This is an amendment to 20.3.4 NMAC, Sections 7, 405, 409, 440 and 457 effective xx/xx/2011.

20.3.4.7 DEFINITIONS:

A. "Absorbed dose" means the energy imparted by ionizing radiation per unit mass of irradiated material. The units of absorbed dose are the gray (Gy) and the rad.

B. "Activity" means the rate of disintegration or transformation or decay of radioactive material. The units of activity are the becquerel (Bq) and the curie (Ci).

C. "Adult" means an individual 18 or more years of age.

D. "Airborne radioactive material" means any radioactive material dispersed in the air in the form of dusts, fumes, particulates, mists, vapors or gases.

E. "Airborne radioactivity area" means a room, enclosure or area in which airborne radioactive materials exist in concentrations:

(1) in excess of the derived air concentrations (DAC) specified in table I of 20.3.4.461 NMAC; or

(2) to such a degree that an individual 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 annual limit on intake (ALI) or 12 DAC-hours.

F. "Air-purifying respirator" 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.

G. "ALARA" (acronym for "as low as is reasonably achievable") means making every reasonable effort to maintain exposures to radiation as far below the dose limits in these regulations as is practical, consistent with the purpose for which the licensed or registered activity is undertaken, taking into account the state of technology, the economics of improvements in relation to state of technology, the economics of improvements in relation to benefits to the public health and safety and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed or registered sources of radiation in the public interest.

H. "ALI" (annual limit on intake) 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 rems (0.05 sievert) or a committed dose equivalent of 50 rems (0.5 sievert) to any individual organ or tissue. ALI values for intake by ingestion and by inhalation of selected radionuclides are given in columns 1 and 2 of table I of 20.3.4.461 NMAC.

I. "APF" (assigned protection factor) means the expected workplace level of respiratory protection that would be provided by a properly functioning respirator or a class of respirators to properly fitted and trained users. Operationally, the inhaled concentration can be estimated by dividing the ambient airborne concentration by the APF.

J. "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.

K. "Background radiation" means radiation from cosmic sources; naturally occurring radioactive material as it occurs in nature, including radon (except as a decay product of source or special nuclear material); and global fallout as it exists in the environment from the testing of nuclear explosive devices or from past nuclear accidents such as Chernobyl that contribute to background radiation and are not under the control of the licensee. *Background radiation* does not include radiation from radioactive material regulated by the department or NRC.

L. "Bioassay" (radiobioassay) 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 by analysis and evaluation of materials excreted or removed from the human body.

M. "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.

N. "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.

O. "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.

P. "Committed effective dose equivalent" ($H_{E,50}$) is 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 ($H_{E,50} = \{\text{sum over T}\} w_T H_{T,50}$).

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

R. "Controlled area" means an area, outside of a restricted area but inside the site boundary, access to which can be limited by the licensee for any reason.

S. "Critical Group" means the group of individuals reasonably expected to receive the greatest exposure to residual radioactivity for any applicable set of circumstances.

T. "DAC" means the derived air concentration.

U. "DAC-hour" means the derived air concentration - hour.

V. "Declared pregnant woman" means a woman who has voluntarily informed the licensee, in writing, of her pregnancy and the estimated date of conception. The declaration remains in effect until the declared pregnant woman withdraws the declaration in writing or is no longer pregnant.

W. "Deep dose equivalent" (H_d), which applies to external whole body exposure, means the dose equivalent at a tissue depth of 1 centimeter (1000 mg/cm^2).

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

Y. "Derived air concentration" (DAC) means the concentration of a given radionuclide in air which, if breathed by 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. DAC values are given in column 3 of table I of 20.3.4.461 NMAC.

Z. "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 take 2,000 DAC-hours to represent one ALI, equivalent to a committed effective dose equivalent of 5 rems (0.05 sievert).

AA. "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).

AB. "Distinguishable from background" means that the detectable concentration of a radionuclide is statistically different from the background concentration of that radionuclide in the vicinity of the site or, in the case of structures, in similar materials using adequate measurement technology, survey and statistical techniques.

AC. "Dose" (radiation dose) is a generic term that means absorbed dose, dose equivalent, effective dose equivalent, committed dose equivalent, committed effective dose equivalent, total organ dose equivalent or total effective dose equivalent.

AD. "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 sievert (Sv) and rem.

AE. "Dose limits" (limits) means the permissible upper bounds of radiation doses established in accordance with these regulations.

AF. "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.

AG. "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 (T) that are irradiated ($H_E = \{\text{sum over T}\} w_T H_T$).

