

# TEXAS REGISTER

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How to Use the Texas Register

Information Available. The 11 sections of the Texas Register represent various facets of state government. Documents contained within them include:

Governor - Appointments, executive orders, and proclamations.

Attorney General - summaries of requests for opinions, opinions, and open records decisions.

Secretary of State - opinions based on the election laws.

Texas Ethics Commission - summaries of requests for opinions and opinions.

Emergency Rules- sections adopted by state agencies on an emergency basis.

Proposed Rules - sections proposed for adoption.

Withdrawn Rules - sections withdrawn by state agencies from consideration for adoption, or automatically withdrawn by the Texas Register six months after the proposal publication date.

Adopted Rules - sections adopted following a 30-day public comment period.

Tables and Graphics - graphic material from the proposed, emergency and adopted sections.

Open Meetings - notices of open meetings.

In Addition - miscellaneous information required to be published by statute or provided as a public service.

Specific explanation on the contents of each section can be found on the beginning page of the section. The division also publishes cumulative quarterly and annual indexes to aid in researching material published.

How to Cite: Material published in the Texas Register is referenced by citing the volume in which the document appears, the words "TexReg" and the beginning page number on which that document was published. For example, a document published on page 2402 of Volume 20 (1995) is cited as follows: 20 TexReg 2402.

In order that readers may cite material more easily, page numbers are now written as citations. Example: on page 2 in the lower-left hand corner of the page, would be written "20 TexReg 2 issue date," while on the opposite page, page 3, in the lower right-hand corner, would be written "issue date 20 TexReg 3."

How to Research: The public is invited to research rules and information of interest between 8 a.m. and 5 p.m. weekdays at the Texas Register office, Room 245, James Earl Rudder Building, 1019 Brazos, Austin. Material can be found using Texas Register indexes, the Texas Administrative Code, section numbers, or TRD number.

Texas Administrative Code

The Texas Administrative Code (TAC) is the official compilation of all final state agency rules published in the Texas Register. Following its effective date, a rule is entered into the Texas Administrative Code. Emergency rules, which may be adopted by an agency on an interim basis, are not codified within the TAC. West Publishing Company, the official publisher of the TAC, publishes on an annual basis.

The TAC volumes are arranged into Titles (using Arabic numerals) and Parts (using Roman numerals).

The Titles are broad subject categories into which the agencies are grouped as a matter of convenience. Each Part represents an individual state agency. The Official TAC also is available on WESTLAW, West's computerized legal research service, in the TX-ADC database.

To purchase printed volumes of the TAC or to inquire about WESTLAW access to the TAC call West: 1-800-328-9352.

The Titles of the TAC, and their respective Title numbers are:

- 1. Administration
4. Agriculture
7. Banking and Securities
10. Community Development
13. Cultural Resources
16. Economic Regulation
19. Education
22. Examining Boards
25. Health Services
28. Insurance
30. Environmental Quality
31. Natural Resources and Conservation
34. Public Finance
37. Public Safety and Corrections
40. Social Services and Assistance
43. Transportation

How to Cite: Under the TAC scheme, each section is designated by a TAC number. For example in the citation 1 TAC §27.15:

1 indicates the title under which the agency appears in the Texas Administrative Code; TAC stands for the Texas Administrative Code; §27.15 is the section number of the rule (27 indicates that the section is under Chapter 27 of Title 1; 15 represents the individual section within the chapter).

How to update: To find out if a rule has changed since the publication of the current supplement to the Texas Administrative Code, please look at the Table of TAC Titles Affected. The table is published cumulatively in the blue-cover quarterly indexes to the Texas Register (January 21, April 15, July 12, and October 11, 1994). In its second issue each month the Texas Register contains a cumulative Table of TAC Titles Affected for the preceding month. If a rule has changed during the time period covered by the table, the rule's TAC number will be printed with one or more Texas Register page numbers, as shown in the following example.

TITLE 40. SOCIAL SERVICES AND ASSISTANCE
Part 1. Texas Department of Human Services
40 TAC §3.704.....950, 1820

The Table of TAC Titles Affected is cumulative for each volume of the Texas Register (calendar year).

Update by FAX: An up-to-date Table of TAC Titles Affected is available by FAX upon request. Please specify the state agency and the TAC number(s) you wish to update. This service is free to Texas Register subscribers. Please have your subscription number ready when you make your request. For non-subscribers there will be a fee of \$2.00 per page (VISA, MasterCard). (512) 463-5561.

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# TABLES AND GRAPHICS

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Graphic material from the emergency, proposed, and adopted sections is published separately in this tables and graphics section. Graphic material is arranged in this section in the following order: Title Number, Part Number, Chapter Number and Section Number.

Graphic material is indicated in the text of the emergency, proposed, and adopted rules by the following tag: the word "Figure" followed by the TAC citation, rule number, and the appropriate subsection, paragraph, subparagraph and so on. Multiple graphics in a rule are designated as "Figure 1" followed by the TAC citation, "Figure 2" followed by the TAC citation.

Figure 1: 25 TAC §289.202(c)(17)

<u>ORGAN DOSE WEIGHTING FACTORS</u>	
<u>Organ or Tissue</u>	<u>w<sub>T</sub></u>
Gonads	0.25
Breast	0.15
Red bone marrow	0.12
Lung	0.12
Thyroid	0.03
Bone surfaces	0.03
Remainder	0.30*
<hr/>	
Whole Body	1.00**

\* 0.30 results from 0.06 for each of five "remainder" organs, excluding the skin and the lens of the eye, that receive the highest doses.

\*\* 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.

Figure 2: 25 TAC §289.202(z)(1)

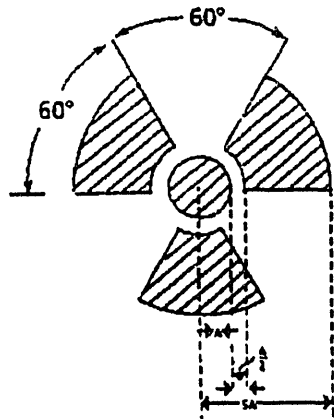


Figure 3: 25 TAC §289.202(ee)(4)(ii)

Contaminant	Maximum Permissible Limits	
	$\mu\text{Ci}/\text{cm}^2$ *	dpm/cm <sup>2</sup>
Beta-gamma emitting radionuclides; all radionuclides with half-lives less than 10 days; natural uranium; natural thorium; uranium-235; uranium-238; thorium-232; thorium-228; and thorium-230 when contained in ores or physical concentrates.....	$10^{-5}$	22
All other alpha emitting radionuclides.....	$10^{-6}$	2.2

\* To convert microcuries ( $\mu\text{Ci}$ ) to SI units of kilobecquerels, multiply the values by 37.



Protection factors for respirators<sup>a</sup>

Description <sup>b</sup>	Protection Factors <sup>d</sup>		Tested & Certified Equipment
	Modes <sup>c</sup>	Particulates only	
		Particulates, gases, vapors <sup>e</sup>	National Institute for Occupational Safety and Health & Mine Safety and Health Administration tests for permissibility

AIR-PURIFYING RESPIRATORS<sup>f</sup>

Facepiece, half-mask <sup>g</sup>	NP	10	30 CFR 11, Subpart K.
Facepiece, full	NP	50	
Facepiece, half-mask, full, or hood	PP	1,000	

I. ATMOSPHERE-SUPPLYING RESPIRATORS

1. Air-line respirator

Facepiece, half-mask	CF	1,000	30 CFR 11, Subpart J.
Facepiece, half-mask	D	5	
Facepiece, full	CF	2,000	
Facepiece, full	D	5	
Facepiece, full	PD	2,000	
Hood	CF	<sup>h</sup>	
Suit	CF	<sup>i</sup>	

TABLE 4.25 - Protection factors for respirators, 29 CFR 289.202(ggg)(1)

2. Self-contained breathing apparatus (SCBA)

Facepiece, full	D	50	
Facepiece, full	PD	10,000 <sup>k</sup>	30 CFR 11,
Facepiece, full	RD	50	Subpart H.
Facepiece, full	RP	5,000 <sup>l</sup>	

III. COMBINATION RESPIRATORS

Any combination of air-purifying and atmosphere-supplying respirators	Protection factor for type and mode of operation as listed above	30 CFR 11, 11.63(b).
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FOOTNOTES

- (a) For use in the selection of respiratory protective equipment to be used only where the contaminants have been identified and the concentrations, or possible concentrations, are known.
- (b) Only for shaven faces and where nothing interferes with the seal of tight-fitting facepieces against the skin. Hoods and suits are excepted.
- (c) The mode symbols are defined as follows:
  - CF = continuous flow
  - D = demand
  - NP = negative pressure, that is, negative phase during inhalation
  - PD = pressure demand, that is, always positive pressure
  - PP = positive pressure
  - RD = demand, recirculating or closed circuit
  - RP = pressure demand, recirculating or closed circuit
- (d) (1) The protection factor is a measure of the degree of protection afforded by a respirator, defined as the ratio of the concentration of airborne radioactive material outside the respiratory protective equipment to that inside the equipment, usually inside the facepiece, under conditions of use. It is applied to the ambient airborne concentration to estimate the concentrations inhaled by the wearer according to the following formula:

$$\text{Concentration inhaled} = \frac{\text{Ambient airborne concentration}}{\text{Protection factor}}$$

(2) The protection factors apply:

- (i) only for individuals trained in using respirators and wearing properly fitted respirators that are used and maintained under supervision in a well-planned respiratory protective program;
- (ii) for air-purifying respirators only when high efficiency particulate filters, above 99.97% removal efficiency by thermally generated 0.3 micrometer dioctyl phthalate (DOP) test or equivalent, are used in atmospheres not deficient in oxygen and not containing radioactive gas or vapor respiratory hazards;
- (iii) no adjustment is to be made for the use of sorbents against radioactive material in the form of gases or vapors;
- (iv) for atmosphere-supplying respirators only when supplied with adequate respirable air. Respirable air shall be provided of the quality and quantity required in accordance with the NIOSH and the MSHA certification described in 30 CFR 11. Oxygen and air shall not be used in the same apparatus.

(e) Excluding radioactive contaminants that present an absorption or submersion hazard. For tritium oxide, approximately one-third of the intake occurs by absorption through the skin so that an overall protection factor of less than 2 is appropriate when atmosphere-supplying respirators are used to protect against tritium oxide. If the protection factor for respiratory protective equipment is 5, the effective protection factor for tritium is about 1.4; with protection factors of 10, the effective factor for tritium oxide is about 1.7; and with protection factors of 100 or more, the effective factor for tritium oxide is about 1.9. Air-purifying respirators are not suitable for protection against tritium oxide. See also footnote (i) concerning supplied-air suits.

(f) Canisters and cartridges shall not be used beyond service-life limitations.

(g) Under-chin type only. This type of respirator is not satisfactory for use where it might be possible, such as, if an accident or emergency were to occur, for the ambient airborne concentrations to reach instantaneous values greater than 10 times the pertinent values in Column 3 of Table I of subsection (ggg)(2) of this section. This type of respirator is not suitable for protection against plutonium or other high-toxicity materials. The mask is to be tested for fit prior to use, each time it is donned.

- (h) (1) Equipment shall be operated in a manner that ensures that proper air flow-rates are maintained. A protection factor of no more than 1000 may be utilized for tested-and-certified supplied-air hoods when a minimum air flow of 6 ft<sup>3</sup>/min (0.17 m<sup>3</sup>/min) is maintained and calibrated air line pressure gauges or flow measuring devices are used. A protection factor of up to 2000 may be used for tested and certified hoods only when the air flow is maintained at the manufacturer's recommended maximum rate for the equipment, this rate is greater than 6 ft<sup>3</sup>/min (0.17 m<sup>3</sup>/min) and calibrated air line pressure gauges or flow measuring devices are used.
- (2) The design of the supplied-air hood or helmet, with a minimum flow of 6 ft<sup>3</sup>/min (0.17 m<sup>3</sup>/min) of air, may determine its overall efficiency and the protection it provides. For example, some hoods aspirate contaminated air into the breathing zone when the wearer works with hands-over-head. This aspiration may be overcome if a short cape-like extension to the hood is worn under a coat or overalls. Other limitations specified by the approval agency shall be considered before using a hood in certain types of atmospheres. See footnote (i).
- (i) Appropriate protection factors shall be determined, taking into account the design of the suit and its permeability to the contaminant under conditions of use. There shall be a standby rescue person equipped with a respirator or other apparatus appropriate for the potential hazards and communications equipment whenever supplied-air suits are used.
- (j) No approval schedules are currently available for this equipment. Equipment is to be evaluated by testing or on the basis of reliable test information.
- (k) This type of respirator may provide greater protection and be used as an emergency device in unknown concentrations for protection against inhalation hazards. External radiation hazards and other limitations to permitted exposure, such as skin absorption, must be taken into account in such circumstances.
- (l) Quantitative fit testing shall be performed on each individual, and no more than 0.02% leakage is allowed with this type of apparatus. Perceptible outward leakage of gas from this or any positive pressure self-contained breathing apparatus is unacceptable because service life will be reduced substantially. Special training in the use of this type of apparatus shall be provided to the wearer.

Note 1: Protection factors for respirators approved by the United States Bureau of Mines and the NIOSH, according to applicable approvals for respirators for type and mode of use to protect against airborne radionuclides, may be used to the extent that they do not exceed the protection factors listed in this table. The protection factors listed in this table may not be appropriate to circumstances where chemical or other respiratory hazards exist in addition to radioactive hazards. The selection and use of respirators for such circumstances should take into account applicable approvals of the United States Bureau of Mines and the NIOSH.

Note 2: Radioactive contaminants, for which the concentration values in Column 3 of Table I of subsection (ggg)(2) of this section are based on internal dose due to inhalation, may present external exposure hazards at higher concentrations. Under these circumstances, limitations on occupancy may have to be governed by external dose limits.

Figure 5: 25 TAC §289.202(ggg)(2)(B)(vi)

The use of the ALIs listed first, the more limiting of the stochastic and non-stochastic ALIs, will ensure that non-stochastic effects are avoided and that the risk of stochastic effects is limited to an acceptably low value. If, in a particular situation involving a radionuclide for which the non-stochastic ALI is limiting, use of that non-stochastic ALI is considered unduly conservative, the licensee may use the stochastic ALI to determine the committed effective dose equivalent. However, the licensee shall also ensure that the 50 rems (0.5 sievert) dose equivalent limit for any organ or tissue is not exceeded by the sum of the external deep dose equivalent plus the internal committed dose equivalent to that organ, not the effective dose. For the case where there is no external dose contribution, this would be demonstrated if the sum of the fractions of the nonstochastic ALIs ( $ALI_{ns}$ ) that contribute to the committed dose equivalent to the organ receiving the highest dose does not exceed unity, that is,  $\Sigma (\text{intake (in } \mu\text{Ci) of each radionuclide}/ALI_{ns}) \leq 1.0$ . If there is an external deep dose equivalent contribution of  $H_d$ , then this sum must be less than  $1 - (H_d/50)$ , instead of  $\leq 1.0$ .

Figure 6: 25 TAC §289.202(ggg)(2)(B)(viii)

$$\text{DAC} = \text{ALI (in } \mu\text{Ci)} / (2000 \text{ hours per working year} \times 60 \text{ minutes/hour} \times 2 \times 10^4 \text{ ml per minute)} = [\text{ALI} / 2.4 \times 10^9] \mu\text{Ci/ml},$$

where  $2 \times 10^4$  milliliter is the volume of air breathed per minute at work by Reference Man under working conditions of light work.

Figure 7: 25 TAC §289.202(ggg)(2)(E)

Name	Symbol	Atomic Number	Name	Symbol	Atomic Number
Actinium	Ac	89	Polonium	Po	84
Aluminum	Al	13	Potassium	K	19
Americium	Am	95	Praseodymium	Pr	59
Antimony	Sb	51	Promethium	Pm	61
Argon	Ar	18	Protactinium	Pa	91
Arsenic	As	33	Radium	Ra	88
Astatine	At	85	Radon	Rn	86
Barium	Ba	56	Rhodium	Rh	45
Berkelium	Bk	97	Rubidium	Rb	37
Beryllium	Be	4	Ruthenium	Ru	44
Bismuth	Bi	83	Samarium	Sm	62
Bromine	Br	35	Scandium	Sc	21
Cadmium	Cd	48	Selenium	Se	34
Calcium	Ca	20	Silicon	Si	14
Californium	Cf	98	Silver	Ag	47
Carbon	C	6	Sodium	Na	11
Cerium	Ce	58	Strontium	Sr	38
Cesium	Cs	55	Sulfur	S	16
Chlorine	Cl	17	Tantalum	Ta	73
Chromium	Cr	24	Technetium	Tc	43
Cobalt	Co	27	Tellurium	Te	52
Copper	Cu	29	Terbium	Tb	65
Curium	Cm	96	Thallium	Tl	81
Dysprosium	Dy	66	Thorium	Th	90
Einsteinium	Es	99	Thulium	Tm	69
Erbium	Er	68	Tin	Sn	50
Europium	Eu	63	Titanium	Ti	22
Fermium	FM	100	Tungsten	W	74
Fluorine	F	9	Uranium	U	92
Francium	Fr	87	Vanadium	V	23
Gadolinium	Gd	64	Xenon	Xe	54
Gallium	Ga	31	Ytterbium	Yb	70
Germanium	Ge	32	Yttrium	Y	39
Gold	Au	79	Zinc	Zn	30
Hafnium	Hf	72	Zirconium	Zr	40
Holmium	Ho	67			
Hydrogen	H	1			
Indium	In	49			
Iodine	I	53			
Iridium	Ir	77			
Iron	Fe	26			
Krypton	Kr	36			
Lanthanum	La	57			
Lead	Pb	82			
Lutetium	Lu	71			
Magnesium	Mg	12			
Manganese	Mn	25			
Mendelevium	Md	101			
Mercury	Hg	80			
Molybdenum	Mo	42			
Neodymium	Nd	60			
Neptunium	Np	93			
Nickel	Ni	28			
Niobium	Nb	41			
Osmium	Os	76			
Palladium	Pd	46			
Phosphorus	P	15			
Platinum	Pt	78			
Plutonium	Pu	94			



Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Col. 2 Inhalation ALI ( $\mu\text{Ci}$ )	Col. 3 DAC ( $\mu\text{Ci}/\text{ml}$ )	Col. 1 Air ( $\mu\text{Ci}/\text{ml}$ )	Col. 2 Water ( $\mu\text{Ci}/\text{ml}$ )	Monthly Average Concentration ( $\mu\text{Ci}/\text{ml}$ )	
1	Hydrogen-3	Water, DAC includes skin absorption	8E+4	8E+4	2E-5	1E-7	1E-3	1E-2
		Gas (HT or T <sub>2</sub> ) Submersion: Use above values as HT and T <sub>2</sub> oxidize in air and in the body to HTO.						
4	Beryllium-7	W, all compounds except those given for Y, oxides, halides, and nitrates	4E+4	2E+4	9E-6	3E-8	6E-4	6E-3
			-	2E+4	8E-6	3E-8	-	-
4	Beryllium-10	W, see <sup>7</sup> Be	1E+3	2E+2	6E-8	2E-10	-	-
		LLI wall (1E+3)	-	-	-	-	2E-5	2E-4
		Y, see <sup>7</sup> Be	-	1E+1	6E-9	2E-11	-	-
6	Carbon-11 <sup>2</sup>	Monoxide	-	1E+6	5E-4	2E-6	-	-
		Dioxide	-	6E+5	3E-4	9E-7	-	-
		Compounds	4E+5	4E+5	2E-4	6E-7	6E-3	6E-2
6	Carbon-14	Monoxide	-	2E+6	7E-4	2E-6	-	-
		Dioxide	-	2E+5	9E-5	3E-7	-	-
		Compounds	2E+3	2E+3	1E-6	3E-9	3E-5	3E-4
9	Fluorine-18 <sup>2</sup>	D, fluorides of H, Li, Na, K, Rb, Cs, and Fr	5E+4	7E+4	3E-5	1E-7	-	-
		St wall (5E+4)	-	-	-	-	7E-4	7E-3
		W, fluorides of Be, Mg, Ca, Sr, Ba, Ra, Al, Ga, In, Tl, As, Sb, Bi, Fe, Ru, Os, Co, Ni, Pd, Pt, Cu, Ag, Au, Zn, Cd, Hg, Sc, Y, Ti, Zr, V, Nb, Ta, Mn, Tc, and Re	-	9E+4	4E-5	1E-7	-	-
		Y, lanthanum fluoride	-	8E+4	3E-5	1E-7	-	-
11	Sodium-22	D, all compounds	4E+2	6E+2	3E-7	9E-10	6E-6	6E-5
11	Sodium-24	D, all compounds	4E+3	5E+3	2E-6	7E-9	5E-5	5E-4
12	Magnesium-28	D, all compounds except those given for W	7E+2	2E+3	7E-7	2E-9	9E-6	9E-5
		W, oxides, hydroxides, carbides, halides, and nitrates	-	1E+3	5E-7	2E-9	-	-
13	Aluminum-26	D, all compounds except those given for W	4E+2	6E+1	3E-8	9E-11	6E-6	6E-5
		W, oxides, hydroxides, carbides, halides, and nitrates	-	9E+1	4E-8	1E-10	-	-
14	Silicon-31	D, all compounds except those given for W and Y	9E+3	3E+4	1E-5	4E-8	1E-4	1E-3
		W, oxides, hydroxides, carbides, and nitrates	-	3E+4	1E-5	5E-8	-	-
		Y, aluminosilicate glass	-	3E+4	1E-5	4E-8	-	-
14	Silicon-32	D, see <sup>31</sup> Si	2E+3	2E+2	1E-7	3E-10	-	-
		LLI wall (3E+3)	-	-	-	-	4E-5	4E-4
		W, see <sup>31</sup> Si	-	1E+2	5E-8	2E-10	-	-
		Y, see <sup>31</sup> Si	-	5E+0	2E-9	7E-12	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Col. 2 Inhalation ALI ( $\mu\text{Ci}$ )	Col. 3 DAC ( $\mu\text{Ci/ml}$ )	Col. 1 Air ( $\mu\text{Ci/ml}$ )	Col. 2 Water ( $\mu\text{Ci/ml}$ )	Monthly Average Concentration ( $\mu\text{Ci/ml}$ )	
20	Calcium-41	W, all compounds	3E+3 Bone surf (4E+3)	4E+3 Bone surf (4E+3)	2E-6	-	-	6E-4
20	Calcium-45	W, all compounds	2E+3	8E+2	4E-7	1E-9	2E-5	2E-4
20	Calcium-47	W, all compounds	8E+2	9E+2	4E-7	1E-9	1E-5	1E-4
21	Scandium-43	Y, all compounds	7E+3	2E+4	9E-6	3E-8	1E-4	1E-3
21	Scandium-44m	Y, all compounds	5E+2	7E+2	3E-7	1E-9	7E-6	7E-5
21	Scandium-44	Y, all compounds	4E+3	1E+4	5E-6	2E-8	5E-5	5E-4
21	Scandium-46	Y, all compounds	9E+2	2E+2	1E-7	3E-10	1E-5	1E-4
21	Scandium-47	Y, all compounds	2E+3 LLI wall (3E+3)	3E+3	1E-6	4E-9	-	4E-4
21	Scandium-48	Y, all compounds	8E+2	1E+3	6E-7	2E-9	1E-5	1E-4
21	Scandium-49 <sup>2</sup>	Y, all compounds	2E+4	5E+4	2E-5	8E-8	3E-4	3E-3
22	Titanium-44	D, all compounds except those given for W and Y W, oxides, hydroxides, carbides, halides, and nitrates Y, SrTiO	3E+2	1E+1	5E-9	2E-11	4E-6	4E-5
			-	3E+1	1E-8	4E-11	-	-
			-	6E+0	2E-9	8E-12	-	-
22	Titanium-45	D, see <sup>44</sup> Ti W, see <sup>44</sup> Ti Y, see <sup>44</sup> Ti	9E+3	3E+4	1E-5	3E-8	1E-4	1E-3
			-	4E+4	1E-5	5E-8	-	-
			-	3E+4	1E-5	4E-8	-	-
23	Vanadium-47 <sup>2</sup>	D, all compounds except those given for W W, oxides, hydroxides, carbides, and halides	3E+4 St wall (3E+4)	8E+4	3E-5	1E-7	-	4E-3
			-	1E+5	4E-5	1E-7	4E-4	-
23	Vanadium-48	D, see <sup>47</sup> V W, see <sup>47</sup> V	6E+2	1E+3	5E-7	2E-9	9E-6	9E-5
			-	6E+2	3E-7	9E-10	-	-
23	Vanadium-49	D, see <sup>47</sup> V W, see <sup>47</sup> V	7E+4 LLI wall (9E+4)	3E+4 Bone surf (3E+4)	1E-5	-	5E-8	1E-2
			-	2E+4	8E-6	2E-8	1E-3	-
24	Chromium-48	D, all compounds except those given for W and Y W, halides and nitrates Y, oxides and hydroxides	6E+3	1E+4	5E-6	2E-8	8E-5	8E-4
			-	7E+3	3E-6	1E-8	-	-
			-	7E+3	3E-6	1E-8	-	-
24	Chromium-49 <sup>2</sup>	D, see <sup>48</sup> Cr W, see <sup>48</sup> Cr Y, see <sup>48</sup> Cr	3E+4	8E+4	4E-5	1E-7	4E-4	4E-3
			-	1E+5	4E-5	1E-7	-	-
			-	9E+4	4E-5	1E-7	-	-
24	Chromium-51	D, see <sup>48</sup> Cr W, see <sup>48</sup> Cr Y, see <sup>48</sup> Cr	4E+4	5E+4	2E-5	6E-8	5E-4	5E-3
			-	2E+4	1E-5	3E-8	-	-
			-	2E+4	8E-6	3E-8	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Col. 2 Col. 3 Inhalation		Col. 1 Air ( $\mu\text{Ci/ml}$ )	Col. 2 Water ( $\mu\text{Ci/ml}$ )	Monthly Average Concentration ( $\mu\text{Ci/ml}$ )
			ALI ( $\mu\text{Ci}$ )	DAC ( $\mu\text{Ci/ml}$ )			
25	Manganese-51 <sup>2</sup> D, all compounds except those given for W W, oxides, hydroxides, halides, and nitrates	2E+4	5E+4	2E-5	7E-8	3E-4	3E-3
		-	6E+4	3E-5	8E-8	-	-
25	Manganese-52m <sup>2</sup> D, see <sup>51</sup> Mn W, see <sup>51</sup> Mn	3E+4 St wall (4E+4)	9E+4	4E-5	1E-7	-	-
		-	1E+5	4E-5	1E-7	5E-4	5E-3
25	Manganese-52 D, see <sup>51</sup> Mn W, see <sup>51</sup> Mn	7E+2	1E+3	5E-7	2E-9	1E-5	1E-4
		-	9E+2	4E-7	1E-9	-	-
25	Manganese-53 D, see <sup>51</sup> Mn W, see <sup>51</sup> Mn	5E+4	1E+4	5E-6	-	7E-4	7E-3
		-	Bone surf (2E+4)	-	3E-8	-	-
25	Manganese-54 D, see <sup>51</sup> Mn W, see <sup>51</sup> Mn	2E+3	9E+2	4E-7	1E-9	3E-5	3E-4
		-	8E+2	3E-7	1E-9	-	-
25	Manganese-56 D, see <sup>51</sup> Mn W, see <sup>51</sup> Mn	5E+3	2E+4	6E-6	2E-8	7E-5	7E-4
		-	2E+4	9E-6	3E-8	-	-
26	Iron-52 D, all compounds except those given for W W, oxides, hydroxides, and halides	9E+2	3E+3	1E-6	4E-9	1E-5	1E-4
		-	2E+3	1E-6	3E-9	-	-
26	Iron-55 D, see <sup>52</sup> Fe W, see <sup>52</sup> Fe	9E+3	2E+3	8E-7	3E-9	1E-4	1E-3
		-	4E+3	2E-6	6E-9	-	-
26	Iron-59 D, see <sup>52</sup> Fe W, see <sup>52</sup> Fe	8E+2	3E+2	1E-7	5E-10	1E-5	1E-4
		-	5E+2	2E-7	7E-10	-	-
26	Iron-60 D, see <sup>52</sup> Fe W, see <sup>52</sup> Fe	3E+1	6E+0	3E-9	9E-12	4E-7	4E-6
		-	2E+1	8E-9	3E-11	-	-
27	Cobalt-55 W, all compounds except those given for Y Y, oxides, hydroxides, halides, and nitrates	1E+3	3E+3	1E-6	4E-9	2E-5	2E-4
		-	3E+3	1E-6	4E-9	-	-
27	Cobalt-56 W, see <sup>60</sup> Co Y, see <sup>60</sup> Co	5E+2	3E+2	1E-7	4E-10	6E-6	6E-5
		4E+2	2E+2	8E-8	3E-10	-	-
27	Cobalt-57 W, see <sup>60</sup> Co Y, see <sup>60</sup> Co	8E+3	3E+3	1E-6	4E-9	6E-5	6E-4
		4E+3	7E+2	3E-7	9E-10	-	-
27	Cobalt-58m W, see <sup>60</sup> Co Y, see <sup>60</sup> Co	6E+4	9E+4	4E-5	1E-7	8E-4	8E-3
		-	6E+4	3E-5	9E-8	-	-
27	Cobalt-58 W, see <sup>60</sup> Co Y, see <sup>60</sup> Co	2E+3	1E+3	5E-7	2E-9	2E-5	2E-4
		1E+3	7E+2	3E-7	1E-9	-	-
27	Cobalt-60m <sup>2</sup> W, see <sup>60</sup> Co Y, see <sup>60</sup> Co	1E+6 St wall (1E+6)	4E+6	2E-3	6E-6	-	-
		-	3E+6	1E-3	4E-6	2E-2	2E-1

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1 Oral Ingestion ALI (μCi)	Col. 2 Inhalation ALI (μCi)	Col. 3 DAC (μCi/ml)	Col. 1 Air (μCi/ml)	Col. 2 Water (μCi/ml)	Monthly Average Concentration (μCi/ml)	
27	Cobalt-60	W, see <sup>58</sup> Co Y, see <sup>59</sup> Co	5E+2 2E+2	2E+2 3E+1	7E-8 1E-8	2E-10 5E-11	3E-6 -	3E-5 -
27	Cobalt-61 <sup>2</sup>	W, see <sup>58</sup> Co Y, see <sup>59</sup> Co	2E+4 2E+4	6E+4 6E+4	3E-5 2E-5	9E-8 8E-8	3E-4 -	3E-3 -
27	Cobalt-62m <sup>2</sup>	W, see <sup>58</sup> Co  Y, see <sup>59</sup> Co	4E+4 St wall (5E+4) -	2E+5 - 2E+5	7E-5 - 6E-5	2E-7 - 2E-7	- 7E-4 -	- 7E-3 -
28	Nickel-56	D, all compounds except those given for W W, oxides, hydroxides, and carbides Vapor	1E+3 - -	2E+3 1E+3 1E+3	8E-7 5E-7 5E-7	3E-9 2E-9 2E-9	2E-5 - -	2E-4 - -
28	Nickel-57	D, see <sup>58</sup> Ni W, see <sup>59</sup> Ni Vapor	2E+3 - -	5E+3 3E+3 6E+3	2E-6 1E-6 3E-6	7E-9 4E-9 9E-9	2E-5 - -	2E-4 - -
28	Nickel-59	D, see <sup>58</sup> Ni W, see <sup>59</sup> Ni Vapor	2E+4 - -	4E+3 7E+3 2E+3	2E-6 3E-6 8E-7	5E-9 1E-8 3E-9	3E-4 - -	3E-3 - -
28	Nickel-63	D, see <sup>58</sup> Ni W, see <sup>59</sup> Ni Vapor	9E+3 - -	2E+3 3E+3 8E+2	7E-7 1E-6 3E-7	2E-9 4E-9 1E-9	1E-4 - -	1E-3 - -
28	Nickel-65	D, see <sup>58</sup> Ni W, see <sup>59</sup> Ni Vapor	8E+3 - -	2E+4 3E+4 2E+4	1E-5 1E-5 7E-6	3E-8 4E-8 2E-8	1E-4 - -	1E-3 - -
28	Nickel-66	D, see <sup>58</sup> Ni  W, see <sup>59</sup> Ni Vapor	4E+2 LLI wall (5E+2) -	2E+3 - 6E+2 3E+3	7E-7 - 3E-7 1E-6	2E-9 - 9E-10 4E-9	- 6E-6 -	- 6E-5 -
29	Copper-60 <sup>2</sup>	D, all compounds except those given for W and Y  W, sulfides, halides, and nitrates Y, oxides and hydroxides	3E+4 St wall (3E+4) -	9E+4 - 1E+5 1E+5	4E-5 - 5E-5 4E-5	1E-7 - 2E-7 1E-7	- 4E-4 -	- 4E-3 -
29	Copper-61	D, see <sup>60</sup> Cu W, see <sup>60</sup> Cu Y, see <sup>60</sup> Cu	1E+4 - -	3E+4 4E+4 4E+4	1E-5 2E-5 1E-5	4E-8 6E-8 5E-8	2E-4 - -	2E-3 - -
29	Copper-64	D, see <sup>60</sup> Cu W, see <sup>60</sup> Cu Y, see <sup>60</sup> Cu	1E+4 - -	3E+4 2E+4 2E+4	1E-5 1E-5 9E-6	4E-8 3E-8 3E-8	2E-4 - -	2E-3 - -
29	Copper-67	D, see <sup>60</sup> Cu W, see <sup>60</sup> Cu Y, see <sup>60</sup> Cu	5E+3 - -	8E+3 5E+3 5E+3	3E-6 2E-6 2E-6	1E-8 7E-9 6E-9	6E-5 - -	6E-4 - -
30	Zinc-62	Y, all compounds	1E+3	3E+3	1E-6	4E-9	2E-5	2E-4

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Col. 2		Col. 1 Air ( $\mu\text{Ci}/\text{ml}$ )	Col. 2 Water ( $\mu\text{Ci}/\text{ml}$ )	Monthly Average Concentration ( $\mu\text{Ci}/\text{ml}$ )	
			ALI ( $\mu\text{Ci}$ )	DAC ( $\mu\text{Ci}/\text{ml}$ )				
30	Zinc-63 <sup>2</sup>	Y, all compounds	2E+4 St wall (3E+4)	7E+4	3E-5	9E-8	-	-
30	Zinc-65	Y, all compounds	4E+2	3E+2	1E-7	4E-10	5E-6	5E-5
30	Zinc-69m	Y, all compounds	4E+3	7E+3	3E-6	1E-8	6E-5	6E-4
30	Zinc-69 <sup>2</sup>	Y, all compounds	6E+4	1E+5	6E-5	2E-7	8E-4	8E-3
30	Zinc-71m	Y, all compounds	6E+3	2E+4	7E-6	2E-8	8E-5	8E-4
30	Zinc-72	Y, all compounds	1E+3	1E+3	5E-7	2E-9	1E-5	1E-4
31	Gallium-65 <sup>2</sup>	D, all compounds except those given for W	5E+4 St wall (6E+4)	2E+5	7E-5	2E-7	-	-
		W, oxides, hydroxides, carbides, halides, and nitrates	-	2E+5	8E-5	3E-7	9E-4	9E-3
31	Gallium-66	D, see <sup>66</sup> Ga W, see <sup>66</sup> Ga	1E+3 -	4E+3 3E+3	1E-6 1E-6	5E-9 4E-9	1E-5 -	1E-4 -
31	Gallium-67	D, see <sup>67</sup> Ga W, see <sup>67</sup> Ga	7E+3 -	1E+4 1E+4	6E-6 4E-6	2E-8 1E-8	1E-4 -	1E-3 -
31	Gallium-68 <sup>2</sup>	D, see <sup>68</sup> Ga W, see <sup>68</sup> Ga	2E+4 -	4E+4 5E+4	2E-5 2E-5	6E-8 7E-8	2E-4 -	2E-3 -
31	Gallium-70 <sup>2</sup>	D, see <sup>69</sup> Ga W, see <sup>69</sup> Ga	5E+4 St wall (7E+4) -	2E+5 -	7E-5 -	2E-7 -	- 1E-3 -	- 1E-2 -
31	Gallium-72	D, see <sup>69</sup> Ga W, see <sup>69</sup> Ga	1E+3 -	4E+3 3E+3	1E-6 1E-6	5E-9 4E-9	2E-5 -	2E-4 -
31	Gallium-73	D, see <sup>69</sup> Ga W, see <sup>69</sup> Ga	5E+3 -	2E+4 2E+4	6E-6 6E-6	2E-8 2E-8	7E-5 -	7E-4 -
32	Germanium-66	D, all compounds except those given for W W, oxides, sulfides, and halides	2E+4 -	3E+4 2E+4	1E-5 8E-6	4E-8 3E-8	3E-4 -	3E-3 -
32	Germanium-67 <sup>2</sup>	D, see <sup>68</sup> Ge W, see <sup>68</sup> Ge	3E+4 St wall (4E+4) -	9E+4 -	4E-5 -	1E-7 -	- 6E-4 -	- 6E-3 -
32	Germanium-68	D, see <sup>68</sup> Ge W, see <sup>68</sup> Ge	5E+3 -	4E+3 1E+2	2E-6 4E-8	5E-9 1E-10	6E-5 -	6E-4 -
32	Germanium-69	D, see <sup>68</sup> Ge W, see <sup>68</sup> Ge	1E+4 -	2E+4 8E+3	6E-6 3E-6	2E-8 1E-8	2E-4 -	2E-3 -
32	Germanium-71	D, see <sup>68</sup> Ge W, see <sup>68</sup> Ge	5E+5 -	4E+5 4E+4	2E-4 2E-5	6E-7 6E-8	7E-3 -	7E-2 -

