By release in effluents within the limits in Section 340.310 ~~of this Part~~; or

3) As authorized pursuant to Sections 340.1020, 340.1030, 340.1040 or 340.1050~~of this Part~~.

b) A person shall be specifically licensed by the Agency prior to receiving waste containing licensed material from any other point of generation for:

1) Storage for decay; or

2) Treatment prior to disposal; or

3) Treatment or disposal by incineration; or

4) Disposal at a land disposal facility licensed pursuant to 32 Ill. Adm. Code 601; or

5) Storage until transferred to a disposal facility authorized to receive the waste.

(Source: Amended at 35~~3~~4 Ill. Reg. _____, effective _____)

Section 340.1030 Disposal by Release into Sanitary Sewerage

a) A licensee may discharge licensed material into sanitary sewerage if each of the following conditions is satisfied:

1) The material is readily soluble, or is readily dispersible biological material, in water;

2) The quantity of licensed radioactive material that the licensee releases into the sewer in 1 month divided by the average monthly volume of water released into the sewer by the licensee does not exceed the concentration listed in table 3 of appendix B to 10 CFR 20, published at 72 Fed. Reg. 55922, October 1, 2007~~effective March 27, 2006~~, exclusive of subsequent amendments or editions;

3) If more than one radionuclide is released, the following conditions must also be satisfied:

A) The licensee shall determine the fraction of the limit in table 3 of appendix B to 10 CFR 20, published at 72 Fed. Reg. 55922, October 1, 2007~~effective March 27, 2006~~, exclusive of subsequent amendments or editions, represented by discharges into sanitary sewerage by dividing the actual monthly average concentration of each radionuclide released by the licensee into the sewer by the concentration of that radionuclide listed in table 3 of appendix B to 10 CFR 20, published at 72 Fed. Reg. 55922, October 1, 2007~~effective March 27, 2006~~, exclusive of subsequent amendments or editions; and

B) The sum of the fractions for each radionuclide required by subsection (a)(3)(A) of this Section does not exceed unity;

4) The total quantity of licensed radioactive material that the licensee releases into sanitary sewerage in a year does not exceed 185 GBq (5 Ci) of hydrogen-3, 37 GBq (1 Ci) of carbon-14, and 37 GBq (1 Ci) of all other radioactive materials combined; and

5) In determining compliance with subsections (a)(1) through ~~, (a)(2), (a)(3) and (a)~~(4) of this Section, the licensee shall not include the activity from radioactive material excluded by subsection (b)~~ of this Section~~.

b) Excreta from individuals undergoing medical diagnosis or therapy with radioactive material are not subject to the limitations contained in subsection (a)~~ of this Section~~.

(Source: Amended at 35~~34~~ Ill. Reg. _____, effective _____)

Section 340.1045 Decay-In-Storage

A licensee may store waste containing~~,~~ or composed~~comprised~~ of~~,~~ radioactive material with a physical half-life of less than 120 days for "decay-in-storage" before disposal as normal waste without regard to its radioactivity if it~~under the following provisions~~:

a) Holds the radioactive material for ~~Radioactive waste to be disposed of shall be held for decay~~ a minimum of 10 half-lives; and~~.~~

b) Pursuant to Section 340.510(a) and (b) ~~of this Part~~, performs radiation surveys ~~shall be performed~~ prior to disposal of the radioactive material~~waste~~ to ensure that the material's~~waste's~~ radioactivity cannot be distinguished from background radiation levels. The package/~~-~~container surface shall be surveyed with an appropriate radiation detection survey instrument set on its most sensitive scale, with no interposed shielding between the detector and the material~~waste~~, in a low background radiation environment; and~~.~~

c) Maintains records~~Records~~ of monitoring ~~shall be maintained~~ to include: date of disposal; date placed in storage; manufacturer, model and serial number of the survey instrument used; background radiation levels; and measured radiation levels; and~~.~~

d) Records the ~~The~~ identity of the individual performing the monitoring ~~shall be recorded~~; and~~.~~

e) Removes or obliterates all ~~All~~ radiation labels. ~~shall be removed or obliterated.~~

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(Source: Amended at 35~~34~~ Ill. Reg. _____, effective _____)

Section 340.1060 Transfer for Disposal and Manifests

a) Each licensee who transports or offers for transportation low-level radioactive waste intended for ultimate disposal at a licensed low-level radioactive waste disposal facility shall prepare a manifest reflecting information requested on the applicable NRC Forms 540 (Uniform Low-Level Radioactive Waste Manifest (Shipping Paper)) and 541 (Uniform Low-Level Radioactive Waste Manifest (Container and Waste Description)) and, if necessary, on an applicable NRC Form 542 (Uniform Low-Level Radioactive Waste Manifest (Manifest Index and Regional Compact Tabulation)).