AH. "Embryo/fetus" means the developing human organism from conception until the time of birth.

AI. "Entrance or access point" means any opening through which an individual could gain access to radiation areas or to radioactive materials. This includes entry or exit portals of sufficient size to permit human entry, irrespective of their intended use.

AJ. "Exposure" means being exposed to ionizing radiation or to radioactive material. Exposure also means the quotient of dQ divided by dm where "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 "dm" are completely stopped by air. The special unit of exposure is the roentgen (R). The SI unit of exposure is the coulomb per kilogram (C/kg) (see 20.3.4.8 NMAC).

AK. "Exposure rate" means the exposure per unit of time, such as roentgen per minute and milliroentgen per hour.

AL. "External dose" means that portion of the dose equivalent received from any source of radiation outside the body.

AM. "Extremity" means hand, elbow, arm below the elbow, foot, knee and leg below the knee.

AN. "Eye dose equivalent" means the external dose equivalent to the lens of the eye at a tissue depth of 0.3 centimeter (300 mg/cm^2).

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

AP. "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.

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

AR. "Generally applicable environmental radiation standards" means standards issued by the EPA under the authority of the Atomic Energy Act that impose limits on radiation exposures or levels, and 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.

AS. "Gray" (Gy) means the SI unit of absorbed dose. One gray is equal to an absorbed dose of 1 joule per kilogram (1 gray=100 rads).

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

AU. "High radiation area" means an area, accessible to individuals, in which radiation levels from radiation sources external to the body could result in an individual receiving a dose equivalent in excess of 0.1 rem (1 millisievert) in 1 hour at 30 centimeters from the radiation source or 30 centimeters from any surface that the radiation penetrates.

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

AW. "Individual monitoring" means the assessment of:

(1) dose equivalent by the use of individual monitoring devices designed to be worn by an individual; or

(2) committed effective dose equivalent by bioassay or by determination of the time-weighted air concentrations to which an individual has been exposed, that is, DAC-hours; or

(3) dose equivalent by the use of survey data.

AX. "Individual monitoring devices" (individual monitoring equipment) means devices designed to be worn by a single individual for the assessment of dose equivalent, such as film badges, thermoluminescence dosimeters (TLDs), pocket ionization chambers and personal ("lapel") air sampling devices.

AY. "Inhalation class" (see "class").

AZ. "Internal dose" means that portion of the dose equivalent received from radioactive material taken into the body.

BA. "Lens dose equivalent" (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).

BB. "Limits" (see "dose limits").

BC. "Loose-fitting facepiece" means a respiratory inlet covering that is designed to form a partial seal with the face.

BD. "Lung class" (see "class").

BE. "Member of the public" means any individual except when that individual is receiving an occupational dose.

BF. "Minor" means an individual less than 18 years of age.

BG. "Monitoring" (radiation monitoring, radiation protection monitoring) means the measurement of radiation, radioactive material concentrations, surface area activities or quantities or radioactive material and the use of the results of these measurements to evaluate potential exposures and doses.

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

BI. "Nationally tracked source" is a sealed source containing a quantity equal to or greater than category 1 or category 2 levels of any radioactive material listed in 20.3.4.467 NMAC. In this context a sealed source is defined as radioactive material that is sealed in a capsule or closely bonded, in a solid form and which is not exempt from regulatory control. It does not mean material encapsulated solely for disposal, or nuclear material contained in any fuel assembly, subassembly, fuel rod or fuel pellet. Category 1 nationally tracked sources are those containing radioactive material at a quantity equal to or greater than the category 1 threshold. Category 2 nationally tracked sources are those containing radioactive material at a quantity equal to or greater than the category 2 threshold but less than the category 1 threshold.

BJ. "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.

BK. "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, registrant or other person. Occupational dose does not include dose received from background radiation; from any medical administration the individual has received; from exposure to individuals administered radioactive materials and released under Subsection I of 20.3.7.703 NMAC; from voluntary participation in medical research programs; or as a member of the public.

BL. "Personnel monitoring equipment" (see "individual monitoring devices").

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

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

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

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

BQ. "Public dose" means the dose received by a member of the public from exposure to radiation or radioactive material released by a licensee or registrant, or to any other sources of radiation under the control of a licensee or registrant. Public dose does not include: occupational dose; dose received from background radiation; dose received from any medical administration the individual has received; dose received from exposure to individuals administered radioactive material and released under Subsection I of 20.3.7.703 NMAC; or dose received from voluntary participation in medical research programs.