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases Sewers
		Col. 1 Oral Ingestion ALI (μCi)	Col. 2	Col. 3	Col. 1 Air (μCi/ml)	Col. 2 Water (μCi/ml)	Monthly Average Concentration (μCi/ml)
			Inhalation				
		ALI (μCi)	ALI (μCi)	DAC (μCi/ml)			
32 Germanium-75 <sup>2</sup>	D, see <sup>66</sup> Ge	4E+4	8E+4	3E-5	1E-7	-	-
	St wall (7E+4)	-	-	-	-	9E-4	9E-3
	W, see <sup>66</sup> Ge	-	8E+4	4E-5	1E-7	-	-
32 Germanium-77	D, see <sup>66</sup> Ge	9E+3	1E+4	4E-6	1E-8	1E-4	1E-3
	W, see <sup>66</sup> Ge	-	6E+3	2E-6	8E-9	-	-
32 Germanium-78 <sup>2</sup>	D, see <sup>66</sup> Ge	2E+4	2E+4	9E-6	3E-8	-	-
	St wall (2E+4)	-	-	-	-	3E-4	3E-3
	W, see <sup>66</sup> Ge	-	2E+4	9E-6	3E-8	-	-
33 Arsenic-69 <sup>2</sup>	W, all compounds	3E+4	1E+5	5E-5	2E-7	-	-
	St wall (4E+4)	-	-	-	-	6E-4	6E-3
33 Arsenic-70 <sup>2</sup>	W, all compounds	1E+4	5E+4	2E-5	7E-8	2E-4	2E-3
33 Arsenic-71	W, all compounds	4E+3	5E+3	2E-6	6E-9	5E-5	5E-4
33 Arsenic-72	W, all compounds	9E+2	1E+3	6E-7	2E-9	1E-5	1E-4
33 Arsenic-73	W, all compounds	8E+3	2E+3	7E-7	2E-9	1E-4	1E-3
33 Arsenic-74	W, all compounds	1E+3	8E+2	3E-7	1E-9	2E-5	2E-4
33 Arsenic-76	W, all compounds	1E+3	1E+3	6E-7	2E-9	1E-5	1E-4
33 Arsenic-77	W, all compounds	4E+3	5E+3	2E-6	7E-9	-	-
	LLI wall (5E+3)	-	-	-	-	6E-5	6E-4
33 Arsenic-78 <sup>2</sup>	W, all compounds	8E+3	2E+4	9E-6	3E-8	1E-4	1E-3
34 Selenium-70 <sup>2</sup>	D, all compounds except those given for W	2E+4	4E+4	2E-5	5E-8	1E-4	1E-3
	W, oxides, hydroxides, carbides, and elemental Se	1E+4	4E+4	2E-5	6E-8	-	-
34 Selenium-73m <sup>2</sup>	D, see <sup>70</sup> Se	6E+4	2E+5	6E-5	2E-7	4E-4	4E-3
	W, see <sup>70</sup> Se	3E+4	1E+5	6E-5	2E-7	-	-
34 Selenium-73	D, see <sup>70</sup> Se	3E+3	1E+4	5E-6	2E-8	4E-5	4E-4
	W, see <sup>70</sup> Se	-	2E+4	7E-6	2E-8	-	-
34 Selenium-75	D, see <sup>70</sup> Se	5E+2	7E+2	3E-7	1E-9	7E-6	7E-5
	W, see <sup>70</sup> Se	-	6E+2	3E-7	8E-10	-	-
34 Selenium-79	D, see <sup>70</sup> Se	6E+2	8E+2	3E-7	1E-9	8E-6	8E-5
	W, see <sup>70</sup> Se	-	6E+2	2E-7	8E-10	-	-
34 Selenium-81m <sup>2</sup>	D, see <sup>70</sup> Se	4E+4	7E+4	3E-5	9E-8	3E-4	3E-3
	W, see <sup>70</sup> Se	2E+4	7E+4	3E-5	1E-7	-	-
34 Selenium-81 <sup>2</sup>	D, see <sup>70</sup> Se	6E+4	2E+5	9E-5	3E-7	-	-
	St wall (8E+4)	-	-	-	-	1E-3	1E-2
	W, see <sup>70</sup> Se	-	2E+5	1E-4	3E-7	-	-
34 Selenium-83 <sup>2</sup>	D, see <sup>70</sup> Se	4E+4	1E+5	5E-5	2E-7	4E-4	4E-3
	W, see <sup>70</sup> Se	3E+4	1E+5	5E-5	2E-7	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration (µCi/ml)
		Oral Ingestion ALI (µCi)	Inhalation		Air (µCi/ml)	Water (µCi/ml)	
		ALI (µCi)	DAC (µCi/ml)				
35 Bromine-74 <sup>m2</sup>	D, bromides of H, Li, Na, K, Rb, Cs, and Fr	1E+4	4E+4	2E-5	5E-8	-	-
		St wall (2E+4)	-	-	-	3E-4	3E-3
35 Bromine-74 <sup>m2</sup>	W, bromides of lanthanides, Be, Mg, Ca, Sr, Ba, Ra, Al, Ga, In, Tl, Ge, Sn, Pb, As, Sb, Bi, Fe, Ru, Os, Co, Rh, Ir, Ni, Pd, Pt, Cu, Ag, Au, Zn, Cd, Hg, Sc, Y, Ti, Zr, Hf, V, Nb, Ta, Mn, Tc, and Re	-	4E+4	2E-5	6E-8	-	-
		-	-	-	-	-	-
35 Bromine-74 <sup>m2</sup>	D, see <sup>74m</sup> Br	2E+4	7E+4	3E-5	1E-7	-	-
	St wall (4E+4)	-	-	-	-	5E-4	5E-3
35 Bromine-74 <sup>m2</sup>	W, see <sup>74m</sup> Br	-	8E+4	4E-5	1E-7	-	-
	-	-	-	-	-	-	-
35 Bromine-75 <sup>m2</sup>	D, see <sup>74m</sup> Br	3E+4	5E+4	2E-5	7E-8	-	-
	St wall (4E+4)	-	-	-	-	5E-4	5E-3
35 Bromine-75 <sup>m2</sup>	W, see <sup>74m</sup> Br	-	5E+4	2E-5	7E-8	-	-
	-	-	-	-	-	-	-
35 Bromine-76	D, see <sup>74m</sup> Br	4E+3	5E+3	2E-6	7E-9	5E-5	5E-4
	W, see <sup>74m</sup> Br	-	4E+3	2E-6	6E-9	-	-
35 Bromine-77	D, see <sup>74m</sup> Br	2E+4	2E+4	1E-5	3E-8	2E-4	2E-3
	W, see <sup>74m</sup> Br	-	2E+4	8E-6	3E-8	-	-
35 Bromine-80m	D, see <sup>74m</sup> Br	2E+4	2E+4	7E-6	2E-8	3E-4	3E-3
	W, see <sup>74m</sup> Br	-	1E+4	6E-6	2E-8	-	-
35 Bromine-80 <sup>m2</sup>	D, see <sup>74m</sup> Br	5E+4	2E+5	8E-5	3E-7	-	-
	St wall (9E+4)	-	-	-	-	1E-3	1E-2
35 Bromine-80 <sup>m2</sup>	W, see <sup>74m</sup> Br	-	2E+5	9E-5	3E-7	-	-
	-	-	-	-	-	-	-
35 Bromine-82	D, see <sup>74m</sup> Br	3E+3	4E+3	2E-6	6E-9	4E-5	4E-4
	W, see <sup>74m</sup> Br	-	4E+3	2E-6	5E-9	-	-
35 Bromine-83	D, see <sup>74m</sup> Br	5E+4	6E+4	3E-5	9E-8	-	-
	St wall (7E+4)	-	-	-	-	9E-4	9E-3
35 Bromine-83	W, see <sup>74m</sup> Br	-	6E+4	3E-5	9E-8	-	-
	-	-	-	-	-	-	-
35 Bromine-84 <sup>m2</sup>	D, see <sup>74m</sup> Br	2E+4	6E+4	2E-5	8E-8	-	-
	St wall (3E+4)	-	-	-	-	4E-6	4E-3
35 Bromine-84 <sup>m2</sup>	W, see <sup>74m</sup> Br	-	6E+4	3E-5	9E-8	-	-
	-	-	-	-	-	-	-
36 Krypton-74 <sup>m2</sup>	Submersion <sup>1</sup>	-	-	3E-6	1E-8	-	-
36 Krypton-76	Submersion <sup>1</sup>	-	-	9E-6	4E-8	-	-
36 Krypton-77 <sup>m2</sup>	Submersion <sup>1</sup>	-	-	4E-6	2E-8	-	-
36 Krypton-79	Submersion <sup>1</sup>	-	-	2E-5	7E-8	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Inhalation		Col. 1 Air ( $\mu\text{Ci}/\text{ml}$ )	Col. 2 Water ( $\mu\text{Ci}/\text{ml}$ )	Monthly Average Concentration ( $\mu\text{Ci}/\text{ml}$ )	
			Col. 2 ALI ( $\mu\text{Ci}$ )	Col. 3 DAC ( $\mu\text{Ci}/\text{ml}$ )				
36	Krypton-81	Submersion <sup>1</sup>	-	-	7E-4	3E-6	-	-
36	Krypton-83m <sup>2</sup>	Submersion <sup>1</sup>	-	-	1E-2	5E-5	-	-
36	Krypton-85m	Submersion <sup>1</sup>	-	-	2E-5	1E-7	-	-
36	Krypton-85	Submersion <sup>1</sup>	-	-	1E-4	7E-7	-	-
36	Krypton-87 <sup>2</sup>	Submersion <sup>1</sup>	-	-	5E-6	2E-8	-	-
36	Krypton-88	Submersion <sup>1</sup>	-	-	2E-6	9E-9	-	-
37	Rubidium-79 <sup>2</sup>	D, all compounds	4E+4 St wall (6E+4)	1E+5	5E-5	2E-7	-	8E-4 8E-3
37	Rubidium-81m <sup>2</sup>	D, all compounds	2E+5 St wall (3E+5)	3E+5	1E-4	5E-7	-	4E-3 4E-2
37	Rubidium-81	D, all compounds	4E+4	5E+4	2E-5	7E-8	5E-4	5E-3
37	Rubidium-82m	D, all compounds	1E+4	2E+4	7E-6	2E-8	2E-4	2E-3
37	Rubidium-83	D, all compounds	6E+2	1E+3	4E-7	1E-9	9E-6	9E-5
37	Rubidium-84	D, all compounds	5E+2	8E+2	3E-7	1E-9	7E-6	7E-5
37	Rubidium-86	D, all compounds	5E+2	8E+2	3E-7	1E-9	7E-6	7E-5
37	Rubidium-87	D, all compounds	1E+3	2E+3	6E-7	2E-9	1E-5	1E-4
37	Rubidium-88 <sup>2</sup>	D, all compounds	2E+4 St wall (3E+4)	6E+4	3E-5	9E-8	-	4E-4 4E-3
37	Rubidium-89 <sup>2</sup>	D, all compounds	4E+4 St wall (6E+4)	1E+5	6E-5	2E-7	-	9E-4 9E-3
38	Strontium-80 <sup>2</sup>	D, all soluble compounds except SrTiO Y, all insoluble com- pounds and SrTiO	4E+3	1E+4	5E-6	2E-8	6E-5	6E-4
38	Strontium-81 <sup>2</sup>	D, see <sup>80</sup> Sr Y, see <sup>80</sup> Sr	3E+4 2E+4	8E+4 8E+4	3E-5 3E-5	1E-7 1E-7	3E-4 -	3E-3 -
38	Strontium-82	D, see <sup>80</sup> Sr LLI wall (2E+2) Y, see <sup>80</sup> Sr	3E+2 2E+2	4E+2	2E-7	6E-10	- 3E-6	- 3E-5
38	Strontium-83	D, see <sup>80</sup> Sr Y, see <sup>80</sup> Sr	3E+3 2E+3	7E+3 4E+3	3E-6 1E-6	1E-8 5E-9	3E-5 -	3E-4 -
38	Strontium-85m <sup>2</sup>	D, see <sup>80</sup> Sr Y, see <sup>80</sup> Sr	2E+5 -	6E+5 8E+5	3E-4 4E-4	9E-7 1E-6	3E-3 -	3E-2 -
38	Strontium-85	D, see <sup>80</sup> Sr Y, see <sup>80</sup> Sr	3E+3 -	3E+3 2E+3	1E-6 6E-7	4E-9 2E-9	4E-5 -	4E-4 -



Atomic Radionuclide No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
			Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration (µCi/ml)
			Oral Ingestion ALI (µCi)	Inhalation		Air (µCi/ml)	Water (µCi/ml)	
		ALI (µCi)	DAC (µCi/ml)					
38	Strontium-87m	D, see <sup>80</sup> Sr Y, see <sup>80</sup> Sr	5E+4 4E+4	1E+5 2E+5	5E-5 6E-5	2E-7 2E-7	6E-4 -	6E-3 -
38	Strontium-89	D, see <sup>80</sup> Sr Y, see <sup>80</sup> Sr	6E+2 LLI wall (6E+2) 5E+2	8E+2 -	4E-7 -	1E-9 -	- 8E-6	- 8E-5
38	Strontium-90	D, see <sup>80</sup> Sr Y, see <sup>80</sup> Sr	3E+1 Bone surf (4E+1)	2E+1 Bone surf (2E+1) 4E+0	8E-9 -	- 3E-11 6E-12	- 5E-7	- 5E-6
38	Strontium-91	D, see <sup>80</sup> Sr Y, see <sup>80</sup> Sr	2E+3 -	6E+3 4E+3	2E-6 1E-6	8E-9 5E-9	2E-5 -	2E-4 -
38	Strontium-92	D, see <sup>80</sup> Sr Y, see <sup>80</sup> Sr	3E+3 -	9E+3 7E+3	4E-6 3E-6	1E-8 9E-9	4E-5 -	4E-4 -
39	Yttrium-86m <sup>2</sup>	W, all compounds except those given for Y Y, oxides and hydroxides	2E+4 -	6E+4 5E+4	2E-5 2E-5	8E-8 8E-8	3E-4 -	3E-3 -
39	Yttrium-86	W, see <sup>86m</sup> Y Y, see <sup>86m</sup> Y	1E+3 -	3E+3 3E+3	1E-6 1E-6	5E-9 5E-9	2E-5 -	2E-4 -
39	Yttrium-87	W, see <sup>86m</sup> Y Y, see <sup>86m</sup> Y	2E+3 -	3E+3 3E+3	1E-6 1E-6	5E-9 5E-9	3E-5 -	3E-4 -
39	Yttrium-88	W, see <sup>86m</sup> Y Y, see <sup>86m</sup> Y	1E+3 -	3E+2 2E+2	1E-7 1E-7	3E-10 3E-10	1E-5 -	1E-4 -
39	Yttrium-90m	W, see <sup>86m</sup> Y Y, see <sup>86m</sup> Y	8E+3 -	1E+4 1E+4	5E-6 5E-6	2E-8 2E-8	1E-4 -	1E-3 -
39	Yttrium-90	W, see <sup>86m</sup> Y Y, see <sup>86m</sup> Y	4E+2 LLI wall (5E+2)	7E+2 -	3E-7 -	9E-10 -	- 7E-6	- 7E-5
39	Yttrium-91m <sup>2</sup>	W, see <sup>86m</sup> Y Y, see <sup>86m</sup> Y	1E+5 -	2E+5 2E+5	1E-4 7E-5	3E-7 2E-7	2E-3 -	2E-2 -
39	Yttrium-91	W, see <sup>86m</sup> Y Y, see <sup>86m</sup> Y	5E+2 LLI wall (6E+2)	2E+2 -	7E-8 -	2E-10 -	- 8E-6	- 8E-5
39	Yttrium-92	W, see <sup>86m</sup> Y Y, see <sup>86m</sup> Y	3E+3 -	9E+3 8E+3	4E-6 3E-6	1E-8 1E-8	4E-5 -	4E-4 -
39	Yttrium-93	W, see <sup>86m</sup> Y Y, see <sup>86m</sup> Y	1E+3 -	3E+3 2E+3	1E-6 1E-6	4E-9 3E-9	2E-5 -	2E-4 -
39	Yttrium-94 <sup>2</sup>	W, see <sup>86m</sup> Y Y, see <sup>86m</sup> Y	2E+4 St wall (3E+4)	8E+4 -	3E-5 -	1E-7 -	- 4E-4	- 4E-3
39	Yttrium-95 <sup>2</sup>	W, see <sup>86m</sup> Y Y, see <sup>86m</sup> Y	4E+4 St wall (5E+4)	2E+5 -	6E-5 -	2E-7 -	- 7E-4	- 7E-3

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration (µCi/ml)
		Oral Ingestion ALI (µCi)	Inhalation		Air (µCi/ml)	Water (µCi/ml)	
		ALI (µCi)	DAC (µCi/ml)				
40 Zirconium-86	D, all compounds except those given for W and Y W, oxides, hydroxides, halides, and nitrates Y, carbide	1E+3	4E+3	2E-6	6E-9	2E-5	2E-4
		-	3E+3	1E-6	4E-9	-	-
		-	2E+3	1E-6	3E-9	-	-
40 Zirconium-88	D, see <sup>88</sup> Zr W, see <sup>88</sup> Zr Y, see <sup>88</sup> Zr	4E+3	2E+2	9E-8	3E-10	5E-5	9E-4
		-	5E+2	2E-7	7E-10	-	-
		-	3E+2	1E-7	4E-10	-	-
40 Zirconium-89	D, see <sup>89</sup> Zr W, see <sup>89</sup> Zr Y, see <sup>89</sup> Zr	2E+3	4E+3	1E-6	5E-9	2E-5	2E-4
		-	2E+3	1E-6	3E-9	-	-
		-	2E+3	1E-6	3E-9	-	-
40 Zirconium-93	D, see <sup>93</sup> Zr  W, see <sup>93</sup> Zr  Y, see <sup>93</sup> Zr	1E+3	6E+0	3E-9	-	-	-
		Bone surf (3E+3)	Bone surf (2E+1)	-	2E-11	4E-5	4E-4
		-	2E+1	1E-8	-	-	-
		-	Bone surf (6E+1)	-	9E-11	-	-
		-	6E+1	2E-8	-	-	-
40 Zirconium-95	D, see <sup>95</sup> Zr  W, see <sup>95</sup> Zr Y, see <sup>95</sup> Zr	1E+3	1E+2	5E-8	-	2E-5	2E-4
		-	Bone surf (3E+2)	-	4E-10	-	-
		-	4E+2	2E-7	5E-10	-	-
		-	3E+2	1E-7	4E-10	-	-
		-	-	-	-	-	-
40 Zirconium-97	D, see <sup>97</sup> Zr W, see <sup>97</sup> Zr Y, see <sup>97</sup> Zr	6E+2	2E+3	8E-7	3E-9	9E-6	9E-5
		-	1E+3	6E-7	2E-9	-	-
		-	1E+3	5E-7	2E-9	-	-
41 Niobium-88 <sup>2</sup>	W, all compounds except those given for Y  Y, oxides and hydroxides	5E+4	2E+5	9E-5	3E-7	-	-
		St wall (7E+4)	-	-	-	1E-3	1E-2
41 Niobium-89 <sup>2</sup> (66 min)	W, see <sup>89</sup> Nb Y, see <sup>89</sup> Nb	1E+4	4E+4	2E-5	6E-8	1E-4	1E-3
		-	4E+4	2E-5	5E-8	-	-
41 Niobium-89 (122 min)	W, see <sup>89</sup> Nb Y, see <sup>89</sup> Nb	5E+3	2E+4	8E-6	3E-8	7E-5	7E-4
		-	2E+4	6E-6	2E-8	-	-
41 Niobium-90	W, see <sup>90</sup> Nb Y, see <sup>90</sup> Nb	1E+3	3E+3	1E-6	4E-9	1E-5	1E-4
		-	2E+3	1E-6	3E-9	-	-
41 Niobium-93m	W, see <sup>93</sup> Nb Y, see <sup>93</sup> Nb	9E+3	2E+3	8E-7	3E-9	-	-
		LLI wall (1E+4)	-	-	-	2E-4	2E-3
41 Niobium-94	W, see <sup>94</sup> Nb Y, see <sup>94</sup> Nb	9E+2	2E+2	8E-8	3E-10	1E-5	1E-4
		-	2E+1	6E-9	2E-11	-	-
41 Niobium-95m	W, see <sup>95</sup> Nb Y, see <sup>95</sup> Nb	2E+3	3E+3	1E-6	4E-9	-	-
		LLI wall (2E+3)	-	-	-	3E-5	3E-4
		-	2E+3	9E-7	3E-9	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1 Oral Ingestion ALI ( $\mu$ Ci)	Col. 2 <u>Inhalation</u> ALI ( $\mu$ Ci)	Col. 3 DAC ( $\mu$ Ci/ml)	Col. 1 Air ( $\mu$ Ci/ml)	Col. 2 Water ( $\mu$ Ci/ml)	Monthly Average Concentration ( $\mu$ Ci/ml)	
41	Niobium-95	W, see <sup>95</sup> Nb Y, see <sup>95</sup> Nb	2E+3 -	1E+3 1E+3	5E-7 5E-7	2E-9 2E-9	3E-5 -	3E-4 -
41	Niobium-96	W, see <sup>96</sup> Nb Y, see <sup>96</sup> Nb	1E+3 -	3E+3 2E+3	1E-6 1E-6	4E-9 3E-9	2E-5 -	2E-4 -
41	Niobium-97 <sup>2</sup>	W, see <sup>97</sup> Nb Y, see <sup>97</sup> Nb	2E+4 -	8E+4 7E+4	3E-5 3E-5	1E-7 1E-7	3E-4 -	3E-3 -
41	Niobium-98 <sup>2</sup>	W, see <sup>98</sup> Nb Y, see <sup>98</sup> Nb	1E+4 -	5E+4 5E+4	2E-5 2E-5	8E-8 7E-8	2E-4 -	2E-3 -
42	Molybdenum-90	D, all compounds except those given for Y Y, oxides, hydroxides, and MoS	4E+3 2E+3	7E+3 5E+3	3E-6 2E-6	1E-8 6E-9	3E-5 -	3E-4 -
42	Molybdenum-93m	D, see <sup>93m</sup> Mo Y, see <sup>93m</sup> Mo	9E+3 4E+3	2E+4 1E+4	7E-6 6E-6	2E-8 2E-8	6E-5 -	6E-4 -
42	Molybdenum-93	D, see <sup>93</sup> Mo Y, see <sup>93</sup> Mo	4E+3 2E+4	5E+3 2E+2	2E-6 8E-8	8E-9 2E-10	5E-5 -	5E-4 -
42	Molybdenum-99	D, see <sup>99</sup> Mo Y, see <sup>99</sup> Mo	2E+3 LLI wall (1E+3) 1E+3	3E+3 -	1E-6 -	4E-9 -	- 2E-5	- 2E-4
42	Molybdenum-101 <sup>2</sup>	D, see <sup>101</sup> Mo Y, see <sup>101</sup> Mo	4E+4 St wall (5E+4) -	1E+5 -	6E-5 -	2E-7 -	- 7E-4	- 7E-3
43	Technetium-93m <sup>2</sup>	D, all compounds except those given for W W, oxides, hydroxides, halides, and nitrates	7E+4 -	2E+5 3E+5	6E-5 1E-4	2E-7 4E-7	1E-3 -	1E-2 -
43	Technetium-93	D, see <sup>93m</sup> Tc W, see <sup>93m</sup> Tc	3E+4 -	7E+4 1E+5	3E-5 4E-5	1E-7 1E-7	4E-4 -	4E-3 -
43	Technetium-94m <sup>2</sup>	D, see <sup>94m</sup> Tc W, see <sup>94m</sup> Tc	2E+4 -	4E+4 6E+4	2E-5 2E-5	6E-8 8E-8	3E-4 -	3E-3 -
43	Technetium-94	D, see <sup>94m</sup> Tc W, see <sup>94m</sup> Tc	9E+3 -	2E+4 2E+4	8E-6 1E-5	3E-8 3E-8	1E-4 -	1E-3 -
43	Technetium-95m	D, see <sup>95m</sup> Tc W, see <sup>95m</sup> Tc	4E+3 -	5E+3 2E+3	2E-6 8E-7	8E-9 3E-9	5E-5 -	5E-4 -
43	Technetium-95	D, see <sup>95m</sup> Tc W, see <sup>95m</sup> Tc	1E+4 -	2E+4 2E+4	9E-6 8E-6	3E-8 3E-8	1E-4 -	1E-3 -
43	Technetium-96m <sup>2</sup>	D, see <sup>96m</sup> Tc W, see <sup>96m</sup> Tc	2E+5 -	3E+5 2E+5	1E-4 1E-4	4E-7 3E-7	2E-3 -	2E-2 -
43	Technetium-96	D, see <sup>96m</sup> Tc W, see <sup>96m</sup> Tc	2E+3 -	3E+3 2E+3	1E-6 9E-7	5E-9 3E-9	3E-5 -	3E-4 -
43	Technetium-97m	D, see <sup>97m</sup> Tc W, see <sup>97m</sup> Tc	5E+3 St wall -	7E+3 (7E+3) 1E+3	3E-6 -	- 1E-8 2E-9	6E-5 -	6E-4 -