AGENCY NOTE: For guidance in completing these forms, refer to the instructions that accompany the forms. NRC Forms 540, 540A, 541, 541A, 542 and 542A and the accompanying written instructions may be obtained from the Information and Records Management Branch, Office of Information Resources Management, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

b) NRC Forms 540 and 540A shall be completed and shall physically accompany each low-level radioactive waste shipment. Each licensee shipping low-level radioactive waste shall transfer manifest information to the consignee.

c) Upon agreement between the shipper and the consignee, NRC Forms 541, 541A, 542 or 542A may be completed, transmitted and stored in electronic media with the capability of producing legible, accurate and complete records on the respective forms. Copies of manifests required by this Section may be legible carbon copies, photocopies or computer printouts that reproduce the data in the format of the uniform manifest.

d) Licensees are exempt from the manifesting requirements of this Section when shipping:

1) Low-level radioactive waste for processing and when they expect its return (i.e., for storage under their license) prior to disposal at a licensed disposal facility;

2) Low-level radioactive waste that is being returned to the licensee who is the waste generator; or

3) Radioactively contaminated material to a waste processor that becomes the processor's residual waste.

e) Each licensee shipping low-level radioactive waste shall also comply with the reporting requirements specified in 32 Ill. Adm. Code 609.

f) Each shipper of radioactive waste shall provide the following information regarding the waste shipment on the uniform manifest:

1) The name, facility address and telephone number of the licensee shipping the waste;

2) An explicit declaration indicating whether the shipper is acting as a waste generator, collector or processor, or a combination of these identifiers, for purposes of the manifested shipment;

3) The name, address and telephone number, or the name and USEPA identification number, for the carrier transporting the waste;

4) The date of the waste shipment;

5) The total number of packages/disposal containers;

6) The total disposal volume and disposal weight in the shipment;

7) The total radionuclide activity in the shipment;

8) The activity of each of the radionuclides H-3, C-14, Tc-99 and I-129 contained in the shipment; and

9) The total masses of U-233, U-235 and plutonium in special nuclear material, and the total mass of uranium and thorium in source material.

AGENCY NOTE: The reporting requirements of the uniform manifest meet the reporting requirements of USDOT for the shipments of waste. Therefore, no additional DOT forms are required for shipments of low-level radioactive waste. However, the uniform manifest does not meet the reporting requirements of USEPA for the shipment of hazardous, medical or other waste. Any additional USEPA requirements shall be met by using an additional USEPA manifest. In addition, the uniform manifest reporting requirements do not meet the tracking requirements of 32 Ill. Adm. Code 609.

g) For waste shipments in disposal containers, each shipper shall provide the following information on the uniform manifest regarding the waste and each disposal container of waste in the shipment:

1) An alphabetic or numeric identification that identifies each disposal container in the shipment;

2) A physical description of the disposal container, including the manufacturer and model of any high integrity container;

3) The volume displaced by the disposal container;

4) The gross weight of the disposal container, including the waste;

5) For waste consigned to a disposal facility, the maximum radiation level at the surface of each disposal container;

6) A physical and chemical description of the waste;

7) The total weight percentage of chelating agent for any waste containing more than 0.1 percent chelating agent by weight, plus the identity of the principal chelating agent;

8) The approximate volume of waste within a container;

9) The sorbing or solidification media, if any, and the identity of the manufacturer of the solidification media and brand name;

10) The identities and activities of individual radionuclides contained in each container, the masses of U-233, U-235 and plutonium in special nuclear material, and the masses of uranium and thorium in source material. For discrete waste types (i.e., activated materials, contaminated equipment, mechanical filters, sealed source/devices and wastes in solidification/ stabilization media), the identities and activities of individual radionuclides associated with or contained on these waste types within a disposal container shall be reported;