BR. "Pyrophoric material" means any liquid that ignites spontaneously in dry or moist air at or below 130 degrees fahrenheit (54.4 degrees celsius) or any solid material, other than one classed as an explosive, which under normal conditions is liable to cause fires through friction, retained heat from manufacturing or processing, or which can be ignited readily and, when ignited, burns so vigorously and persistently as to create a serious transportation, handling or disposal hazard. Included are spontaneously combustible and water-reactive materials.

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

BT. "Quality factor" (Q) means the modifying factor, listed in table 8.1 of Subsection C of 20.3.4.8 NMAC and table 8.2 of Subsection D of 20.3.4.8 NMAC, that is used to derive dose equivalent from absorbed dose.

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

BV. "Quarter" means a period of time equal to one-fourth of the year observed by the licensee, approximately 13 consecutive weeks, providing that the beginning of the first quarter in a year coincides with the starting date of the year and that no day is omitted or duplicated in consecutive quarters.

BW. "Radiation area" means any area, accessible to individuals in which radiation levels could result in an individual receiving a dose equivalent in excess of 0.005 rem (0.05 millisievert) in 1 hour at 30 centimeters from the source of radiation or from any surface that the radiation penetrates.

BX. "Radiation dose" (see "dose").

BY. "Radiobioassay" (see "bioassay").

BZ. "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 employees to standardize results of experiments and to relate biological insult to a common base. A description of reference man is contained in the international commission on radiological protection report (ICRP), publication 23, *report of the task group on reference man.*

CA. "Residual radioactivity" means radioactivity in structures, materials, soils, groundwater and other media at a site resulting from activities under the licensee's control. This includes radioactivity from all licensed and unlicensed sources used by the licensee, but excludes background radiation. It also includes radioactive materials remaining at the site as a result of routine or accidental releases of radioactive material at the site and previous burials at the site, even if those burials were made in accordance with the provisions of this part.

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

CC. "Restricted area" means an area, access to which is limited by the licensee or registrant for purposes of protection of individuals against undue risks from exposure to sources of radiation. Restricted area does not include areas used as residential quarters, but separate rooms in a residential building may be set apart as a restricted area.

CD. "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 or registrant.

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

CF. "Shallow-dose equivalent" (H_s), which applies to the external exposure of the skin of the whole body or the skin of an extremity, is taken as the dose equivalent at a tissue depth of 0.007 centimeter (7 mg/cm^2).

CG. "SI" means the international system of units.

CH. "Site boundary" means that line beyond which the land or property is not owned, leased or otherwise controlled by the licensee or registrant.

CI. "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.

CJ. "Supplied-air respirator" (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.

CK. "TEDE" (total effective dose equivalent) means the sum of the [~~deep~~]effective dose equivalent for external exposures and the committed effective dose equivalent for internal exposures.

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

CM. "TODE" (total organ dose equivalent) means the sum of the deep dose equivalent and the committed dose equivalent to the organ receiving the highest dose as described in Paragraph (6) of Subsection A of 20.3.4.446 NMAC.

CN. "Unrestricted area" means an area, access to which is neither limited nor controlled by the licensee or registrant.

CO. "User seal check" (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.

CP. "Very high radiation area" means an area, accessible to individuals, in which radiation levels from radiation sources external to the body could result in an individual receiving an absorbed dose in excess of 500 rads (5 grays) in 1 hour at 1 meter from a radiation source or 1 meter from any surface that the radiation penetrates.

CQ. "Waste disposal site operators" means persons licensed to dispose of radioactive waste.

CR. "Waste handling licensees" means persons licensed to receive and store radioactive wastes prior to disposal or persons licensed to dispose of radioactive waste.

CS. "Week" means 7 consecutive days starting on Sunday.

CT. "Weighting factor" ($w_{T)}$ for an organ or tissue (T) means the proportion of the risk of stochastic effects resulting from irradiation of that organ or tissue 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:

TABLE 7.1
ORGAN DOSE WEIGHTING FACTORS

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[1]
Whole Body	1.00[2]

Table 7.1 notes:

[1] 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.

[2] 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. The use of other weighting factors for external exposure will be approved on a case-by-case basis until such time as specific guidance is issued.

CU. "Whole body" means, for purpose of external exposure, head, trunk including male gonads, arms above the elbow or legs above the knee.

CV. "Worker" means an individual engaged in work under a license or registration issued by the department and controlled by a licensee or registrant, but does not include the licensee or registrant.