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Col. 2 Col. 3 Inhalation		Col. 1 Air ( $\mu\text{Ci}/\text{ml}$ )	Col. 2 Water ( $\mu\text{Ci}/\text{ml}$ )	Monthly Average Concentration ( $\mu\text{Ci}/\text{ml}$ )
			ALI ( $\mu\text{Ci}$ )	DAC ( $\mu\text{Ci}/\text{ml}$ )			
43 Technetium-97	D, see $^{99m}\text{Tc}$	4E+4	5E+4	2E-5	7E-8	5E-4	5E-3
	W, see $^{99m}\text{Tc}$	-	6E+3	2E-6	8E-9	-	-
43 Technetium-98	D, see $^{99m}\text{Tc}$	1E+3	2E+3	7E-7	2E-9	1E-5	1E-4
	W, see $^{99m}\text{Tc}$	-	3E+2	1E-7	4E-10	-	-
43 Technetium-99m	D, see $^{99m}\text{Tc}$	8E+4	2E+5	6E-5	2E-7	1E-3	1E-2
	W, see $^{99m}\text{Tc}$	-	2E+5	1E-4	3E-7	-	-
43 Technetium-99	D, see $^{99m}\text{Tc}$	4E+3	5E+3	2E-6	-	6E-5	6E-4
	W, see $^{99m}\text{Tc}$	-	St wall (6E+3) 7E+2	-	8E-9	-	-
43 Technetium-101 <sup>2</sup>	D, see $^{99m}\text{Tc}$	9E+4	3E+5	1E-4	5E-7	-	-
	W, see $^{99m}\text{Tc}$	St wall (1E+5)	-	-	-	2E-3	2E-2
43 Technetium-104 <sup>2</sup>	D, see $^{99m}\text{Tc}$	2E+4	7E+4	3E-5	1E-7	-	-
	W, see $^{99m}\text{Tc}$	St wall (3E+4)	-	-	-	4E-4	4E-3
44 Ruthenium-94 <sup>2</sup>	D, all compounds except those given for W and Y	2E+4	4E+4	2E-5	6E-8	2E-4	2E-3
	W, halides	-	6E+4	3E-5	9E-8	-	-
	Y, oxides and hydroxides	-	6E+4	2E-5	8E-8	-	-
44 Ruthenium-97	D, see $^{94}\text{Ru}$	8E+3	2E+4	8E-6	3E-8	1E-4	1E-3
	W, see $^{94}\text{Ru}$	-	1E+4	5E-6	2E-8	-	-
	Y, see $^{94}\text{Ru}$	-	1E+4	5E-6	2E-8	-	-
44 Ruthenium-103	D, see $^{94}\text{Ru}$	2E+3	2E+3	7E-7	2E-9	3E-5	3E-4
	W, see $^{94}\text{Ru}$	-	1E+3	4E-7	1E-9	-	-
	Y, see $^{94}\text{Ru}$	-	6E+2	3E-7	9E-10	-	-
44 Ruthenium-105	D, see $^{94}\text{Ru}$	5E+3	1E+4	6E-6	2E-8	7E-5	7E-4
	W, see $^{94}\text{Ru}$	-	1E+4	6E-6	2E-8	-	-
	Y, see $^{94}\text{Ru}$	-	1E+4	5E-6	2E-8	-	-
44 Ruthenium-106	D, see $^{94}\text{Ru}$	2E+2	9E+1	4E-8	1E-10	-	-
	W, see $^{94}\text{Ru}$	LLI wall (2E+2)	-	-	-	3E-6	3E-5
	Y, see $^{94}\text{Ru}$	-	5E+1	2E-8	8E-11	-	-
45 Rhodium-99m	D, all compounds except those given for W and Y	2E+4	6E+4	2E-5	8E-8	2E-4	2E-3
	W, halides	-	8E+4	3E-5	1E-7	-	-
	Y, oxides and hydroxides	-	7E+4	3E-5	9E-8	-	-
45 Rhodium-99	D, see $^{99m}\text{Rh}$	2E+3	3E+3	1E-6	4E-9	3E-5	3E-4
	W, see $^{99m}\text{Rh}$	-	2E+3	9E-7	3E-9	-	-
	Y, see $^{99m}\text{Rh}$	-	2E+3	8E-7	3E-9	-	-
45 Rhodium-100	D, see $^{99m}\text{Rh}$	2E+3	5E+3	2E-6	7E-9	2E-5	2E-4
	W, see $^{99m}\text{Rh}$	-	4E+3	2E-6	6E-9	-	-
	Y, see $^{99m}\text{Rh}$	-	4E+3	2E-6	5E-9	-	-
45 Rhodium-101m	D, see $^{99m}\text{Rh}$	6E+3	1E+4	5E-6	2E-8	8E-5	8E-4
	W, see $^{99m}\text{Rh}$	-	8E+3	4E-6	1E-8	-	-
	Y, see $^{99m}\text{Rh}$	-	8E+3	3E-6	1E-8	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI ( $\mu$ Ci)	Col. 2 Col. 3 Inhalation		Col. 1 Air ( $\mu$ Ci/ml)	Col. 2 Water ( $\mu$ Ci/ml)	Monthly Average Concentration ( $\mu$ Ci/ml)
			ALI ( $\mu$ Ci)	DAC ( $\mu$ Ci/ml)			
45 Rhodium-101	D, see <sup>99m</sup> Rh	2E+3	5E+2	2E-7	7E-10	3E-5	3E-4
	W, see <sup>99m</sup> Rh	-	8E+2	3E-7	1E-9	-	-
	Y, see <sup>99m</sup> Rh	-	2E+2	6E-8	2E-10	-	-
45 Rhodium-102m	D, see <sup>99m</sup> Rh	1E+3	5E+2	2E-7	7E-10	-	-
	W, see <sup>99m</sup> Rh	LLI wall (1E+3)	-	-	-	2E-5	2E-4
	Y, see <sup>99m</sup> Rh	-	4E+2	2E-7	5E-10	-	-
45 Rhodium-102	D, see <sup>99m</sup> Rh	-	1E+2	5E-8	2E-10	-	-
	W, see <sup>99m</sup> Rh	6E+2	9E+1	4E-8	1E-10	8E-6	8E-5
	Y, see <sup>99m</sup> Rh	-	2E+2	7E-8	2E-10	-	-
45 Rhodium-103m <sup>2</sup>	D, see <sup>99m</sup> Rh	-	6E+1	2E-8	8E-11	-	-
	W, see <sup>99m</sup> Rh	4E+5	1E+6	5E-4	2E-6	6E-3	6E-2
	Y, see <sup>99m</sup> Rh	-	1E+6	5E-4	2E-6	-	-
45 Rhodium-105	D, see <sup>99m</sup> Rh	-	1E+6	5E-4	2E-6	-	-
	W, see <sup>99m</sup> Rh	4E+3	1E+4	5E-6	2E-8	-	-
	Y, see <sup>99m</sup> Rh	LLI wall (4E+3)	-	-	-	5E-5	5E-4
45 Rhodium-106m	D, see <sup>99m</sup> Rh	-	6E+3	3E-6	9E-9	-	-
	W, see <sup>99m</sup> Rh	-	6E+3	2E-6	8E-9	-	-
	Y, see <sup>99m</sup> Rh	8E+3	3E+4	1E-5	4E-8	1E-4	1E-3
45 Rhodium-107 <sup>2</sup>	D, see <sup>99m</sup> Rh	-	4E+4	2E-5	5E-8	-	-
	W, see <sup>99m</sup> Rh	-	4E+4	1E-5	5E-8	-	-
	Y, see <sup>99m</sup> Rh	7E+4	2E+5	1E-6	3E-7	-	-
46 Palladium-100	D, all compounds except those given for W and Y	1E+3	1E+3	6E-7	2E-9	2E-5	2E-4
	W, nitrates	-	1E+3	5E-7	2E-9	-	-
	Y, oxides and hydroxides	-	1E+3	6E-7	2E-9	-	-
46 Palladium-101	D, see <sup>100</sup> Pd	1E+4	3E+4	1E-5	5E-8	2E-4	2E-3
	W, see <sup>100</sup> Pd	-	3E+4	1E-5	5E-8	-	-
	Y, see <sup>100</sup> Pd	-	3E+4	1E-5	4E-8	-	-
46 Palladium-103	D, see <sup>100</sup> Pd	6E+3	6E+3	3E-6	9E-9	-	-
	W, see <sup>100</sup> Pd	LLI wall (7E+3)	-	-	-	1E-4	1E-3
	Y, see <sup>100</sup> Pd	-	4E+3	2E-6	6E-9	-	-
46 Palladium-107	D, see <sup>100</sup> Pd	-	4E+3	1E-6	5E-9	-	-
	W, see <sup>100</sup> Pd	3E+4	2E+4	9E-6	-	-	-
	Y, see <sup>100</sup> Pd	LLI wall (4E+4)	Kidneys (2E+4)	-	3E-8	5E-4	5E-3
46 Palladium-109	D, see <sup>100</sup> Pd	-	7E+3	3E-6	1E-8	-	-
	W, see <sup>100</sup> Pd	-	4E+2	2E-7	6E-10	-	-
	Y, see <sup>100</sup> Pd	2E+3	6E+3	3E-6	9E-9	3E-5	3E-4
	W, see <sup>100</sup> Pd	-	5E+3	2E-6	8E-9	-	-
	Y, see <sup>100</sup> Pd	-	5E+3	2E-6	6E-9	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Col. 2 Col. 3 Inhalation		Col. 1 Air ( $\mu\text{Ci/ml}$ )	Col. 2 Water ( $\mu\text{Ci/ml}$ )	Monthly Average Concentration ( $\mu\text{Ci/ml}$ )
			ALI ( $\mu\text{Ci}$ )	DAC ( $\mu\text{Ci/ml}$ )			
47 Silver-102 <sup>2</sup>	D, all compounds except those given for W and Y	5E+4 St wall (6E+4)	2E+5	8E-5	2E-7	-	-
	W, nitrates and sulfides	-	2E+5	9E-5	3E-7	9E-4	9E-3
	Y, oxides and hydroxides	-	2E+5	8E-5	3E-7	-	-
47 Silver-103 <sup>2</sup>	D, see <sup>102</sup> Ag	4E+4	1E+5	4E-5	1E-7	5E-4	5E-3
	W, see <sup>102</sup> Ag	-	1E+5	5E-5	2E-7	-	-
	Y, see <sup>102</sup> Ag	-	1E+5	5E-5	2E-7	-	-
47 Silver-104m <sup>2</sup>	D, see <sup>102</sup> Ag	3E+4	9E+4	4E-5	1E-7	4E-4	4E-3
	W, see <sup>102</sup> Ag	-	1E+5	5E-5	2E-7	-	-
	Y, see <sup>102</sup> Ag	-	1E+5	5E-5	2E-7	-	-
47 Silver-104 <sup>2</sup>	D, see <sup>102</sup> Ag	2E+4	7E+4	3E-5	1E-7	3E-4	3E-3
	W, see <sup>102</sup> Ag	-	1E+5	6E-5	2E-7	-	-
	Y, see <sup>102</sup> Ag	-	1E+5	6E-5	2E-7	-	-
47 Silver-105	D, see <sup>102</sup> Ag	3E+3	1E+3	4E-7	1E-9	4E-5	4E-4
	W, see <sup>102</sup> Ag	-	2E+3	7E-7	2E-9	-	-
	Y, see <sup>102</sup> Ag	-	2E+3	7E-7	2E-9	-	-
47 Silver-106m	D, see <sup>102</sup> Ag	8E+2	7E+2	3E-7	1E-9	1E-5	1E-4
	W, see <sup>102</sup> Ag	-	9E+2	4E-7	1E-9	-	-
	Y, see <sup>102</sup> Ag	-	9E+2	4E-7	1E-9	-	-
47 Silver-106 <sup>2</sup>	D, see <sup>102</sup> Ag	6E+4 St. wall (6E+4)	2E+5	8E-5	3E-7	-	-
	W, see <sup>102</sup> Ag	-	2E+5	9E-5	3E-7	9E-4	9E-3
	Y, see <sup>102</sup> Ag	-	2E+5	8E-5	3E-7	-	-
47 Silver-108m	D, see <sup>102</sup> Ag	6E+2	2E+2	8E-8	3E-10	9E-6	9E-5
	W, see <sup>102</sup> Ag	-	3E+2	1E-7	4E-10	-	-
	Y, see <sup>102</sup> Ag	-	2E+1	1E-8	3E-11	-	-
47 Silver-110m	D, see <sup>102</sup> Ag	5E+2	1E+2	5E-8	2E-10	6E-6	6E-5
	W, see <sup>102</sup> Ag	-	2E+2	8E-8	3E-10	-	-
	Y, see <sup>102</sup> Ag	-	9E+1	4E-8	1E-10	-	-
47 Silver-111	D, see <sup>102</sup> Ag	9E+2 LLI wall (1E+3)	2E+3	6E-7	-	-	-
	W, see <sup>102</sup> Ag	-	9E+2	4E-7	2E-9	2E-5	2E-4
	Y, see <sup>102</sup> Ag	-	9E+2	4E-7	1E-9	-	-
47 Silver-112	D, see <sup>102</sup> Ag	3E+3	8E+3	3E-6	1E-8	4E-5	4E-4
	W, see <sup>102</sup> Ag	-	1E+4	4E-6	1E-8	-	-
	Y, see <sup>102</sup> Ag	-	9E+3	4E-6	1E-8	-	-
47 Silver-115 <sup>2</sup>	D, see <sup>102</sup> Ag	3E+4 St wall (3E+4)	9E+4	4E-5	1E-7	-	-
	W, see <sup>102</sup> Ag	-	9E+4	4E-5	1E-7	4E-4	4E-3
	Y, see <sup>102</sup> Ag	-	8E+4	3E-5	1E-7	-	-
48 Cadmium-104 <sup>2</sup>	D, all compounds except those given for W and Y	2E+4	7E+4	3E-5	9E-8	3E-4	3E-3
	W, sulfides, halides, and nitrates	-	1E+5	5E-5	2E-7	-	-
	Y, oxides and hydroxides	-	1E+5	5E-5	2E-7	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Col. 2 Inhalation		Col. 1 Air ( $\mu\text{Ci}/\text{ml}$ )	Col. 2 Water ( $\mu\text{Ci}/\text{ml}$ )	Monthly Average Concentration ( $\mu\text{Ci}/\text{ml}$ )
			Col. 2 ALI ( $\mu\text{Ci}$ )	Col. 3 DAC ( $\mu\text{Ci}/\text{ml}$ )			
48 Cadmium-107	D, see $^{104}\text{Cd}$	2E+4	5E+4	2E-5	8E-8	3E-4	3E-3
	W, see $^{104}\text{Cd}$	-	6E+4	2E-5	8E-8	-	-
	Y, see $^{104}\text{Cd}$	-	5E+4	2E-5	7E-8	-	-
48 Cadmium-109	D, see $^{104}\text{Cd}$	3E+2	4E+1	1E-8	-	-	-
	Kidneys (4E+2)	-	Kidneys (5E+1)	-	7E-11	6E-6	6E-5
	W, see $^{104}\text{Cd}$	-	1E+2	5E-8	-	-	-
48 Cadmium-113m	D, see $^{104}\text{Cd}$	2E+1	2E+0	1E-9	-	-	-
	Kidneys (4E+1)	-	Kidneys (4E+0)	-	5E-12	5E-7	5E-6
	W, see $^{104}\text{Cd}$	-	8E+0	4E-9	-	-	-
48 Cadmium-113	D, see $^{104}\text{Cd}$	2E+1	2E+0	9E-10	-	-	-
	Kidneys (3E+1)	-	Kidneys (3E+0)	-	5E-12	4E-7	4E-6
	W, see $^{104}\text{Cd}$	-	8E+0	3E-9	-	-	-
48 Cadmium-115m	D, see $^{104}\text{Cd}$	3E+2	5E+1	2E-8	-	4E-6	4E-5
	Kidneys (8E+1)	-	Kidneys (8E+1)	-	1E-10	-	-
	W, see $^{104}\text{Cd}$	-	1E+2	5E-8	2E-10	-	-
48 Cadmium-115	D, see $^{104}\text{Cd}$	9E+2	1E+3	6E-7	2E-9	-	-
	LLI wall (1E+3)	-	-	-	-	1E-5	1E-4
	W, see $^{104}\text{Cd}$	-	1E+3	5E-7	2E-9	-	-
48 Cadmium-117m	D, see $^{104}\text{Cd}$	5E+3	1E+4	5E-6	2E-8	6E-5	6E-4
	W, see $^{104}\text{Cd}$	-	2E+4	7E-6	2E-8	-	-
	Y, see $^{104}\text{Cd}$	-	1E+4	6E-6	2E-8	-	-
48 Cadmium-117	D, see $^{104}\text{Cd}$	5E+3	1E+4	5E-6	2E-8	6E-5	6E-4
	W, see $^{104}\text{Cd}$	-	2E+4	7E-6	2E-8	-	-
	Y, see $^{104}\text{Cd}$	-	1E+4	6E-6	2E-8	-	-
49 Indium-109	D, all compounds except those given for W	2E+4	4E+4	2E-5	6E-8	3E-4	3E-3
	W, oxides, hydroxides, halides, and nitrates	-	6E+4	3E-5	9E-8	-	-
49 Indium-110 <sup>2</sup> (69.1 min)	D, see $^{109}\text{In}$	2E+4	4E+4	2E-5	6E-8	2E-4	2E-3
	W, see $^{109}\text{In}$	-	6E+4	2E-5	8E-8	-	-
49 Indium-110 (4.9 h)	D, see $^{109}\text{In}$	5E+3	2E+4	7E-6	2E-8	7E-5	7E-4
	W, see $^{109}\text{In}$	-	2E+4	8E-6	3E-8	-	-
49 Indium-111	D, see $^{109}\text{In}$	4E+3	6E+3	3E-6	9E-9	6E-5	6E-4
	W, see $^{109}\text{In}$	-	6E+3	3E-6	9E-9	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI (μCi)	Col. 2 Inhalation		Col. 1 Air (μCi/ml)	Col. 2 Water (μCi/ml)	Monthly Average Concentration (μCi/ml)
			ALI (μCi)	DAC (μCi/ml)			
49 Indium-112 <sup>2</sup>	D, see <sup>109</sup> In	2E+5	6E+5	3E-4	9E-7	2E-3	2E-2
	W, see <sup>109</sup> In	-	7E+5	3E-4	1E-6	-	-
49 Indium-113m <sup>2</sup>	D, see <sup>109</sup> In	5E+4	1E+5	6E-5	2E-7	7E-4	7E-3
	W, see <sup>109</sup> In	-	2E+5	8E-5	3E-7	-	-
49 Indium-114m	D, see <sup>109</sup> In	3E+2	6E+1	3E-8	9E-11	-	-
	W, see <sup>109</sup> In	LLI wall (4E+2)	-	-	-	5E-6	5E-5
49 Indium-115m	D, see <sup>109</sup> In	1E+4	4E+4	2E-5	6E-8	2E-4	2E-3
	W, see <sup>109</sup> In	-	5E+4	2E-5	7E-8	-	-
49 Indium-115	D, see <sup>109</sup> In	4E+1	1E+0	6E-10	2E-12	5E-7	5E-6
	W, see <sup>109</sup> In	-	5E+0	2E-9	8E-12	-	-
49 Indium-116m <sup>2</sup>	D, see <sup>109</sup> In	2E+4	8E+4	3E-5	1E-7	3E-4	3E-3
	W, see <sup>109</sup> In	-	1E+5	5E-5	2E-7	-	-
49 Indium-117m <sup>2</sup>	D, see <sup>109</sup> In	1E+4	3E+4	1E-5	5E-8	2E-4	2E-3
	W, see <sup>109</sup> In	-	4E+4	2E-5	6E-8	-	-
49 Indium-117 <sup>2</sup>	D, see <sup>109</sup> In	6E+4	2E+5	7E-5	2E-7	8E-4	8E-3
	W, see <sup>109</sup> In	-	2E+5	9E-5	3E-7	-	-
49 Indium-119m <sup>2</sup>	D, see <sup>109</sup> In	4E+4	1E+5	5E-5	2E-7	-	-
	W, see <sup>109</sup> In	St wall (5E+4)	-	-	-	7E-4	7E-3
50 Tin-110	D, all compounds except those given for W	4E+3	1E+4	5E-6	2E-8	5E-5	5E-4
	W, sulfides, oxides, hydroxides, halides, nitrates, and stannic phosphate	-	1E+4	5E-6	2E-8	-	-
50 Tin-111 <sup>2</sup>	D, see <sup>110</sup> Sn	7E+4	2E+5	9E-5	3E-7	1E-3	1E-2
	W, see <sup>110</sup> Sn	-	3E+5	1E-4	4E-7	-	-
50 Tin-113	D, see <sup>110</sup> Sn	2E+3	1E+3	5E-7	2E-9	-	-
	W, see <sup>110</sup> Sn	LLI wall (2E+3)	-	-	-	3E-5	3E-4
50 Tin-117m	D, see <sup>110</sup> Sn	2E+3	1E+3	5E-7	-	-	-
	W, see <sup>110</sup> Sn	LLI wall (2E+3)	Bone surf (2E+3)	-	3E-9	3E-5	3E-4
50 Tin-119m	D, see <sup>110</sup> Sn	3E+3	2E+3	1E-6	3E-9	-	-
	W, see <sup>110</sup> Sn	LLI wall (4E+3)	-	-	-	6E-5	6E-4
50 Tin-121m	D, see <sup>110</sup> Sn	3E+3	9E+2	4E-7	1E-9	-	-
	W, see <sup>110</sup> Sn	LLI wall (4E+3)	-	-	-	5E-5	5E-4



Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI ( $\mu$ Ci)	Col. 2 <u>Inhalation</u> ALI ( $\mu$ Ci)	Col. 3 DAC ( $\mu$ Ci/ml)	Col. 1 Air ( $\mu$ Ci/ml)	Col. 2 Water ( $\mu$ Ci/ml)	Monthly Average Concentration ( $\mu$ Ci/ml)
50 Tin-121	D, see $^{110}\text{Sn}$	6E+3 LLI wall (6E+3)	2E+4	6E-6	2E-8	-	-
	W, see $^{110}\text{Sn}$	-	1E+4	5E-6	2E-8	8E-5	8E-4
50 Tin-123m <sup>2</sup>	D, see $^{110}\text{Sn}$	5E+4	1E+5	5E-5	2E-7	7E-4	7E-3
	W, see $^{110}\text{Sn}$	-	1E+5	6E-5	2E-7	-	-
50 Tin-123	D, see $^{110}\text{Sn}$	5E+2 LLI wall (6E+2)	6E+2	3E-7	9E-10	-	-
	W, see $^{110}\text{Sn}$	-	2E+2	7E-8	2E-10	9E-6	9E-5
50 Tin-125	D, see $^{110}\text{Sn}$	4E+2 LLI wall (5E+2)	9E+2	4E-7	1E-9	-	-
	W, see $^{110}\text{Sn}$	-	4E+2	1E-7	5E-10	6E-6	6E-5
50 Tin-126	D, see $^{110}\text{Sn}$	3E+2	6E+1	2E-8	8E-11	4E-6	4E-5
	W, see $^{110}\text{Sn}$	-	7E+1	3E-8	9E-11	-	-
50 Tin-127	D, see $^{110}\text{Sn}$	7E+3	2E+4	8E-6	3E-8	9E-5	9E-4
	W, see $^{110}\text{Sn}$	-	2E+4	8E-6	3E-8	-	-
50 Tin-128 <sup>2</sup>	D, see $^{110}\text{Sn}$	9E+3	3E+4	1E-5	4E-8	1E-4	1E-3
	W, see $^{110}\text{Sn}$	-	4E+4	1E-5	5E-8	-	-
51 Antimony-115 <sup>2</sup>	D, all compounds except those given for W	8E+4	2E+5	1E-4	3E-7	1E-3	1E-2
	W, oxides, hydroxides, halides, sulfides, sulfates, and nitrates	-	3E+5	1E-4	4E-7	-	-
51 Antimony-116m <sup>2</sup>	D, see $^{118}\text{Sb}$	2E+4	7E+4	3E-5	1E-7	3E-4	3E-3
	W, see $^{118}\text{Sb}$	-	1E+5	6E-5	2E-7	-	-
51 Antimony-116 <sup>2</sup>	D, see $^{118}\text{Sb}$	7E+4 St wall (9E+4)	3E+5	1E-4	4E-7	-	-
	W, see $^{118}\text{Sb}$	-	3E+5	1E-4	5E-7	1E-3	1E-2
51 Antimony-117	D, see $^{118}\text{Sb}$	7E+4	2E+5	9E-5	3E-7	9E-4	9E-3
	W, see $^{118}\text{Sb}$	-	3E+5	1E-4	4E-7	-	-
51 Antimony-118m	D, see $^{118}\text{Sb}$	6E+3	2E+4	8E-6	3E-8	7E-5	7E-4
	W, see $^{118}\text{Sb}$	5E+3	2E+4	9E-6	3E-8	-	-
51 Antimony-119	D, see $^{118}\text{Sb}$	2E+4	5E+4	2E-5	6E-8	2E-4	2E-3
	W, see $^{118}\text{Sb}$	2E+4	3E+4	1E-5	4E-8	-	-
51 Antimony-120 <sup>2</sup> (16 min)	D, see $^{118}\text{Sb}$	1E+5 St wall (2E+5)	4E+5	2E-4	6E-7	-	-
	W, see $^{118}\text{Sb}$	-	5E+5	2E-4	7E-7	2E-3	2E-2
51 Antimony-120 (5.76 d)	D, see $^{118}\text{Sb}$	1E+3	2E+3	9E-7	3E-9	1E-5	1E-4
	W, see $^{118}\text{Sb}$	9E+2	1E+3	5E-7	2E-9	-	-
51 Antimony-122	D, see $^{118}\text{Sb}$	8E+2 LLI wall (8E+2)	2E+3	1E-6	3E-9	-	-
	W, see $^{118}\text{Sb}$	7E+2	1E+3	4E-7	2E-9	1E-5	1E-4

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Col. 2 Inhalation		Col. 1 Air ( $\mu\text{Ci}/\text{ml}$ )	Col. 2 Water ( $\mu\text{Ci}/\text{ml}$ )	Monthly Average Concentration ( $\mu\text{Ci}/\text{ml}$ )
			ALI ( $\mu\text{Ci}$ )	DAC ( $\mu\text{Ci}/\text{ml}$ )			
51 Antimony-124m <sup>2</sup>	D, see <sup>118</sup> Sb	3E+5	8E+5	4E-4	1E-6	3E-3	3E-2
	W, see <sup>118</sup> Sb	2E+5	6E+5	2E-4	8E-7	-	-
51 Antimony-124	D, see <sup>118</sup> Sb	6E+2	9E+2	5E-7	1E-9	7E-6	7E-5
	W, see <sup>118</sup> Sb	5E+2	2E+2	1E-7	3E-10	-	-
51 Antimony-125	D, see <sup>118</sup> Sb	2E+3	2E+3	1E-6	3E-9	3E-5	3E-4
	W, see <sup>118</sup> Sb	-	5E+2	2E-7	7E-10	-	-
51 Antimony-126m <sup>2</sup>	D, see <sup>118</sup> Sb	5E+4	2E+5	8E-5	3E-7	-	-
	W, see <sup>118</sup> Sb	St wall (7E+4)	-	-	-	9E-4	9E-3
51 Antimony-126	D, see <sup>118</sup> Sb	6E+2	1E+3	5E-7	2E-9	7E-6	7E-5
	W, see <sup>118</sup> Sb	5E+2	5E+2	2E-7	7E-10	-	-
51 Antimony-127	D, see <sup>118</sup> Sb	8E+2	2E+3	9E-7	3E-9	-	-
	W, see <sup>118</sup> Sb	LLI wall (8E+2) 7E+2	-	-	-	1E-5	1E-4
51 Antimony-128 <sup>2</sup> (10.4 min)	D, see <sup>118</sup> Sb	8E+4	4E+5	2E-4	5E-7	-	-
	W, see <sup>118</sup> Sb	St wall (1E+5)	-	-	-	1E-3	1E-2
51 Antimony-128 (9.01 h)	D, see <sup>118</sup> Sb	1E+3	4E+3	2E-6	6E-9	2E-5	2E-4
	W, see <sup>118</sup> Sb	-	3E+3	1E-6	5E-9	-	-
51 Antimony-129	D, see <sup>118</sup> Sb	3E+3	9E+3	4E-6	1E-8	4E-5	4E-4
	W, see <sup>118</sup> Sb	-	9E+3	4E-6	1E-8	-	-
51 Antimony-130 <sup>2</sup>	D, see <sup>118</sup> Sb	2E+4	6E+4	3E-5	9E-8	3E-4	3E-3
	W, see <sup>118</sup> Sb	-	8E+4	3E-5	1E-7	-	-
51 Antimony-131 <sup>2</sup>	D, see <sup>118</sup> Sb	1E+4	2E+4	1E-5	-	-	-
	W, see <sup>118</sup> Sb	Thyroid (2E+4)	Thyroid (4E+4)	-	6E-8	2E-4	2E-3
	-	-	Thyroid (4E+4)	1E-5	6E-8	-	-
52 Tellurium-116	D, all compounds except those given for W	8E+3	2E+4	9E-6	3E-8	1E-4	1E-3
	W, oxides, hydroxides, and nitrates	-	3E+4	1E-5	4E-8	-	-
52 Tellurium-121m	D, see <sup>116</sup> Te	5E+2	2E+2	8E-8	-	-	-
	W, see <sup>116</sup> Te	Bone surf (7E+2)	Bone surf (4E+2)	-	5E-10	1E-5	1E-4
52 Tellurium-121	D, see <sup>116</sup> Te	3E+3	4E+3	2E-6	6E-9	4E-5	4E-4
	W, see <sup>116</sup> Te	-	3E+3	1E-6	4E-9	-	-
52 Tellurium-123m	D, see <sup>116</sup> Te	6E+2	2E+2	9E-8	-	-	-
	W, see <sup>116</sup> Te	Bone surf (1E+3)	Bone surf (5E+2)	-	8E-10	1E-5	1E-4
-	-	-	5E+2	2E-7	8E-10	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI (μCi)	Col. 2	Col. 3	Col. 1 Air (μCi/ml)	Col. 2 Water (μCi/ml)	Monthly Average Concentration (μCi/ml)
			Inhalation				
			ALI (μCi)	DAC (μCi/ml)			
52 Tellurium-123	D, see <sup>110</sup> Te	5E+2	2E+2	8E-8	-	-	-
		Bone surf (1E+3)	Bone surf (5E+2)	-	7E-10	2E-5	2E-4
	W, see <sup>110</sup> Te	-	4E+2	2E-7	-	-	-
		-	Bone surf (1E+3)	-	2E-9	-	-
52 Tellurium-125m	D, see <sup>110</sup> Te	1E+3	4E+2	2E-7	-	-	-
		Bone surf (1E+3)	Bone surf (1E+3)	-	1E-9	2E-5	2E-4
	W, see <sup>110</sup> Te	-	7E+2	3E-7	1E-9	-	-
		-	Bone surf (4E+2)	-	6E-10	-	-
52 Tellurium-127m	D, see <sup>110</sup> Te	6E+2	3E+2	1E-7	-	9E-6	9E-5
		-	Bone surf (4E+2)	-	6E-10	-	-
	W, see <sup>110</sup> Te	-	3E+2	1E-7	4E-10	-	-
52 Tellurium-127	D, see <sup>110</sup> Te	7E+3	2E+4	9E-6	3E-8	1E-4	1E-3
		-	2E+4	7E-6	2E-8	-	-
	W, see <sup>110</sup> Te	-	-	-	-	-	-
52 Tellurium-129m	D, see <sup>110</sup> Te	5E+2	6E+2	3E-7	9E-10	7E-6	7E-5
		-	2E+2	1E-7	3E-10	-	-
	W, see <sup>110</sup> Te	-	-	-	-	-	-
52 Tellurium-129 <sup>2</sup>	D, see <sup>110</sup> Te	3E+4	6E+4	3E-5	9E-8	4E-4	4E-3
		-	7E+4	3E-5	1E-7	-	-
	W, see <sup>110</sup> Te	-	-	-	-	-	-
52 Tellurium-131m	D, see <sup>110</sup> Te	3E+2	4E+2	2E-7	-	-	-
		Thyroid (6E+2)	Thyroid (1E+3)	-	2E-9	8E-6	8E-5
	W, see <sup>110</sup> Te	-	4E+2	2E-7	-	-	-
		-	Thyroid (9E+2)	-	1E-9	-	-
52 Tellurium-131 <sup>2</sup>	D, see <sup>110</sup> Te	3E+3	5E+3	2E-6	-	-	-
		Thyroid (6E+3)	Thyroid (1E+4)	-	2E-8	8E-5	8E-4
	W, see <sup>110</sup> Te	-	5E+3	2E-6	-	-	-
		-	Thyroid (1E+4)	-	2E-8	-	-
52 Tellurium-132	D, see <sup>110</sup> Te	2E+2	2E+2	9E-8	-	-	-
		Thyroid (7E+2)	Thyroid (8E+2)	-	1E-9	9E-6	9E-5
	W, see <sup>110</sup> Te	-	2E+2	9E-8	-	-	-
		-	Thyroid (6E+2)	-	9E-10	-	-
52 Tellurium-133m <sup>2</sup>	D, see <sup>110</sup> Te	3E+3	5E+3	2E-6	-	-	-
		Thyroid (6E+3)	Thyroid (1E+4)	-	2E-8	9E-5	9E-4
	W, see <sup>110</sup> Te	-	5E+3	2E-6	-	-	-
		-	Thyroid (1E+4)	-	2E-8	-	-
52 Tellurium-133 <sup>2</sup>	D, see <sup>110</sup> Te	1E+4	2E+4	9E-6	-	-	-
		Thyroid (3E+4)	Thyroid (6E+4)	-	8E-8	4E-4	4E-3
	W, see <sup>110</sup> Te	-	2E+4	9E-6	-	-	-
		-	Thyroid (6E+4)	-	8E-8	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Inhalation		Col. 1 Air ( $\mu\text{Ci/ml}$ )	Col. 2 Water ( $\mu\text{Ci/ml}$ )	Monthly Average Concentration ( $\mu\text{Ci/ml}$ )
			Col. 2 ALI ( $\mu\text{Ci}$ )	Col. 3 DAC ( $\mu\text{Ci/ml}$ )			
52 Tellurium-134 <sup>2</sup>	D, see <sup>116</sup> Te	2E+4 Thyroid (2E+4)	2E+4 Thyroid (5E+4)	1E-5	-	-	-
	W, see <sup>116</sup> Te	-	2E+4 Thyroid (5E+4)	- 1E-5	7E-8	3E-4	3E-3
		-	-	-	7E-8	-	-
53 Iodine-120m <sup>2</sup>	D, all compounds	1E+4 Thyroid (1E+4)	2E+4	9E-6	3E-8	-	2E-3
53 Iodine-120 <sup>2</sup>	D, all compounds	4E+3 Thyroid (8E+3)	9E+3 Thyroid (1E+4)	4E-6	-	-	-
53 Iodine-121	D, all compounds	1E+4 Thyroid (3E+4)	2E+4 Thyroid (5E+4)	8E-6	-	-	-
		-	-	-	7E-8	4E-4	4E-3
53 Iodine-123	D, all compounds	3E+3 Thyroid (1E+4)	6E+3 Thyroid (2E+4)	3E-6	-	-	-
53 Iodine-124	D, all compounds	5E+1 Thyroid (2E+2)	8E+1 Thyroid (3E+2)	3E-8	-	-	-
		-	-	-	4E-10	2E-6	2E-5
53 Iodine-125	D, all compounds	4E+1 Thyroid (1E+2)	6E+1 Thyroid (2E+2)	3E-8	-	-	-
53 Iodine-126	D, all compounds	2E+1 Thyroid (7E+1)	4E+1 Thyroid (1E+2)	1E-8	-	-	-
		-	-	-	2E-10	1E-6	1E-5
53 Iodine-128 <sup>2</sup>	D, all compounds	4E+4 St wall (6E+4)	1E+5	5E-5	2E-7	-	-
53 Iodine-129	D, all compounds	5E+0 Thyroid (2E+1)	9E+0 Thyroid (3E+1)	4E-9	-	-	-
		-	-	-	4E-11	2E-7	2E-6
53 Iodine-130	D, all compounds	4E+2 Thyroid (1E+3)	7E+2 Thyroid (2E+3)	3E-7	-	-	-
53 Iodine-131	D, all compounds	3E+1 Thyroid (9E+1)	5E+1 Thyroid (2E+2)	2E-8	-	-	-
		-	-	-	2E-10	1E-6	1E-5
53 Iodine-132m <sup>2</sup>	D, all compounds	4E+3 Thyroid (1E+4)	8E+3 Thyroid (2E+4)	4E-6	-	-	-
53 Iodine-132	D, all compounds	4E+3 Thyroid (9E+3)	8E+3 Thyroid (1E+4)	3E-6	-	-	-
		-	-	-	2E-8	1E-4	1E-3
53 Iodine-133	D, all compounds	1E+2 Thyroid (5E+2)	3E+2 Thyroid (9E+2)	1E-7	-	-	-
-	-	-	-	-	1E-9	7E-6	7E-5

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers		
		Col. 1 Oral Ingestion ALI (μCi)	Col. 2 Inhalation ALI (μCi)	Col. 3 DAC (μCi/ml)	Col. 1 Air (μCi/ml)	Col. 2 Water (μCi/ml)	Monthly Average Concentration (μCi/ml)		
53	Iodine-134 <sup>2</sup>	D, all compounds	2E+4 Thyroid (3E+4)	5E+4	2E-5	6E-8	-	4E-4	4E-3
53	Iodine-135	D, all compounds	8E+2 Thyroid (3E+3)	2E+3 Thyroid (4E+3)	7E-7	-	6E-9	3E-5	3E-4
54	Xenon-120 <sup>2</sup>	Submersion <sup>1</sup>	-	-	1E-5	4E-8	-	-	-
54	Xenon-121 <sup>2</sup>	Submersion <sup>1</sup>	-	-	2E-6	1E-8	-	-	-
54	Xenon-122	Submersion <sup>1</sup>	-	-	7E-5	3E-7	-	-	-
54	Xenon-123	Submersion <sup>1</sup>	-	-	6E-6	3E-8	-	-	-
54	Xenon-125	Submersion <sup>1</sup>	-	-	2E-5	7E-8	-	-	-
54	Xenon-127	Submersion <sup>1</sup>	-	-	1E-5	6E-8	-	-	-
54	Xenon-129m	Submersion <sup>1</sup>	-	-	2E-4	9E-7	-	-	-
54	Xenon-131m	Submersion <sup>1</sup>	-	-	4E-4	2E-6	-	-	-
54	Xenon-133m	Submersion <sup>1</sup>	-	-	1E-4	6E-7	-	-	-
54	Xenon-133	Submersion <sup>1</sup>	-	-	1E-4	5E-7	-	-	-
54	Xenon-135m <sup>2</sup>	Submersion <sup>1</sup>	-	-	9E-6	4E-8	-	-	-
54	Xenon-135	Submersion <sup>1</sup>	-	-	1E-5	7E-8	-	-	-
54	Xenon-138 <sup>2</sup>	Submersion <sup>1</sup>	-	-	4E-6	2E-8	-	-	-
55	Cesium-125 <sup>2</sup>	D, all compounds	5E+4 St wall (9E+4)	1E+5	6E-5	2E-7	-	1E-3	1E-2
55	Cesium-127	D, all compounds	6E+4	9E+4	4E-5	1E-7	9E-4	9E-4	9E-3
55	Cesium-129	D, all compounds	2E+4	3E+4	1E-5	5E-8	3E-4	3E-4	3E-3
55	Cesium-130 <sup>2</sup>	D, all compounds	6E+4 St wall (1E+5)	2E+5	8E-5	3E-7	-	1E-3	1E-2
55	Cesium-131	D, all compounds	2E+4	3E+4	1E-5	4E-8	3E-4	3E-4	3E-3
55	Cesium-132	D, all compounds	3E+3	4E+3	2E-6	6E-9	4E-5	4E-5	4E-4
55	Cesium-134m	D, all compounds	1E+5 St Wall (1E+5)	1E+5	6E-5	2E-7	-	2E-3	2E-2
55	Cesium-134	D, all compounds	7E+1	1E+2	4E-8	2E-10	9E-7	9E-7	9E-6
55	Cesium-135m <sup>2</sup>	D, all compounds	1E+5	2E+5	8E-5	3E-7	1E-3	1E-3	1E-2
55	Cesium-135	D, all compounds	7E+2	1E+3	5E-7	2E-9	1E-5	1E-5	1E-4
55	Cesium-136	D, all compounds	4E+2	7E+2	3E-7	9E-10	6E-6	6E-6	6E-5
55	Cesium-137	D, all compounds	1E+2	2E+2	6E-8	2E-10	1E-6	1E-6	1E-5