11) The total radioactivity within each container; and

12) For wastes consigned to a disposal facility, the classification of the waste shall be identified on the manifest pursuant to Section 340.1052~~ of this Part~~. Waste not meeting the structural stability requirements of Section 340.1055(b)~~ of this Part~~ shall also be identified on the manifest.

h) For waste shipments delivered without a disposal container, the shipper of the radioactive waste shall provide the following information on the uniform manifest:

1) The approximate volume and weight of the waste;

2) A physical and chemical description of the waste;

3) The total weight percentage of chelating agent for any waste containing more than 0.1 percent chelating agent by weight, plus the identity of the principal chelating agent;

4) For wastes consigned to a disposal facility, the classification of the waste shall be identified on the manifest pursuant to Section 340.1052 ~~of this Part~~. Waste not meeting the structural stability requirements of Section 340.1055(b) ~~of this Part~~ shall also be identified on the manifest;

5) The identities and activities of individual radionuclides contained in the waste, the masses of U-233, U-235 and plutonium in special nuclear material, and the masses of uranium and thorium in source material; and

6) For waste consigned to a disposal facility, the maximum radiation levels at the surface of the waste.

i) For waste comprised of mixtures of waste originating from different waste generators, the shipper shall provide the following information on the uniform manifest:

AGENCY NOTE: The origin of the low-level radioactive waste resulting from a processor's activities may be attributable to one or more "waste generators" as defined in this Part.

1) For homogeneous mixtures of waste, such as incinerator ash, provide the waste description applicable to the mixture and the volume of the waste attributed to each waste generator.

2) For heterogeneous mixtures of waste, such as the combined products from a large compactor, identify each generator contributing waste to the disposal container, and for discrete waste types (i.e., activated materials, contaminated equipment, mechanical filters, sealed source/devices and wastes in solidification/stabilization media), the identities and activities of individual radionuclides contained on these waste types within the disposal container. For each waste generator, provide the following:

A) The volume of waste;

B) A physical and chemical description of the waste, including the solidification agent, if any;

C) The total weight percentage of chelating agents for any waste containing more than 0.1 percent chelating agent by weight, plus the identity of the principal chelating agent;

D) The sorbing or solidification media, if any, and the identity of the solidification media vendor and brand name if the media is claimed to meet stability requirements in Section 340.1055(b) ~~of this Part~~; and

E) Radionuclide identities and activities contained in the waste, the masses of U-233, U-235 and plutonium in special nuclear material, and the masses of uranium and thorium in source material if contained in the waste.

j) An authorized representative of the licensee shall certify, by signing and dating the shipment manifest, that the transported materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the requirements of USDOT regulations and this Part. A collector, in signing the certification, is certifying that nothing has been done to the collected waste that would invalidate the waste generator's certification.

k) Any licensee who transfers radioactive waste to a land disposal facility or a licensed waste collector shall comply with the requirements in subsections (k)(1) through ~~(k)~~(9) ~~of this Section~~. Any licensee who transfers waste to a licensed waste processor for waste treatment or repackaging shall comply with the requirements of subsections (k)(4) through ~~(k)~~(9) ~~of this Section~~. The licensee shall:

1) Prepare all wastes so that the waste is classified according to Section 340.1052 ~~of this Part~~ and meets the waste characteristics requirements in Section 340.1055 ~~of this Part~~;

2) Label each disposal container (or transport package if potential radiation hazards preclude labeling of the individual disposal container) of waste to identify whether it is Class A waste, Class B waste, Class C waste or greater than Class C waste, in accordance with Section 340.1052 ~~of this Part~~;

3) Conduct a quality assurance program to assure compliance with Sections 340.1052 and 340.1055 ~~of this Part~~ (the program shall include management evaluation of audits);

4) Prepare the appropriate NRC Uniform Low-Level Radioactive Waste Manifest form as required by this Part;

5) Forward a copy or electronically transfer the Uniform Low-Level Radioactive Waste Manifest to the intended consignee so that receipt of the manifest precedes the low-level radioactive waste shipment, or the manifest is delivered to the consignee with the waste at the time the waste is transferred to the consignee. Using either or both of these methods is acceptable;