CW. "Working level" (WL) means any combination of short-lived radon daughters in 1 liter of air that will result in the ultimate emission of 1.3E+5 megaelectronvolts of potential alpha particle energy. The short-lived radon daughters are for radon-222: polonium-218, lead-214, bismuth-214 and polonium-214; and for radon-220: polonium-216, lead-212, bismuth-212 and polonium-212.

CX. "Working level month" (WLM) means exposure to 1 working level for 170 hours (2,000 working hours per year divided by 12 months per year is approximately equal to 170 hours per month).

CY. "Year" means the period of time beginning in January used to determine compliance with the provisions of these regulations. The licensee or registrant may change the starting date of the year used to determine compliance by the licensee or registrant provided that the change is made at the beginning of the year and that no day is omitted or duplicated in consecutive years.

[20.3.4.7 NMAC - Rp, 20.3.4.7 NMAC, 04/30/2009]

20.3.4.405 OCCUPATIONAL DOSE LIMITS FOR ADULTS:

A. Annual Limits. The licensee or registrant shall control the occupational dose to individual adults, except for planned special exposures pursuant to 20.3.4.410 NMAC, to the following dose limits:

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

(a) the total effective dose equivalent being equal to 5 rems (0.05 sievert); 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 50 rems (0.5 sievert); and

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

(a) a lens dose equivalent of 15 rems (0.15 sievert); and

(b) a shallow dose equivalent of 50 rems (0.5 sievert) to the skin of the whole body or to the skin of 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 Subsection E of 20.3.4.410 NMAC).

C. Determining, Assessing and Assigning Dose Equivalent.

(1) When the external exposure is determined by measurement with an external personal monitoring device, the deep-dose equivalent must be used in place of the effective dose equivalent, unless the effective dose equivalent is determined by a dosimetry method approved by the NRC. The assigned deep-dose equivalent must be for the part of the body receiving the highest exposure. ~~[The assigned deep dose equivalent shall be for the part 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 exposure.]~~The assigned shallow-dose equivalent must be the dose averaged over the contiguous 10 square centimeters of skin receiving the highest exposure. 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.

(2) Working with Fluoroscopic Equipment. When a protective apron is worn while working with medical fluoroscopic equipment and monitoring is conducted as specified in Paragraph (5) of Subsection A of 20.3.4.417 NMAC, the effective dose equivalent for external radiation shall be determined as follows:

(a) when only one individual monitoring device is used and it is located at the neck outside the protective apron, the reported deep dose equivalent shall be the effective dose equivalent for external radiation; or

(b) when only one individual monitoring device is used and it is located at the neck outside the protective apron, and the reported dose exceeds 25 percent of the limit specified in Subsection A of this section, the reported deep dose equivalent value multiplied by 0.3 shall be the effective dose equivalent for external radiation; or

(c) when individual monitoring devices are worn, both under the protective apron at the waist and outside the protective apron at the neck, the effective dose equivalent for external radiation shall be assigned the value of the sum of the deep dose equivalent reported for the individual monitoring device located at the waist under the protective apron multiplied by 1.5 and the deep dose equivalent reported for the individual monitoring device located at the neck outside the protective apron multiplied by 0.04.

D. DAC and ALI. Derived air concentration (DAC) and annual limit on intake (ALI) values are specified in table I of 20.3.4.461 NMAC, and may be used to determine the individual's dose and to demonstrate compliance with the occupational dose limits.

E. Uranium Limits. 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 table note 3 of 20.3.4.461 NMAC.)

F. Prior Dose. 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 20.3.4.409 NMAC).

[20.3.4.405 NMAC - Rp, 20.3.4.405 NMAC, 04/30/2009]

20.3.4.409 DETERMINATION OF PRIOR OCCUPATIONAL DOSE:

A. For each individual who may enter the licensee's or registrant's restricted area and is likely to receive, in a year, an occupational dose requiring monitoring pursuant to 20.3.4.417 NMAC, the licensee or registrant shall determine the occupational radiation dose received during the current year.[~~:~~

~~**(1)** determine the occupational radiation dose received during the current year; and~~

~~**(2)** attempt to obtain the records of lifetime cumulative occupational radiation dose.~~]

B. Prior to permitting an individual to participate in a planned special exposure, the licensee or registrant shall determine:

(1) the internal and external doses from all previous planned special exposures; and

(2) all doses in excess of the limits, including doses received during accidents and emergencies, received during the lifetime of the individual.