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Inhalation		Col. 1 Air ( $\mu\text{Ci}/\text{ml}$ )	Col. 2 Water ( $\mu\text{Ci}/\text{ml}$ )	Monthly Average Concentration ( $\mu\text{Ci}/\text{ml}$ )	
			Col. 2 ALI ( $\mu\text{Ci}$ )	Col. 3 DAC ( $\mu\text{Ci}/\text{ml}$ )				
55	Cesium-138 <sup>2</sup>	D, all compounds	2E+4 St wall (3E+4)	6E+4	2E-5	8E-8	4E-4	4E-3
56	Barium-126 <sup>2</sup>	D, all compounds	6E+3	2E+4	6E-6	2E-8	8E-5	8E-4
56	Barium-128	D, all compounds	5E+2	2E+3	7E-7	2E-9	7E-6	7E-5
56	Barium-131m <sup>2</sup>	D, all compounds	4E+5 St wall (5E+5)	1E+6	6E-4	2E-6	7E-3	7E-2
56	Barium-131	D, all compounds	3E+3	8E+3	3E-6	1E-8	4E-5	4E-4
56	Barium-133m	D, all compounds	2E+3 LLI wall (3E+3)	9E+3	4E-6	1E-8	4E-5	4E-4
56	Barium-133	D, all compounds	2E+3	7E+2	3E-7	9E-10	2E-5	2E-4
56	Barium-135m	D, all compounds	3E+3	1E+4	5E-6	2E-8	4E-5	4E-4
56	Barium-139 <sup>2</sup>	D, all compounds	1E+4	3E+4	1E-5	4E-8	2E-4	2E-3
56	Barium-140	D, all compounds	5E+2 LLI wall (6E+2)	1E+3	6E-7	2E-9	8E-6	8E-5
56	Barium-141 <sup>2</sup>	D, all compounds	2E+4	7E+4	3E-5	1E-7	3E-4	3E-3
56	Barium-142 <sup>2</sup>	D, all compounds	5E+4	1E+5	6E-5	2E-7	7E-4	7E-3
57	Lanthanum-131 <sup>2</sup>	D, all compounds except those given for W W, oxides and hydroxides	5E+4	1E+5 2E+5	5E-5 7E-5	2E-7 2E-7	6E-4	6E-3
57	Lanthanum-132	D, see <sup>131</sup> La W, see <sup>131</sup> La	3E+3	1E+4 1E+4	4E-6 5E-6	1E-8 2E-8	4E-5	4E-4
57	Lanthanum-135	D, see <sup>131</sup> La W, see <sup>131</sup> La	4E+4	1E+5 9E+4	4E-5 4E-5	1E-7 1E-7	5E-4	5E-3
57	Lanthanum-137	D, see <sup>131</sup> La W, see <sup>131</sup> La	1E+4	6E+1 Liver (7E+1) 3E+2 Liver (3E+2)	3E-8 1E-7	1E-10	2E-4	2E-3
57	Lanthanum-138	D, see <sup>131</sup> La W, see <sup>131</sup> La	9E+2	4E+0 1E+1	1E-9 6E-9	5E-12 2E-11	1E-5	1E-4
57	Lanthanum-140	D, see <sup>131</sup> La W, see <sup>131</sup> La	6E+2	1E+3 1E+3	6E-7 5E-7	2E-9 2E-9	9E-6	9E-5
57	Lanthanum-141	D, see <sup>131</sup> La W, see <sup>131</sup> La	4E+3	9E+3 1E+4	4E-6 5E-6	1E-8 2E-8	5E-5	5E-4
57	Lanthanum-142 <sup>2</sup>	D, see <sup>131</sup> La W, see <sup>131</sup> La	8E+3	2E+4 3E+4	9E-6 1E-5	3E-8 5E-8	1E-4	1E-3

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration ( $\mu\text{Ci/ml}$ )	
			Inhalation		Air ( $\mu\text{Ci/ml}$ )	Water ( $\mu\text{Ci/ml}$ )		
		ALI ( $\mu\text{Ci}$ )	DAC ( $\mu\text{Ci/ml}$ )					
57	Lanthanum-143 <sup>2</sup>	D, see <sup>131</sup> La	4E+4	1E+5	4E-5	1E-7	-	
	St wall (4E+4)		-	-	-	5E-4	5E-3	
	W, see <sup>131</sup> La		9E+4	4E-5	1E-7	-	-	
58	Cerium-134	W, all compounds except those given for Y	5E+2	7E+2	3E-7	1E-9	-	
			LLI wall (6E+2)	-	-	-	8E-6	8E-5
	Y, oxides, hydroxides, and fluorides		7E+2	3E-7	9E-10	-	-	
58	Cerium-135	W, see <sup>134</sup> Ce	2E+3	4E+3	2E-6	5E-9	2E-5	2E-4
			Y, see <sup>134</sup> Ce	-	4E+3	1E-6	5E-9	-
58	Cerium-137m	W, see <sup>134</sup> Ce	2E+3	4E+3	2E-6	6E-9	-	
			LLI wall (2E+3)	-	-	-	3E-5	3E-4
	Y, see <sup>134</sup> Ce		4E+3	2E-6	5E-9	-	-	
58	Cerium-137	W, see <sup>134</sup> Ce	5E+4	1E+5	6E-5	2E-7	7E-4	7E-3
			Y, see <sup>134</sup> Ce	-	1E+5	5E-5	2E-7	-
58	Cerium-139	W, see <sup>134</sup> Ce	5E+3	8E+2	3E-7	1E-9	7E-5	7E-4
			Y, see <sup>134</sup> Ce	-	7E+2	3E-7	9E-10	-
58	Cerium-141	W, see <sup>134</sup> Ce	2E+3	7E+2	3E-7	1E-9	-	
			LLI wall (2E+3)	-	-	-	3E-5	3E-4
	Y, see <sup>134</sup> Ce		6E+2	2E-7	8E-10	-	-	
58	Cerium-143	W, see <sup>134</sup> Ce	1E+3	2E+3	8E-7	3E-9	-	
			LLI wall (1E+3)	-	-	-	2E-5	2E-4
	Y, see <sup>134</sup> Ce		2E+3	7E-7	2E-9	-	-	
58	Cerium-144	W, see <sup>134</sup> Ce	2E+2	3E+1	1E-8	4E-11	-	
			LLI wall (3E+2)	-	-	-	3E-6	3E-5
	Y, see <sup>134</sup> Ce		1E+1	6E-9	2E-11	-	-	
59	Praseodymium-136 <sup>2</sup>	W, all compounds except those given for Y	5E+4	2E+5	1E-4	3E-7	-	
			St wall (7E+4)	-	-	-	1E-3	1E-2
	Y, oxides, hydroxides, carbides, and fluorides		2E+5	9E-5	3E-7	-	-	
59	Praseodymium-137 <sup>2</sup>	W, see <sup>136</sup> Pr	4E+4	2E+5	6E-5	2E-7	5E-4	5E-3
			Y, see <sup>136</sup> Pr	-	1E+5	6E-5	2E-7	-
59	Praseodymium-138m	W, see <sup>136</sup> Pr	1E+4	5E+4	2E-5	8E-8	1E-4	1E-3
			Y, see <sup>136</sup> Pr	-	4E+4	2E-5	6E-8	-
59	Praseodymium-139	W, see <sup>136</sup> Pr	4E+4	1E+5	5E-5	2E-7	6E-4	6E-3
			Y, see <sup>136</sup> Pr	-	1E+5	5E-5	2E-7	-
59	Praseodymium-142m <sup>2</sup>	W, see <sup>136</sup> Pr	8E+4	2E+5	7E-5	2E-7	1E-3	1E-2
			Y, see <sup>136</sup> Pr	-	1E+5	6E-5	2E-7	-
59	Praseodymium-142	W, see <sup>136</sup> Pr	1E+3	2E+3	9E-7	3E-9	1E-5	1E-4
			Y, see <sup>136</sup> Pr	-	2E+3	8E-7	3E-9	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI (μCi)	Col. 2 Col. 3 Inhalation		Col. 1 Air (μCi/ml)	Col. 2 Water (μCi/ml)	Monthly Average Concentration (μCi/ml)
			ALI (μCi)	DAC (μCi/ml)			
59	Praseodymium-143 W, see <sup>136</sup> Pr	9E+2 LLI wall (1E+3)	8E+2	3E-7	1E-9	-	-
	Y, see <sup>136</sup> Pr	-	7E+2	3E-7	9E-10	2E-5	2E-4
59	Praseodymium-144 <sup>2</sup> W, see <sup>136</sup> Pr	3E+4 St wall (4E+4)	1E+5	5E-5	2E-7	-	-
	Y, see <sup>136</sup> Pr	-	1E+5	5E-5	2E-7	6E-4	6E-3
59	Praseodymium-145 W, see <sup>136</sup> Pr	3E+3	9E+3	4E-6	1E-8	4E-5	4E-4
	Y, see <sup>136</sup> Pr	-	8E+3	3E-6	1E-8	-	-
59	Praseodymium-147 <sup>2</sup> W, see <sup>136</sup> Pr	5E+4 St wall (8E+4)	2E+5	8E-5	3E-7	-	-
	Y, see <sup>136</sup> Pr	-	2E+5	8E-5	3E-7	1E-3	1E-2
60	Neodymium-136 <sup>2</sup> W, all compounds except those given for Y Y, oxides, hydroxides, carbides, and fluorides	1E+4	6E+4	2E-5	8E-8	2E-4	2E-3
		-	5E+4	2E-5	8E-8	-	-
60	Neodymium-138 W, see <sup>136</sup> Nd Y, see <sup>136</sup> Nd	2E+3	6E+3	3E-6	9E-9	3E-5	3E-4
		-	5E+3	2E-6	7E-9	-	-
60	Neodymium-139m W, see <sup>136</sup> Nd Y, see <sup>136</sup> Nd	5E+3	2E+4	7E-6	2E-8	7E-5	7E-4
		-	1E+4	6E-6	2E-8	-	-
60	Neodymium-139 <sup>2</sup> W, see <sup>136</sup> Nd Y, see <sup>136</sup> Nd	9E+4	3E+5	1E-4	5E-7	1E-3	1E-2
		-	3E+5	1E-4	4E-7	-	-
60	Neodymium-141 W, see <sup>136</sup> Nd Y, see <sup>136</sup> Nd	2E+5	7E+5	3E-4	1E-6	2E-3	2E-2
		-	6E+5	3E-4	9E-7	-	-
60	Neodymium-147 W, see <sup>136</sup> Nd Y, see <sup>136</sup> Nd	1E+3 LLI wall (1E+3)	9E+2	4E-7	1E-9	-	-
		-	8E+2	4E-7	1E-9	2E-5	2E-4
60	Neodymium-149 <sup>2</sup> W, see <sup>136</sup> Nd Y, see <sup>136</sup> Nd	1E+4	3E+4	1E-5	4E-8	1E-4	1E-3
		-	2E+4	1E-5	3E-8	-	-
60	Neodymium-151 <sup>2</sup> W, see <sup>136</sup> Nd Y, see <sup>136</sup> Nd	7E+4	2E+5	8E-5	3E-7	9E-4	9E-3
		-	2E+5	8E-5	3E-7	-	-
61	Promethium-141 <sup>2</sup> W, all compounds except those given for Y Y, oxides, hydroxides, carbides, and fluorides	5E+4 St wall (6E+4)	2E+5	8E-5	3E-7	-	-
		-	2E+5	7E-5	2E-7	8E-4	8E-3
61	Promethium-143 W, see <sup>141</sup> Pm Y, see <sup>141</sup> Pm	5E+3	6E+2	2E-7	8E-10	7E-5	7E-4
		-	7E+2	3E-7	1E-9	-	-
61	Promethium-144 W, see <sup>141</sup> Pm Y, see <sup>141</sup> Pm	1E+3	1E+2	5E-8	2E-10	2E-5	2E-4
		-	1E+2	5E-8	2E-10	-	-
61	Promethium-145 W, see <sup>141</sup> Pm Y, see <sup>141</sup> Pm	1E+4	2E+2	7E-8	-	1E-4	1E-3
		-	Bone surf (2E+2)	-	3E-10	-	-
			2E+2	8E-8	3E-10	-	-



Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1 Oral Ingestion	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration ( $\mu\text{Ci/ml}$ )	
		ALI ( $\mu\text{Ci}$ )	Inhalation ALI ( $\mu\text{Ci}$ )	DAC ( $\mu\text{Ci/ml}$ )	Air ( $\mu\text{Ci/ml}$ )	Water ( $\mu\text{Ci/ml}$ )		
61	Promethium-146	W, see $^{141}\text{Pm}$ Y, see $^{141}\text{Pm}$	2E+3 -	5E+1 4E+1	2E-8 2E-8	7E-11 6E-11	2E-5 -	2E-4 -
61	Promethium-147	W, see $^{141}\text{Pm}$ Y, see $^{141}\text{Pm}$	4E+3 LLI wall (5E+3) -	1E+2 Bone surf (2E+2) 1E+2	5E-8 - 6E-8	- 3E-10 2E-10	- 7E-5 -	- 7E-4 -
61	Promethium-148m	W, see $^{141}\text{Pm}$ Y, see $^{141}\text{Pm}$	7E+2 -	3E+2 3E+2	1E-7 1E-7	4E-10 5E-10	1E-5 -	1E-4 -
61	Promethium-148	W, see $^{141}\text{Pm}$ Y, see $^{141}\text{Pm}$	4E+2 LLI wall (5E+2) -	5E+2 - 5E+2	2E-7 - 2E-7	8E-10 - 7E-10	- 7E-6 -	- 7E-5 -
61	Promethium-149	W, see $^{141}\text{Pm}$ Y, see $^{141}\text{Pm}$	1E+3 LLI wall (1E+3) -	2E+3 - 2E+3	8E-7 - 8E-7	3E-9 - 2E-9	- 2E-5 -	- 2E-4 -
61	Promethium-150	W, see $^{141}\text{Pm}$ Y, see $^{141}\text{Pm}$	5E+3 -	2E+4 2E+4	8E-6 7E-6	3E-8 2E-8	7E-5 -	7E-4 -
61	Promethium-151	W, see $^{141}\text{Pm}$ Y, see $^{141}\text{Pm}$	2E+3 -	4E+3 3E+3	1E-6 1E-6	5E-9 4E-9	2E-5 -	2E-4 -
62	Samarium-141m <sup>2</sup>	W, all compounds	3E+4	1E+5	4E-5	1E-7	4E-4	4E-3
62	Samarium-141 <sup>2</sup>	W, all compounds	5E+4 St wall (6E+4) -	2E+5 - -	8E-5 - -	2E-7 - -	- 8E-4 -	- 8E-3 -
62	Samarium-142 <sup>2</sup>	W, all compounds	8E+3	3E+4	1E-5	4E-8	1E-4	1E-3
62	Samarium-145	W, all compounds	6E+3	5E+2	2E-7	7E-10	8E-5	8E-4
62	Samarium-146	W, all compounds	1E+1 Bone surf (3E+1)	4E2 Bone surf (6E-2)	1E-11 - -	- 9E-14 -	- 3E-7 -	- 3E-6 -
62	Samarium-147	W, all compounds	2E+1 Bone surf (3E+1)	4E2 Bone surf (7E-2)	2E-11 - -	- 1E-13 -	- 4E-7 -	- 4E-6 -
62	Samarium-151	W, all compounds	1E+4 LLI wall (1E+4)	1E+2 Bone surf (2E+2)	4E-8 - -	- 2E-10 -	- 2E-4 -	- 2E-3 -
62	Samarium-153	W, all compounds	2E+3 LLI wall (2E+3)	3E+3 -	1E-6 - -	4E-9 - -	- 3E-5 -	- 3E-4 -
62	Samarium-155 <sup>2</sup>	W, all compounds	6E+4 St wall (8E+4) -	2E+5 - -	9E-5 - -	3E-7 - -	- 1E-3 -	- 1E-2 -
62	Samarium-156	W, all compounds	5E+3	9E+3	4E-6	1E-8	7E-5	7E-4
63	Europium-145	W, all compounds	2E+3	2E+3	8E-7	3E-9	2E-5	2E-4
63	Europium-146	W, all compounds	1E+3	1E+3	5E-7	2E-9	1E-5	1E-4
63	Europium-147	W, all compounds	3E+3	2E+3	7E-7	2E-9	4E-5	4E-4

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Col. 2 <u>Inhalation</u> ALI ( $\mu\text{Ci}$ )	Col. 3 DAC ( $\mu\text{Ci/ml}$ )	Col. 1 Air ( $\mu\text{Ci/ml}$ )	Col. 2 Water ( $\mu\text{Ci/ml}$ )	Monthly Average Concentration ( $\mu\text{Ci/ml}$ )	
63	Europium-148	W, all compounds	1E+3	4E+2	1E-7	5E-10	1E-5	1E-4
63	Europium-149	W, all compounds	1E+4	3E+3	1E-6	4E-9	2E-4	2E-3
63	Europium-150 (12.62 h)	W, all compounds	3E+3	8E+3	4E-6	1E-8	4E-5	4E-4
63	Europium-150 (34.2 y)	W, all compounds	8E+2	2E+1	8E-9	3E-11	1E-5	1E-4
63	Europium-152m	W, all compounds	3E+3	6E+3	3E-6	9E-9	4E-5	4E-4
63	Europium-152	W, all compounds	8E+2	2E+1	1E-8	3E-11	1E-5	1E-4
63	Europium-154	W, all compounds	5E+2	2E+1	8E-9	3E-11	7E-6	7E-5
63	Europium-155	W, all compounds	4E+3	9E+1 Bone surf (1E+2)	4E-8	- 2E-10	5E-5	5E-4
63	Europium-156	W, all compounds	6E+2	5E+2	2E-7	6E-10	8E-6	8E-5
63	Europium-157	W, all compounds	2E+3	5E+3	2E-6	7E-9	3E-5	3E-4
63	Europium-158 <sup>2</sup>	W, all compounds	2E+4	6E+4	2E-5	8E-8	3E-4	3E-3
64	Gadolinium-145 <sup>2</sup>	D, all compounds except those given for W	5E+4 St wall (5E+4)	2E+5	6E-5	2E-7	-	-
		W, oxides, hydroxides, and fluorides	-	2E+5	7E-5	2E-7	-	-
64	Gadolinium-146	D, see <sup>146</sup> Gd	1E+3	1E+2	5E-8	2E-10	2E-5	2E-4
		W, see <sup>146</sup> Gd	-	3E+2	1E-7	4E-10	-	-
64	Gadolinium-147	D, see <sup>146</sup> Gd	2E+3	4E+3	2E-6	6E-9	3E-5	3E-4
		W, see <sup>146</sup> Gd	-	4E+3	1E-6	5E-9	-	-
64	Gadolinium-148	D, see <sup>146</sup> Gd	1E+1	8E+3	3E-12	-	-	-
		Bone surf (2E+1)	-	Bone surf (2E+2)	-	2E-14	3E-7	3E-6
		W, see <sup>146</sup> Gd	-	3E-2	1E-11	-	-	-
			-	Bone surf (6E-2)	-	8E-14	-	-
64	Gadolinium-149	D, see <sup>146</sup> Gd	3E+3	2E+3	9E-7	3E-9	4E-5	4E-4
		W, see <sup>146</sup> Gd	-	2E+3	1E-6	3E-9	-	-
64	Gadolinium-151	D, see <sup>146</sup> Gd	6E+3	4E+2	2E-7	-	9E-5	9E-4
		W, see <sup>146</sup> Gd	-	Bone surf (6E+2)	-	9E-10	-	-
			-	1E+3	5E-7	2E-9	-	-
64	Gadolinium-152	D, see <sup>146</sup> Gd	2E+1	1E-2	4E-12	-	-	-
		Bone surf (3E+1)	-	Bone surf (2E-2)	-	3E-14	4E-7	4E-6
		W, see <sup>146</sup> Gd	-	4E-2	2E-11	-	-	-
			-	Bone surf (8E-2)	-	1E-13	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI (μCi)	Col. 2 Col. 3 Inhalation		Col. 1 Air (μCi/ml)	Col. 2 Water (μCi/ml)	Monthly Average Concentration (μCi/ml)
			ALI (μCi)	DAC (μCi/ml)			
64 Gadolinium-153	D, see <sup>145</sup> Gd	5E+3	1E+2 Bone surf (2E+2)	6E-8	-	6E-5	6E-4
	W, see <sup>148</sup> Gd	-	6E+2	2E-7	3E-10 8E-10	-	-
64 Gadolinium-159	D, see <sup>145</sup> Gd	3E+3	8E+3	3E-6	1E-8	4E-5	4E-4
	W, see <sup>148</sup> Gd	-	6E+3	2E-6	8E-9	-	-
65 Terbium-147 <sup>2</sup>	W, all compounds	9E+3	3E+4	1E-5	5E-8	1E-4	1E-3
65 Terbium-149	W, all compounds	5E+3	7E+2	3E-7	1E-9	7E-5	7E-4
65 Terbium-150	W, all compounds	5E+3	2E+4	9E-6	3E-8	7E-5	7E-4
65 Terbium-151	W, all compounds	4E+3	9E+3	4E-6	1E-8	5E-5	5E-4
65 Terbium-153	W, all compounds	5E+3	7E+3	3E-6	1E-8	7E-5	7E-4
65 Terbium-154	W, all compounds	2E+3	4E+3	2E-6	6E-9	2E-5	2E-4
65 Terbium-155	W, all compounds	6E+3	8E+3	3E-6	1E-8	8E-5	8E-4
65 Terbium-156m (5.0 h)	W, all compounds	2E+4	3E+4	1E-5	4E-8	2E-4	2E-3
65 Terbium-156m (24.4 h)	W, all compounds	7E+3	8E+3	3E-6	1E-8	1E-4	1E-3
65 Terbium-156	W, all compounds	1E+3	1E+3	6E-7	2E-9	1E-5	1E-4
65 Terbium-157	W, all compounds	5E+4 LLI wall (5E+4)	3E+2 Bone surf (6E+2)	1E-7	-	-	-
65 Terbium-158	W, all compounds	1E+3	2E+1	8E-9	3E-11	2E-5	2E-4
65 Terbium-160	W, all compounds	8E+2	2E+2	9E-8	3E-10	1E-5	1E-4
65 Terbium-161	W, all compounds	2E+3 LLI wall (2E+3)	2E+3	7E-7	2E-9	-	-
66 Dysprosium-155	W, all compounds	9E+3	3E+4	1E-5	4E-8	1E-4	1E-3
66 Dysprosium-157	W, all compounds	2E+4	6E+4	3E-5	9E-8	3E-4	3E-3
66 Dysprosium-159	W, all compounds	1E+4	2E+3	1E-6	3E-9	2E-4	2E-3
66 Dysprosium-165	W, all compounds	1E+4	5E+4	2E-5	6E-8	2E-4	2E-3
66 Dysprosium-166	W, all compounds	6E+2 LLI wall (8E+2)	7E+2	3E-7	1E-9	-	-
67 Holmium-155 <sup>2</sup>	W, all compounds	4E+4	2E+5	6E-5	2E-7	6E-4	6E-3
67 Holmium-157 <sup>2</sup>	W, all compounds	3E+5	1E+6	6E-4	2E-6	4E-3	4E-2
67 Holmium-159 <sup>2</sup>	W, all compounds	2E+5	1E+6	4E-4	1E-6	3E-3	3E-2
67 Holmium-161	W, all compounds	1E+5	4E+5	2E-4	6E-7	1E-3	1E-2
67 Holmium-162m <sup>2</sup>	W, all compounds	5E+4	3E+5	1E-4	4E-7	7E-4	7E-3