6) Include NRC Form 540 (and NRC Form 540A, if required) with the shipment regardless of the option chosen in subsection (k)(5) ~~of this Section~~;

7) Receive acknowledgement of the receipt of the shipment in the form of a signed copy of NRC Form 540;

8) Retain a copy of or electronically store the Uniform Low-Level Radioactive Waste Manifest and documentation of acknowledgement of receipt as the record of transfer of licensed material as required by the Agency; and

9) For any shipments or any part of a shipment for which acknowledgement of receipt has not been received within the times set forth in this Part, conduct an investigation in accordance with Section 340.1270 ~~of this Part~~.

l) Any waste collector licensee who handles only prepackaged waste shall comply with subsections (l)(1)~~, (l)~~ and (2) and (l)(7) through ~~(l)~~(12) ~~of this Section~~. Any licensed waste processor who treats or repackages waste shall comply with subsections (l)(1) and (l)(3) through ~~(l)~~(12) ~~of this Section~~.

1) Acknowledge receipt of the waste from the shipper within one week after receipt by returning a signed copy of NRC Form 540 to the shipper;

2) Prepare a new manifest to reflect consolidated shipments that meet the requirements of this Part. The waste collector shall ensure that, for each container of waste in the shipment, the manifest identifies the generator of that container of waste;

3) Prepare a new manifest that meets the requirements of this Part. Preparation of the new manifest reflects that the processor is responsible for meeting these requirements. For each container of waste in the

shipment, the manifest shall identify the waste generators, the preprocessed waste volume and the other information required in subsection (i) ~~of this Section~~;

4) Prepare all wastes so that the waste is classified according to Section 340.1052 ~~of this Part~~ and meets the waste characteristics requirements in Section 340.1055 ~~of this Part~~;

5) Label each package of waste to identify whether it is Class A waste, Class B waste or Class C waste, in accordance with Sections 340.1052 and 340.1055 ~~of this Part~~;

6) Conduct a quality assurance program to assure compliance with Sections 340.1052 and 340.1055 ~~of this Part~~ (the program shall include management evaluation of audits);

7) Forward a copy or electronically transfer the Uniform Low-Level Radioactive Waste Manifest to the intended consignee so that receipt of the manifest precedes the low-level radioactive waste shipment, or the manifest is delivered to the consignee with the waste at the time the waste is transferred to the consignee. Using either or both of these methods is acceptable;

8) Include NRC Form 540 (and NRC Form 540A, if required) with the shipment regardless of the option chosen in subsection (l)(7) ~~of this Section~~;

9) Receive acknowledgement of the receipt of the shipment in the form of a signed copy of NRC Form 540;

10) Retain a copy of or electronically store the Uniform Low-Level Radioactive Waste Manifest and documentation of acknowledgement of receipt as the record of transfer of licensed material as required by the Agency;

11) For any shipments or any part of a shipment for which acknowledgement of receipt has not been received within the times set forth in this Part, conduct an investigation in accordance with Section 340.1270 ~~of this Part~~; and

12) Notify the shipper and the Agency when any shipment or part of a shipment has not arrived within 60 days after receipt of an advance manifest, unless notified by the shipper that the shipment has been cancelled.

m) Any licensed land disposal facility operator shall:

1) Acknowledge receipt of low-level radioactive waste within 1 week after receipt by returning, at a minimum, a signed copy of NRC Form 540 to the shipper. The shipper to be notified is the licensee who last possessed the waste and transferred the waste to the operator. If any discrepancy exists between materials listed on the Uniform Low-Level Radioactive Waste Manifest and materials received, copies or electronic transfer of the affected forms shall be returned indicating the discrepancy;

2) Maintain copies of all completed manifests and electronically store the information required by 32 Ill. Adm. Code 606.40 until the Agency terminates the license; and

3) Notify the shipper and the Agency when any shipment or part of a shipment has not arrived within 60 days after receipt of an advance manifest, unless notified by the shipper that the shipment has been cancelled.

(Source: Amended at 3534 Ill. Reg. _____, effective _____)

SUBPART L: RECORDS

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Section 340.1180 Records of Waste Disposal

a) Each licensee shall maintain records of the disposal of licensed materials made pursuant to Sections 340.1020 through ~~, 340.1030, 340.1040, 340.1045, 340.1050,~~ 340.1052 and 340.1060 ~~of this Part~~ and 32 Ill. Adm. Code 601. Each licensee shall also maintain records of disposal by burial in soil, including burials authorized before January 28, 1981, pursuant to 10 CFR 20.304.