C. In complying with the requirements of Subsections A or B[~~Subsection A~~] of this section, a licensee or registrant may:

(1) accept, as a record of the occupational dose that the individual received during the current year, a written signed statement from the individual, or from the individual's most recent employer for work involving radiation exposure, that discloses the nature and the amount of any occupational dose that the individual received during the current year; and

(2) accept, as the record of lifetime cumulative radiation dose, a form *cumulative occupational dose history* or equivalent, signed by the individual and countersigned by an appropriate official of the most recent employer for work involving radiation exposure, or the individual's current employer, if the individual is not employed by the licensee or registrant; and

(3) obtain reports of the individual's dose equivalent from the most recent employer for work involving radiation exposure, or the individual's current employer, if the individual is not employed by the licensee or registrant, by telephone, telegram, facsimile or letter; the licensee or registrant shall request a written verification of the dose data if the authenticity of the transmitted report cannot be established.

D. Recording Exposure History.

(1) The licensee or registrant shall record the exposure history of each individual, as required by Subsections A or B[~~Subsection A~~] of this section, on department form *cumulative occupational dose history*, or other clear and legible record, ~~and~~[including] all the information required [~~on~~]by that form. The form or record shall show each period in which the individual received occupational exposure to radiation or radioactive material and shall be signed by the individual who received the exposure. For each period for which the licensee or registrant obtains reports, the licensee or registrant shall use the dose shown in the report in preparing department form *cumulative occupational dose history* or equivalent. For any period in which the licensee or registrant does not obtain a report, the licensee or registrant shall place a notation on department form *cumulative occupational dose history* or equivalent indicating the periods of time for which data are not available.

(2) Licensees or registrants are not required to partition historical dose between external dose equivalent(s) and internal committed dose equivalent(s). Further, occupational exposure histories obtained and recorded on department form *cumulative occupational dose history* or equivalent before the effective date of these regulations, might not have included effective dose equivalent, but may be used in the absence of specific information on the intake of radionuclides by the individual.

E. If the licensee or registrant is unable to obtain a complete record of an individual's current and previously accumulated occupational dose, the licensee or registrant shall assume:

(1) in establishing administrative controls pursuant to Subsection F of 20.3.4.405 NMAC for the current year, that the allowable dose limit for the individual is reduced by 1.25 rems (12.5 millisieverts) for each quarter for which records were unavailable and the individual was engaged in activities that could have resulted in occupational radiation exposure; and

(2) that the individual is not available for planned special exposures.

F. The licensee or registrant shall retain the records on department form *cumulative occupational dose history* or equivalent until the department terminates each pertinent license or registration requiring this record. The licensee or registrant shall retain records used in preparing department form *cumulative occupational dose history* or equivalent for 3 years after the record is made. [20.3.4.409 NMAC - Rp, 20.3.4.409 NMAC, 04/30/2009]

20.3.4.440 RECORDS - GENERAL PROVISIONS:

A. Each licensee or registrant shall use the units: curie, rad, rem, including multiples and subdivisions, and shall clearly indicate the units of all quantities on records required by this part.

B. In the records required by this part, the licensee or registrant may record quantities in SI units in parentheses following each of the units specified in Subsection A of this section. However, all quantities must be recorded as stated in Subsection A of this section.

C. Notwithstanding the requirements of Subsection A of this section, when recording information on shipment manifests, as required in Subsection B of 20.3.4.438 NMAC, information must be recorded in the International System of Units (SI)[~~SI~~], or in SI and the units as specified in Subsection A of this section.

D. The licensee or registrant shall make a clear distinction among the quantities entered on the records required by this part (e.g., total effective dose equivalent, shallow-dose equivalent, lens dose equivalent, deep-dose equivalent, committed effective dose equivalent).

[20.3.4.440 NMAC - Rp, 20.3.4.440 NMAC, 04/30/2009]

20.3.4.457 NOTIFICATIONS AND REPORTS TO INDIVIDUALS OF EXCEEDING DOSE LIMITS:

A. Requirements for notification and reports to individuals of exposure to radiation or radioactive material are specified in 20.3.10.1003 NMAC.

B. When a licensee or registrant is required pursuant to the provisions of 20.3.4.453 NMAC or 20.3.4.454 NMAC[~~or 20.3.4.456 NMAC~~] to report to the department any exposure of an identified occupationally exposed individual, or an identified member of the public, to radiation or radioactive material, the licensee or registrant shall also provide a copy of the report submitted to the department to the individual. This report must be transmitted at a time not later than the transmittal to the department, and shall comply with the provisions of 20.3.10.1003 NMAC.

[20.3.4.457 NMAC - Rp, 20.3.4.457 NMAC, 04/30/2009]