AGENCY NOTE: Prior to January 28, 1981, the U.S. Nuclear Regulatory Commission permitted licensees to dispose of small quantities of licensed materials by burial in soil without specific Nuclear Regulatory Commission

authorization. This was authorized pursuant to 10 CFR 20.304, which has been rescinded.

b) The licensee shall retain the records required by subsection (a) ~~of this Part~~ until the Agency terminates each license for which the record is required.

(Source: Amended at 35~~3~~4 Ill. Reg. _____, effective _____)

Section 340.1195 Form of Records (Repealed)

~~Each record required by this Part shall be legible throughout the specified retention period. The record shall be the original or a reproduced copy or a microform provided that the copy or microform is authenticated by authorized personnel. The microform shall be capable of producing a clear copy throughout the required retention period. Records may be stored in electronic media with the capability for producing legible, accurate and complete records during the required retention period. Records, such as letters, drawings and specifications, shall include all pertinent information, such as stamps, initials and signatures. The licensee or registrant shall maintain adequate safeguards against tampering with and loss of records.~~

(Source: Repealed at 35~~3~~4 Ill. Reg. ____, effective _____)

SUBPART M: REPORTS AND NOTIFICATIONS

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Section 340.1220 Notification of Incidents

a) Immediate Notification. Notwithstanding any other requirements for notification, each licensee or registrant shall immediately report to the Agency discovery of an event that prevents immediate protective actions necessary to avoid releases of radioactive material or doses in excess of the regulatory limits, or each event involving a source of radiation possessed by the licensee or registrant that may have caused or threatens to cause any of the following conditions:

1) An individual to receive:

A) A total effective dose equivalent of 0.25 Sv (25 rem) or more; or

B) A lens dose equivalent of 0.75 Sv (75 rem) or more; or

C) A shallow dose equivalent to the skin or extremities or a total organ dose equivalent of 2.5 Gy (250 rad) or more; or

2) The release of radioactive material, inside or outside of a restricted area, so that, had an individual been present for 24 hours, the individual could have received an intake five times the ALI, except the provisions of this subsection (a) do not apply to locations where personnel are not normally stationed during routine operations, such as hot cells or process enclosures.

b) 24 Hour Notification. Each licensee or registrant shall, within 24 hours of discovery of the event, report to the Agency each event involving loss of control of a licensed or registered source of radiation possessed by the licensee or registrant that may have caused, or threatens to cause, any of the following conditions:

1) An individual to receive, in a period of 24 hours:

A) A total effective dose equivalent exceeding 0.05 Sv (5 rem); or

B) A lens dose equivalent exceeding 0.15 Sv (15 rem); or

C) A shallow dose equivalent to the skin or extremities or a total organ dose equivalent exceeding 0.5 Sv (50 rem); or

2) The release of radioactive material, inside or outside of a restricted area, so that, had an individual been present for 24 hours, the individual could have received an intake in excess of one occupational ALI, except the provisions of this subsection (b) do not apply to locations where personnel are not normally stationed during routine operations, such as hot cells or process enclosures.

c) Additional 24 Hour Notifications for Licensees. Each licensee shall notify the Agency within 24 hours after the discovery of any of the following events involving radioactive material:

1) An unplanned contamination event that:

A) Requires access to the contaminated area by workers or the public to be restricted for more than 24 hours by imposing radiological

controls in addition to those established by the licensee prior to the event or by prohibiting entry into the area;

B) Involves a quantity of material greater than five times the lowest annual limit on intake specified in 10 CFR 20, appendix B, published at 72 Fed. Reg. 55922, October 1, 2007~~effective March 27, 2006~~, for the material; and

C) Results in access to the area being restricted for a reason other than to either comply with operating procedures established by the licensee, or to allow radionuclides with a half-life of less than 24 hours to decay prior to decontamination.

2) An event in which equipment is disabled or fails to function as designated when:

A) The equipment is required by regulation or license condition to prevent releases or doses exceeding regulatory limits, or to mitigate the consequences of an accident;

B) The equipment is required to be available and operable when it is disabled or fails to function; and

C) No redundant equipment is available and operable to perform the required safety function.

3) An event that requires unplanned medical treatment at a medical facility of an individual with radioactive contamination on the individual's clothing or body.

4) An unplanned fire or explosion damaging any licensed material or any device, container or equipment containing licensed material when:

A) The quantity of material involved is greater than five times the lowest annual limit on intake specified in 10 CFR 20, appendix B, published at 72 Fed. Reg. 55922, October 1, 2007~~effective March 27, 2006~~, for the material; and

B) The damage affects the integrity of the licensed material or its container.

d) Licensees or registrants shall make the reports required by subsections (a) through~~, (b) and~~ (c)~~ of this Section~~ by initial contact by telephone to the Agency and shall confirm the initial contact within 24 hours by overnight letter or telefacsimile to the Agency.

e) The licensee or registrant shall prepare each written report filed with the Agency pursuant to this Section so that names of individuals who have received exposure to sources of radiation are stated in a separate and detachable portion of the report.

f) The provisions of this Section do not apply to doses that result from planned special exposures, provided such doses are within the limits for planned special exposures and are reported pursuant to Section 340.1240~~ of this Part~~.

(Source: Amended at 35~~34~~ Ill. Reg. _____, effective _____)

Section 340.1250 Notifications and Reports to Individuals

a) Requirements for notification and reports to individuals of exposure to radiation or radioactive material are specified in 32 Ill. Adm. Code 400.130.

b) When a licensee or registrant is required by~~pursuant to~~ Section 340.1230 or 340.1240~~of this Part~~ to report to the Agency an~~y~~ exposure of an individual to radiation or radioactive material, the licensee or registrant shall also notify the individual. The~~Such~~ notice shall be transmitted at a time not later than the transmittal to the Agency~~,~~ and shall comply with the provisions of 32 Ill. Adm. Code 400.130(a).

(Source: Amended at 35~~34~~ Ill. Reg. _____, effective _____)

Section 340.APPENDIX A Decontamination Guidelines

a) Surface Contamination Guide

Alpha Emitters:

Removable	555 mBq (15 pCi) per 100 cm^2 33~~22~~ dpm per 100 cm^2	average over any one surface

	1.67 Bq (45 pCi) per 100 cm^2 100 dpm per 100 cm^2	maximum
Total Fixed	16.7 Bq (450 pCi) per 100 cm^2 1,000 dpm per 100 cm^2	average over any one surface
	83.3 Bq (2,250 pCi) per 100 cm^2 5,000 dpm per 100 cm^2	maximum
Beta-Gamma Emitters:		
Removable (all beta-gamma emitters except hydrogen-3)	3.7 Bq (100 pCi) per 100 cm^2 222 dpm per 100 cm^2	average over any one surface
	18.5 Bq (500 pCi) per 100 cm^2 1,110 dpm~~mp~~ per 100 cm^2	maximum
Removable (hydrogen-3)	37 Bq (1,000 pCi) per 100 cm^2 2,220 dpm per 100 cm^2	average over any one surface
	185 Bq (5,000 pCi) per 100 cm^2	maximum
Total Fixed	2.5 microSv (250 microrem) per hour at 1 cm from surface	

b) Concentration in air and water: ~~appendix B,~~ tables I and II of appendix B to 10 CFR 20, published at 72 Fed. Reg. 55922, October 1, 2007.

c) Concentrations in soil and other materials except water:

1) Radioactive material except source material and radium: Column II of 32 Ill. Adm. Code 330.Appendix A.

2) Source material and radium: Concentration of radionuclides above background concentrations for total radium, averaged over areas of 100 square meters, shall not exceed:

A) 185 mBq (5 pCi) per gram of dry soil, averaged over the first 15 centimeters below the surface; and

B) 185 mBq (5 pCi) per gram of dry soil, averaged over layers of 15 centimeters thickness more than 15 centimeters below the surface.

d) The level of gamma radiation measured at a distance of 100 centimeters from the surface shall not exceed background.

AGENCY NOTE: This appendix~~Appendix A~~ shall be used only as a guide. The Agency may require lower values in specific instances, depending upon radionuclides, type of surface, intended present and future use, etc.

(Source: Amended at 35~~34~~ Ill. Reg. _____, effective _____)