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Inhalation		Col. 1 Air ( $\mu\text{Ci/ml}$ )	Col. 2 Water ( $\mu\text{Ci/ml}$ )	Monthly Average Concentration ( $\mu\text{Ci/ml}$ )	
			Col. 2 ALI ( $\mu\text{Ci}$ )	Col. 3 DAC ( $\mu\text{Ci/ml}$ )				
67	Holmium-162 <sup>2</sup>	W, all compounds	5E+5 St wall (8E+5)	2E+6	1E-3	3E-6	-	1E-1
67	Holmium-164m <sup>2</sup>	W, all compounds	1E+5	3E+5	1E-4	4E-7	1E-3	1E-2
67	Holmium-164 <sup>2</sup>	W, all compounds	2E+5 St wall (2E+5)	6E+5	3E-4	9E-7	-	3E-2
67	Holmium-166m	W, all compounds	6E+2	7E+0	3E-9	9E-12	9E-6	9E-5
67	Holmium-166	W, all compounds	9E+2 LLI wall (9E+2)	2E+3	7E-7	2E-9	-	1E-4
67	Holmium-167	W, all compounds	2E+4	6E+4	2E-5	8E-8	2E-4	2E-3
68	Erbium-161	W, all compounds	2E+4	6E+4	3E-5	9E-8	2E-4	2E-3
68	Erbium-165	W, all compounds	6E+4	2E+5	8E-5	3E-7	9E-4	9E-3
68	Erbium-169	W, all compounds	3E+3 LLI wall (4E+3)	3E+3	1E-6	4E-9	-	5E-4
68	Erbium-171	W, all compounds	4E+3	1E+4	4E-6	1E-8	5E-5	5E-4
68	Erbium-172	W, all compounds	1E+3 LLI wall (E+3)	1E+3	6E-7	2E-9	-	2E-4
69	Thulium-162 <sup>2</sup>	W, all compounds	7E+4 St wall (7E+4)	3E+5	1E-4	4E-7	-	1E-2
69	Thulium-166	W, all compounds	4E+3	1E+4	6E-6	2E-8	6E-5	6E-4
69	Thulium-167	W, all compounds	2E+3 LLI wall (2E+3)	2E+3	8E-7	3E-9	-	3E-4
69	Thulium-170	W, all compounds	8E+2 LLI wall (1E+3)	2E+2	9E-8	3E-10	-	1E-4
69	Thulium-171	W, all compounds	1E+4 LLI wall (1E+4)	3E+2 Bone surf (6E+2)	1E-7	8E-10	2E-4	2E-3
69	Thulium-172	W, all compounds	7E+2 LLI wall (8E+2)	1E+3	5E-7	2E-9	-	1E-4
69	Thulium-173	W, all compounds	4E+3	1E+4	5E-6	2E-8	6E-5	6E-4
69	Thulium-175 <sup>2</sup>	W, all compounds	7E+4 St wall (9E+4)	3E+5	1E-4	4E-7	-	1E-2
70	Ytterbium-162 <sup>2</sup>	W, all compounds except those given for Y, oxides, hydroxides, and fluorides	7E+4	3E+5	1E-4	4E-7	1E-3	1E-2
			-	3E+5	1E-4	4E-7	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1 Oral Ingestion ALI ( $\mu$ Ci)	Inhalation		Col. 1 Air ( $\mu$ Ci/ml)	Col. 2 Water ( $\mu$ Ci/ml)	Monthly Average Concentration ( $\mu$ Ci/ml)	
			Col. 2 ALI ( $\mu$ Ci)	Col. 3 DAC ( $\mu$ Ci/ml)				
70	Ytterbium-166	W, see <sup>162</sup> Yb Y, see <sup>162</sup> Yb	1E+3 -	2E+3 2E+3	8E-7 8E-7	3E-9 3E-9	2E-5 -	2E-4 -
70	Ytterbium-167 <sup>2</sup>	W, see <sup>162</sup> Yb Y, see <sup>162</sup> Yb	3E+5 -	8E+5 7E+5	3E-4 3E-4	1E-6 1E-6	4E-3 -	4E-2 -
70	Ytterbium-169	W, see <sup>162</sup> Yb Y, see <sup>162</sup> Yb	2E+3 -	8E+2 7E+2	4E-7 3E-7	1E-9 1E-9	2E-5 -	2E-4 -
70	Ytterbium-175	W, see <sup>162</sup> Yb  Y, see <sup>162</sup> Yb	3E+3 LLI wall (3E+3) -	4E+3 - 3E+3	1E-6 - 1E-6	5E-9 - 5E-9	- -E-5 -	- 4E-4 -
70	Ytterbium-177 <sup>2</sup>	W, see <sup>162</sup> Yb Y, see <sup>162</sup> Yb	2E+4 -	5E+4 5E+4	2E-5 2E-5	7E-8 6E-8	2E-4 -	2E-3 -
70	Ytterbium-178 <sup>2</sup>	W, see <sup>162</sup> Yb Y, see <sup>162</sup> Yb	1E+4 -	4E+4 4E+4	2E-5 2E-5	6E-8 5E-8	2E-4 -	2E-3 -
71	Lutetium-169	W, all compounds except those given for Y Y, oxides, hydroxides, and fluorides	3E+3 -	4E+3 4E+3	2E-6 2E-6	6E-9 6E-9	3E-5 -	3E-4 -
71	Lutetium-170	W, see <sup>169</sup> Lu Y, see <sup>169</sup> Lu	1E+3 -	2E+3 2E+3	9E-7 8E-7	3E-9 3E-9	2E-5 -	2E-4 -
71	Lutetium-171	W, see <sup>169</sup> Lu Y, see <sup>169</sup> Lu	2E+3 -	2E+3 2E+3	8E-7 8E-7	3E-9 3E-9	3E-5 -	3E-4 -
71	Lutetium-172	W, see <sup>169</sup> Lu Y, see <sup>169</sup> Lu	1E+3 -	1E+3 1E+3	5E-7 5E-7	2E-9 2E-9	1E-5 -	1E-4 -
71	Lutetium-173	W, see <sup>169</sup> Lu  Y, see <sup>169</sup> Lu	5E+3 -	3E+2 Bone surf (5E+2) 3E+2	1E-7 - 1E-7	- 6E-10 4E-10	7E-5 - -	7E-4 - -
71	Lutetium-174m	W, see <sup>169</sup> Lu  Y, see <sup>169</sup> Lu	2E+3 LLI wall (3E+3) -	2E+2 Bone surf (3E+2) 2E+2	1E-7 - 9E-8	- 5E-10 3E-10	- 4E-5 -	- 4E-4 -
71	Lutetium-174	W, see <sup>169</sup> Lu  Y, see <sup>169</sup> Lu	5E+3 -	1E+2 Bone surf (2E+2) 2E+2	5E-8 - 6E-8	- 3E-10 2E-10	7E-5 - -	7E-4 - -
71	Lutetium-176m	W, see <sup>169</sup> Lu Y, see <sup>169</sup> Lu	8E+3 -	3E+4 2E+4	1E-5 9E-6	3E-8 3E-8	1E-4 -	1E-3 -
71	Lutetium-176	W, see <sup>169</sup> Lu  Y, see <sup>169</sup> Lu	7E+2 -	5E+0 Bone surf (1E+1) 8E+0	2E-9 - 3E-9	- 2E-11 1E-11	1E-5 - -	1E-4 - -
71	Lutetium-177m	W, see <sup>169</sup> Lu  Y, see <sup>169</sup> Lu	7E+2 -	1E+2 Bone surf (1E+2) 8E+1	5E-8 - 3E-8	- 2E-10 1E-10	1E-5 - -	1E-4 - -

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1 Oral Ingestion ALI ( $\mu$ Ci)	Col. 2 Col. 3 Inhalation		Col. 1 Air ( $\mu$ Ci/ml)	Col. 2 Water ( $\mu$ Ci/ml)	Monthly Average Concentration ( $\mu$ Ci/ml)	
			ALI ( $\mu$ Ci)	DAC ( $\mu$ Ci/ml)				
71	Lutetium-177	W, see $^{169}\text{Lu}$	2E+3 LLI wall (3E+3)	2E+3	9E-7	3E-9	-	-
		Y, see $^{169}\text{Lu}$	-	2E+3	9E-7	3E-9	4E-5	4E-4
71	Lutetium-178m <sup>2</sup>	W, see $^{169}\text{Lu}$	5E+4 St. wall (6E+4)	2E+5	8E-5	3E-7	-	-
		Y, see $^{169}\text{Lu}$	-	2E+5	7E-5	2E-7	8E-4	8E-3
71	Lutetium-178 <sup>2</sup>	W, see $^{169}\text{Lu}$	4E+4 St wall (4E+4)	1E+5	5E-5	2E-7	-	-
		Y, see $^{169}\text{Lu}$	-	1E+5	5E-5	2E-7	6E-4	6E-3
71	Lutetium-179	W, see $^{169}\text{Lu}$	6E+3	2E+4	8E-6	3E-8	9E-5	9E-4
		Y, see $^{169}\text{Lu}$	-	2E+4	6E-6	3E-8	-	-
72	Hafnium-170	D, all compounds except those given for W	3E+3	6E+3	2E-6	8E-9	4E-5	4E-4
		W, oxides, hydroxides, carbides, and nitrates	-	5E+3	2E-6	6E-9	-	-
72	Hafnium-172	D, see $^{170}\text{Hf}$	1E+3	9E+0	4E-9	-	2E-5	2E-4
		W, see $^{170}\text{Hf}$	-	Bone surf (2E+1)	-	3E-11	-	-
		-	-	4E+1	2E-8	-	-	-
72	Hafnium-173	D, see $^{170}\text{Hf}$	5E+3	1E+4	5E-6	2E-8	7E-5	7E-4
		W, see $^{170}\text{Hf}$	-	1E+4	5E-6	2E-8	-	-
		-	-	Bone surf (6E+1)	-	8E-11	-	-
72	Hafnium-175	D, see $^{170}\text{Hf}$	3E+3	9E+2	4E-7	-	4E-5	4E-4
		W, see $^{170}\text{Hf}$	-	Bone surf (1E+3)	-	1E-9	-	-
		-	-	1E+3	5E-7	2E-9	-	-
72	Hafnium-177m <sup>2</sup>	D, see $^{170}\text{Hf}$	2E+4	6E+4	2E-5	8E-8	3E-4	3E-3
		W, see $^{170}\text{Hf}$	-	9E+4	4E-5	1E-7	-	-
72	Hafnium-178m	D, see $^{170}\text{Hf}$	3E+2	1E+0	5E-10	-	3E-6	3E-5
		W, see $^{170}\text{Hf}$	-	Bone surf (2E+0)	-	3E-12	-	-
		-	-	5E+0	2E-9	-	-	-
72	Hafnium-179m	D, see $^{170}\text{Hf}$	1E+3	3E+2	1E-7	-	1E-5	1E-4
		W, see $^{170}\text{Hf}$	-	Bone surf (6E+2)	-	8E-10	-	-
		-	-	6E+2	3E-7	8E-10	-	-
72	Hafnium-180m	D, see $^{170}\text{Hf}$	7E+3	2E+4	9E-6	3E-8	1E-4	1E-3
		W, see $^{170}\text{Hf}$	-	3E+4	1E-5	4E-8	-	-
72	Hafnium-181	D, see $^{170}\text{Hf}$	1E+3	2E+2	7E-8	-	2E-5	2E-4
		W, see $^{170}\text{Hf}$	-	Bone surf (4E+2)	-	6E-10	-	-
72	Hafnium-182m <sup>2</sup>	D, see $^{170}\text{Hf}$	4E+4	9E+4	4E-5	1E-7	5E-4	5E-3
		W, see $^{170}\text{Hf}$	-	1E+5	6E-5	2E-7	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Col. 2 ALI ( $\mu\text{Ci}$ )	Col. 3 DAC ( $\mu\text{Ci/ml}$ )	Col. 1 Air ( $\mu\text{Ci/ml}$ )	Col. 2 Water ( $\mu\text{Ci/ml}$ )	Monthly Average Concentration ( $\mu\text{Ci/ml}$ )
72 Hafnium-182	D, see $^{170}\text{Hf}$	2E+2 Bone surf (4E+2)	8E-1 Bone surf (2E+0)	3E-10	-	-	-
	W, see $^{170}\text{Hf}$	-	3E+0 Bone surf (7E+0)	1E-9	2E-12	5E-6	5E-5
72 Hafnium-183 <sup>2</sup>	D, see $^{170}\text{Hf}$	2E+4	5E+4	2E-5	6E-8	3E-4	3E-3
	W, see $^{170}\text{Hf}$	-	6E+4	2E-5	8E-8	-	-
72 Hafnium-184	D, see $^{170}\text{Hf}$	2E+3	8E+3	3E-6	1E-8	3E-5	3E-4
	W, see $^{170}\text{Hf}$	-	6E+3	3E-6	9E-9	-	-
73 Tantalum-172 <sup>2</sup>	W, all compounds except those given for Y Y, elemental Ta, oxides, hydroxides, halides, carbides, nitrates, and nitrides	4E+4	1E+5	5E-5	2E-7	5E-4	5E-3
		-	1E+5	4E-5	1E-7	-	-
73 Tantalum-173	W, see $^{172}\text{Ta}$	7E+3	2E+4	8E-6	3E-8	9E-5	9E-4
	Y, see $^{172}\text{Ta}$	-	2E+4	7E-6	2E-8	-	-
73 Tantalum-174 <sup>2</sup>	W, see $^{172}\text{Ta}$	3E+4	1E+5	4E-5	1E-7	4E-4	4E-3
	Y, see $^{172}\text{Ta}$	-	9E+4	4E-5	1E-7	-	-
73 Tantalum-175	W, see $^{172}\text{Ta}$	6E+3	2E+4	7E-6	2E-8	8E-5	8E-4
	Y, see $^{172}\text{Ta}$	-	1E+4	6E-6	2E-8	-	-
73 Tantalum-176	W, see $^{172}\text{Ta}$	4E+3	1E+4	5E-6	2E-8	5E-5	5E-4
	Y, see $^{172}\text{Ta}$	-	1E+4	5E-6	2E-8	-	-
73 Tantalum-177	W, see $^{172}\text{Ta}$	1E+4	2E+4	8E-6	3E-8	2E-4	2E-3
	Y, see $^{172}\text{Ta}$	-	2E+4	7E-6	2E-8	-	-
73 Tantalum-178	W, see $^{172}\text{Ta}$	2E+4	9E+4	4E-5	1E-7	2E-4	2E-3
	Y, see $^{172}\text{Ta}$	-	7E+4	3E-5	1E-7	-	-
73 Tantalum-179	W, see $^{172}\text{Ta}$	2E+4	5E+3	2E-6	8E-9	3E-4	3E-3
	Y, see $^{172}\text{Ta}$	-	9E+2	4E-7	1E-9	-	-
73 Tantalum-180m	W, see $^{172}\text{Ta}$	2E+4	7E+4	3E-5	9E-8	3E-4	3E-3
	Y, see $^{172}\text{Ta}$	-	6E+4	2E-5	8E-8	-	-
73 Tantalum-180	W, see $^{172}\text{Ta}$	1E+3	4E+2	2E-7	6E-10	2E-5	2E-4
	Y, see $^{172}\text{Ta}$	-	2E+1	1E-8	3E-11	-	-
73 Tantalum-182m <sup>2</sup>	W, see $^{172}\text{Ta}$	2E+5 St wall (2E+5)	5E+5	2E-4	8E-7	-	-
	Y, see $^{172}\text{Ta}$	-	4E+5	2E-4	6E-7	3E-3	3E-2
73 Tantalum-182	W, see $^{172}\text{Ta}$	8E+2	3E+2	1E-7	5E-10	1E-5	1E-4
	Y, see $^{172}\text{Ta}$	-	1E+2	6E-8	2E-10	-	-
73 Tantalum-183	W, see $^{172}\text{Ta}$	9E+2 LLI wall (1E+3)	1E+3	5E-7	2E-9	-	-
	Y, see $^{172}\text{Ta}$	-	1E+3	4E-7	1E-9	2E-5	2E-4
73 Tantalum-184	W, see $^{172}\text{Ta}$	2E+3	5E+3	2E-6	8E-9	3E-5	3E-4
	Y, see $^{172}\text{Ta}$	-	5E+3	2E-6	7E-9	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Col. 2 <u>Inhalation</u> ALI ( $\mu\text{Ci}$ )	Col. 3 DAC ( $\mu\text{Ci}/\text{ml}$ )	Col. 1 Air ( $\mu\text{Ci}/\text{ml}$ )	Col. 2 Water ( $\mu\text{Ci}/\text{ml}$ )	Monthly Average Concentration ( $\mu\text{Ci}/\text{ml}$ )	
73	Tantalum-185 <sup>2</sup>	W, see <sup>172</sup> Ta Y, see <sup>172</sup> Ta	3E+4 -	7E+4 6E+4	3E-5 3E-5	1E-7 9E-8	4E-4 -	4E-3 -
73	Tantalum-186 <sup>2</sup>	W, see <sup>172</sup> Ta  Y, see <sup>172</sup> Ta	5E+4 St wall (7E+4) -	2E+5 - 2E+5	1E-4 - 9E-5	3E-7 - 3E-7	- 1E-3 -	- 1E-2 -
74	Tungsten-176	D, all compounds	1E+4	5E+4	2E-5	7E-8	1E-4	1E-3
74	Tungsten-177	D, all compounds	2E+4	9E+4	4E-5	1E-7	3E-4	3E-3
74	Tungsten-178	D, all compounds	5E+3	2E+4	8E-6	3E-8	7E-5	7E-4
74	Tungsten-179 <sup>2</sup>	D, all compounds	5E+5	2E+6	7E-4	2E-6	7E-3	7E-2
74	Tungsten-181	D, all compounds	2E+4	3E+4	1E-5	5E-8	2E-4	2E-3
74	Tungsten-185	D, all compounds	2E+3 LLI wall (3E+3)	7E+3 -	3E-6 -	9E-9 -	- 4E-5	- 4E-4
74	Tungsten-187	D, all compounds	2E+3	9E+3	4E-6	1E-8	3E-5	3E-4
74	Tungsten-188	D, all compounds	4E+2 LLI wall (5E+2)	1E+3 -	5E-7 -	2E-9 -	- 7E-6	- 7E-5
75	Rhenium-177 <sup>2</sup>	D, all compounds except those given for W  W, oxides, hydroxides, and nitrates	9E+4 St wall (1E+5) -	3E+5 - 4E+5	1E-4 - 1E-4	4E-7 - 5E-7	- 2E-3 -	- 2E-2 -
75	Rhenium-178 <sup>2</sup>	D, see <sup>177</sup> Re  W, see <sup>177</sup> Re	7E+4 St wall (1E+5) -	3E+5 - 3E+5	1E-4 - 1E-4	4E-7 - 4E-7	- 1E-3 -	- 1E-2 -
75	Rhenium-181	D, see <sup>177</sup> Re W, see <sup>177</sup> Re	5E+3 -	9E+3 9E+3	4E-6 4E-6	1E-8 1E-8	7E-5 -	7E-4 -
75	Rhenium-182 (12.7 h)	D, see <sup>177</sup> Re W, see <sup>177</sup> Re	7E+3 -	1E+4 2E+4	5E-6 6E-6	2E-8 2E-8	9E-5 -	9E-4 -
75	Rhenium-182 (64.0 h)	D, see <sup>177</sup> Re W, see <sup>177</sup> Re	1E+3 -	2E+3 2E+3	1E-6 9E-7	3E-9 3E-9	2E-5 -	2E-4 -
75	Rhenium-184m	D, see <sup>177</sup> Re W, see <sup>177</sup> Re	2E+3 -	3E+3 4E+2	1E-6 2E-7	4E-9 6E-10	3E-5 -	3E-4 -
75	Rhenium-184	D, see <sup>177</sup> Re W, see <sup>177</sup> Re	2E+3 -	4E+3 1E+3	1E-6 6E-7	5E-9 2E-9	3E-5 -	3E-4 -
75	Rhenium-186m	D, see <sup>177</sup> Re  W, see <sup>177</sup> Re	1E+3 St wall (2E+3) -	2E+3 St wall (2E+3) 2E+2	7E-7 - 6E-8	- 3E-9 2E-10	- 2E-5 -	- 2E-4 -
75	Rhenium-186	D, see <sup>177</sup> Re W, see <sup>177</sup> Re	2E+3 -	3E+3 2E+3	1E-6 7E-7	4E-9 2E-9	3E-5 -	3E-4 -



Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Col. 2 Col. 3 Inhalation		Col. 1 Air ( $\mu\text{Ci}/\text{ml}$ )	Col. 2 Water ( $\mu\text{Ci}/\text{ml}$ )	Monthly Average Concentration ( $\mu\text{Ci}/\text{ml}$ )
			ALI ( $\mu\text{Ci}$ )	DAC ( $\mu\text{Ci}/\text{ml}$ )			
75 Rhenium-187	D, see <sup>177</sup> Re	6E+5 St wall	8E+5	4E-4	-	8E-3	8E-2
	W, see <sup>177</sup> Re	-	(9E+5) 1E+5	- 4E-5	1E-6 1E-7	-	-
75 Rhenium-188m <sup>2</sup>	D, see <sup>177</sup> Re	8E+4	1E+5	6E-5	2E-7	1E-3	1E-2
	W, see <sup>177</sup> Re	-	1E+5	6E-5	2E-7	-	-
75 Rhenium-188	D, see <sup>177</sup> Re	2E+3	3E+3	1E-6	4E-9	2E-5	2E-4
	W, see <sup>177</sup> Re	-	3E+3	1E-6	4E-9	-	-
75 Rhenium-189	D, see <sup>177</sup> Re	3E+3	5E+3	2E-6	7E-9	4E-5	4E-4
	W, see <sup>177</sup> Re	-	4E+3	2E-6	6E-9	-	-
76 Osmium-180 <sup>2</sup>	D, all compounds except those given for W and Y	1E+5	4E+5	2E-4	5E-7	1E-3	1E-2
	W, halides and nitrates	-	5E+5	2E-4	7E-7	-	-
	Y, oxides and hydroxides	-	5E+5	2E-4	6E-7	-	-
76 Osmium-181 <sup>2</sup>	D, see <sup>180</sup> Os	1E+4	4E+4	2E-5	6E-8	2E-4	2E-3
	W, see <sup>180</sup> Os	-	5E+4	2E-5	6E-8	-	-
	Y, see <sup>180</sup> Os	-	4E+4	2E-5	6E-8	-	-
76 Osmium-182	D, see <sup>180</sup> Os	2E+3	6E+3	2E-6	8E-9	3E-5	3E-4
	W, see <sup>180</sup> Os	-	4E+3	2E-6	6E-9	-	-
	Y, see <sup>180</sup> Os	-	4E+3	2E-6	6E-9	-	-
76 Osmium-185	D, see <sup>180</sup> Os	2E+3	5E+2	2E-7	7E-10	3E-5	3E-4
	W, see <sup>180</sup> Os	-	8E+2	3E-7	1E-9	-	-
	Y, see <sup>180</sup> Os	-	8E+2	3E-7	1E-9	-	-
76 Osmium-189m	D, see <sup>180</sup> Os	8E+4	2E+5	1E-4	3E-7	1E-3	1E-2
	W, see <sup>180</sup> Os	-	2E+5	9E-5	3E-7	-	-
	Y, see <sup>180</sup> Os	-	2E+5	7E-5	2E-7	-	-
76 Osmium-191m	D, see <sup>180</sup> Os	1E+4	3E+4	1E-5	4E-8	2E-4	2E-3
	W, see <sup>180</sup> Os	-	2E+4	8E-6	3E-8	-	-
	Y, see <sup>180</sup> Os	-	2E+4	7E-6	2E-8	-	-
76 Osmium-191	D, see <sup>180</sup> Os	2E+3 LLI wall (3E+3)	2E+3	9E-7	3E-9	-	-
	W, see <sup>180</sup> Os	-	2E+3	7E-7	2E-9	3E-5	3E-4
	Y, see <sup>180</sup> Os	-	1E+3	6E-7	2E-9	-	-
76 Osmium-193	D, see <sup>180</sup> Os	2E+3 LLI wall (2E+3)	5E+3	2E-6	6E-9	-	-
	W, see <sup>180</sup> Os	-	3E+3	1E-6	4E-9	2E-5	2E-4
	Y, see <sup>180</sup> Os	-	3E+3	1E-6	4E-9	-	-
76 Osmium-194	D, see <sup>180</sup> Os	4E+2 LLI wall (6E+2)	4E+1	2E-8	6E-11	-	-
	W, see <sup>180</sup> Os	-	6E+1	2E-8	8E-11	8E-6	8E-5
	Y, see <sup>180</sup> Os	-	8E+0	3E-9	1E-11	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Col. 2 <u>Inhalation</u> ALI ( $\mu\text{Ci}$ )	Col. 3 DAC ( $\mu\text{Ci/ml}$ )	Col. 1 Air ( $\mu\text{Ci/ml}$ )	Col. 2 Water ( $\mu\text{Ci/ml}$ )	Monthly Average Concentration ( $\mu\text{Ci/ml}$ )
77 Iridium-182 <sup>2</sup>	D, all compounds except those given for W and Y	4E+4 St wall (4E+4)	1E+5	6E-5	2E-7	-	-
	W, halides, nitrates, and metallic iridium	-	2E+5	6E-5	2E-7	-	-
	Y, oxides and hydroxides	-	1E+5	5E-5	2E-7	-	-
77 Iridium-184	D, see <sup>182</sup> Ir	8E+3	2E+4	1E-5	3E-8	1E-4	1E-3
	W, see <sup>182</sup> Ir	-	3E+4	1E-5	5E-8	-	-
	Y, see <sup>182</sup> Ir	-	3E+4	1E-5	4E-8	-	-
77 Iridium-185	D, see <sup>182</sup> Ir	5E+3	1E+4	5E-6	2E-8	7E-5	7E-4
	W, see <sup>182</sup> Ir	-	1E+4	5E-6	2E-8	-	-
	Y, see <sup>182</sup> Ir	-	1E+4	4E-6	1E-8	-	-
77 Iridium-186	D, see <sup>182</sup> Ir	2E+3	8E+3	3E-6	1E-8	3E-5	3E-4
	W, see <sup>182</sup> Ir	-	6E+3	3E-6	9E-9	-	-
	Y, see <sup>182</sup> Ir	-	6E+3	2E-6	8E-9	-	-
77 Iridium-187	D, see <sup>182</sup> Ir	1E+4	3E+4	1E-5	5E-8	1E-4	1E-3
	W, see <sup>182</sup> Ir	-	3E+4	1E-5	4E-8	-	-
	Y, see <sup>182</sup> Ir	-	3E+4	1E-5	4E-8	-	-
77 Iridium-188	D, see <sup>182</sup> Ir	2E+3	5E+3	2E-6	6E-9	3E-5	3E-4
	W, see <sup>182</sup> Ir	-	4E+3	1E-6	5E-9	-	-
	Y, see <sup>182</sup> Ir	-	3E+3	1E-6	5E-9	-	-
77 Iridium-189	D, see <sup>182</sup> Ir	5E+3 LLI wall (5E+3)	5E+3	2E-6	7E-9	-	-
	W, see <sup>182</sup> Ir	-	4E+3	2E-6	5E-9	7E-5	7E-4
	Y, see <sup>182</sup> Ir	-	4E+3	1E-6	5E-9	-	-
77 Iridium-190m <sup>2</sup>	D, see <sup>182</sup> Ir	2E+5	2E+5	8E-5	3E-7	2E-3	2E-2
	W, see <sup>182</sup> Ir	-	2E+5	9E-5	3E-7	-	-
	Y, see <sup>182</sup> Ir	-	2E+5	8E-5	3E-7	-	-
77 Iridium-190	D, see <sup>182</sup> Ir	1E+3	9E+2	4E-7	1E-9	1E-5	1E-4
	W, see <sup>182</sup> Ir	-	1E+3	4E-7	1E-9	-	-
	Y, see <sup>182</sup> Ir	-	9E+2	4E-7	1E-9	-	-
77 Iridium-192m	D, see <sup>182</sup> Ir	3E+3	9E+1	4E-8	1E-10	4E-5	4E-4
	W, see <sup>182</sup> Ir	-	2E+2	9E-8	3E-10	-	-
	Y, see <sup>182</sup> Ir	-	2E+1	6E-9	2E-11	-	-
77 Iridium-192	D, see <sup>182</sup> Ir	9E+2	3E+2	1E-7	4E-10	1E-5	1E-4
	W, see <sup>182</sup> Ir	-	4E+2	2E-7	6E-10	-	-
	Y, see <sup>182</sup> Ir	-	2E+2	9E-8	3E-10	-	-
77 Iridium-194m	D, see <sup>182</sup> Ir	6E+2	9E+1	4E-8	1E-10	9E-6	9E-5
	W, see <sup>182</sup> Ir	-	2E+2	7E-8	2E-10	-	-
	Y, see <sup>182</sup> Ir	-	1E+2	4E-8	1E-10	-	-
77 Iridium-194	D, see <sup>182</sup> Ir	1E+3	3E+3	1E-6	4E-9	1E-5	1E-4
	W, see <sup>182</sup> Ir	-	2E+3	9E-7	3E-9	-	-
	Y, see <sup>182</sup> Ir	-	2E+3	8E-7	3E-9	-	-
77 Iridium-195m	D, see <sup>182</sup> Ir	8E+3	2E+4	1E-5	3E-8	1E-4	1E-3
	W, see <sup>182</sup> Ir	-	3E+4	1E-5	4E-8	-	-
	Y, see <sup>182</sup> Ir	-	2E+4	9E-6	3E-8	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Col. 2 Col. 3 Inhalation		Col. 1 Air ( $\mu\text{Ci}/\text{ml}$ )	Col. 2 Water ( $\mu\text{Ci}/\text{ml}$ )	Monthly Average Concentration ( $\mu\text{Ci}/\text{ml}$ )	
			ALI ( $\mu\text{Ci}$ )	DAC ( $\mu\text{Ci}/\text{ml}$ )				
77	Iridium-195	D, see $^{192}\text{Ir}$	1E+4	4E+4	2E-5	6E-8	2E-4	2E-3
		W, see $^{192}\text{Ir}$	-	5E+4	2E-5	7E-8	-	-
		Y, see $^{192}\text{Ir}$	-	4E+4	2E-5	6E-8	-	-
78	Platinum-186	D, all compounds	1E+4	4E+4	2E-5	5E-8	2E-4	2E-3
78	Platinum-188	D, all compounds	2E+3	2E+3	7E-7	2E-9	2E-5	2E-4
78	Platinum-189	D, all compounds	1E+4	3E+4	1E-5	4E-8	1E-4	1E-3
78	Platinum-191	D, all compounds	4E+3	8E+3	4E-6	1E-8	5E-5	5E-4
78	Platinum-193m	D, all compounds	3E+3	6E+3	3E-6	8E-9	-	-
		LLI wall (3E+4)	-	-	-	-	4E-5	4E-4
78	Platinum-193	D, all compounds	4E+4	2E+4	1E-5	3E-8	-	-
		LLI wall (5E+4)	-	-	-	-	6E-4	6E-3
78	Platinum-195m	D, all compounds	2E+3	4E+3	2E-6	6E-9	-	-
		LLI wall (2E+3)	-	-	-	-	3E-5	3E-4
78	Platinum-197m <sup>2</sup>	D, all compounds	2E+4	4E+4	2E-5	6E-8	2E-4	2E-3
78	Platinum-197	D, all compounds	3E+3	1E+4	4E-6	1E-8	4E-5	4E-4
78	Platinum-199 <sup>2</sup>	D, all compounds	5E+4	1E+5	6E-5	2E-7	7E-4	7E-3
78	Platinum-200	D, all compounds	1E+3	3E+3	1E-6	5E-9	2E-5	2E-4
79	Gold-193	D, all compounds except those given for W and Y	9E+3	3E+4	1E-5	4E-8	1E-4	1E-3
		W, halides and nitrates	-	2E+4	9E-6	3E-8	-	-
		Y, oxides and hydroxides	-	2E+4	8E-6	3E-8	-	-
79	Gold-194	D, see $^{193}\text{Au}$	3E+3	8E+3	3E-6	1E-8	4E-5	4E-4
		W, see $^{193}\text{Au}$	-	5E+3	2E-6	8E-9	-	-
		Y, see $^{193}\text{Au}$	-	5E+3	2E-6	7E-9	-	-
79	Gold-195	D, see $^{193}\text{Au}$	5E+3	1E+4	5E-6	2E-8	7E-5	7E-4
		W, see $^{193}\text{Au}$	-	1E+3	6E-7	2E-9	-	-
		Y, see $^{193}\text{Au}$	-	4E+2	2E-7	6E-10	-	-
79	Gold-198m	D, see $^{193}\text{Au}$	1E+3	3E+3	1E-6	4E-9	1E-5	1E-4
		W, see $^{193}\text{Au}$	-	1E+3	5E-7	2E-9	-	-
		Y, see $^{193}\text{Au}$	-	1E+3	5E-7	2E-9	-	-
79	Gold-198	D, see $^{193}\text{Au}$	1E+3	4E+3	2E-6	5E-9	2E-5	2E-4
		W, see $^{193}\text{Au}$	-	2E+3	8E-7	3E-9	-	-
		Y, see $^{193}\text{Au}$	-	2E+3	7E-7	2E-9	-	-
79	Gold-199	D, see $^{193}\text{Au}$	3E+3	9E+3	4E-6	1E-8	-	-
		LLI wall (3E+3)	-	-	-	-	4E-5	4E-4
		W, see $^{193}\text{Au}$	-	4E+3	2E-6	6E-9	-	-
79	Gold-200m	D, see $^{193}\text{Au}$	1E+3	4E+3	1E-6	5E-9	2E-5	2E-4
		W, see $^{193}\text{Au}$	-	3E+3	1E-6	4E-9	-	-
		Y, see $^{193}\text{Au}$	-	2E+4	1E-6	3E-9	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI ( $\mu$ Ci)	Col. 2 Inhalation ALI ( $\mu$ Ci)	Col. 3 DAC ( $\mu$ Ci/ml)	Col. 1 Air ( $\mu$ Ci/ml)	Col. 2 Water ( $\mu$ Ci/ml)	Monthly Average Concentration ( $\mu$ Ci/ml)
79 Gold-200 <sup>2</sup>	D, see <sup>193</sup> Au	3E+4	6E+4	3E-5	9E-8	4E-4	4E-3
	W, see <sup>193</sup> Au	-	8E+4	3E-5	1E-7	-	-
	Y, see <sup>193</sup> Au	-	7E+4	3E-5	1E-7	-	-
79 Gold-201 <sup>2</sup>	D, see <sup>193</sup> Au	7E+4	2E+5	9E-5	3E-7	-	-
	St wall (9E+4)	-	-	-	-	1E-3	1E-2
	W, see <sup>193</sup> Au	-	2E+5	1E-4	3E-7	-	-
80 Mercury-193m	Y, see <sup>193</sup> Au	-	2E+5	9E-5	3E-7	-	-
	Vapor	-	8E+3	4E-6	1E-8	-	-
	Organic D	4E+3	1E+4	5E-6	2E-8	6E-5	6E-4
80 Mercury-193	D, sulfates	3E+3	9E+3	4E-6	1E-8	4E-5	4E-4
	W, oxides, hydroxides, halides, nitrates, and sulfides	-	8E+3	3E-6	1E-8	-	-
	Vapor	-	3E+4	1E-5	4E-8	-	-
80 Mercury-193	Organic D	2E+4	6E+4	3E-5	9E-8	3E-4	3E-3
	D, see <sup>193m</sup> Hg	2E+4	4E+4	2E-5	6E-8	2E-4	2E-3
	W, see <sup>193m</sup> Hg	-	4E+4	2E-5	6E-8	-	-
80 Mercury-194	Vapor	-	3E+1	1E-8	4E-11	-	-
	Organic D	2E+1	3E+1	1E-8	4E-11	2E-7	2E-6
	D, see <sup>193m</sup> Hg	8E+2	4E+1	2E-8	6E-11	1E-5	1E-4
80 Mercury-195m	W, see <sup>193m</sup> Hg	-	1E+2	5E-8	2E-10	-	-
	Vapor	-	4E+3	2E-6	6E-9	-	-
	Organic D	3E+3	6E+3	3E-6	8E-9	4E-5	4E-4
80 Mercury-195	D, see <sup>193m</sup> Hg	2E+3	5E+3	2E-6	7E-9	3E-5	3E-4
	W, see <sup>193m</sup> Hg	-	4E+3	2E-6	5E-9	-	-
	Vapor	-	3E+4	1E-5	4E-8	-	-
80 Mercury-197m	Organic D	2E+4	5E+4	2E-5	6E-8	2E-4	2E-3
	D, see <sup>193m</sup> Hg	1E+4	4E+4	1E-5	5E-8	2E-4	2E-3
	W, see <sup>193m</sup> Hg	-	3E+4	1E-5	5E-8	-	-
80 Mercury-197	Vapor	-	5E+3	2E-6	7E-9	-	-
	Organic D	4E+3	9E+3	4E-6	1E-8	5E-5	5E-4
	D, see <sup>193m</sup> Hg	3E+3	7E+3	3E-6	1E-8	4E-5	4E-4
80 Mercury-197	W, see <sup>193m</sup> Hg	-	5E+3	2E-6	7E-9	-	-
	Vapor	-	8E+3	4E-6	1E-8	-	-
	Organic D	7E+3	1E+4	6E-6	2E-8	9E-5	9E-4
80 Mercury-199m <sup>2</sup>	D, see <sup>193m</sup> Hg	6E+3	1E+4	5E-6	2E-8	8E-5	8E-4
	W, see <sup>193m</sup> Hg	-	9E+3	4E-6	1E-8	-	-
	Vapor	-	8E+4	3E-5	1E-7	-	-
80 Mercury-203	Organic D	6E+4	2E+5	7E-5	2E-7	-	-
	St wall (1E+5)	-	-	-	-	1E-3	1E-2
	D, see <sup>193m</sup> Hg	6E+4	1E+5	6E-5	2E-7	8E-4	8E-3
80 Mercury-203	W, see <sup>193m</sup> Hg	-	2E+5	7E-5	2E-7	-	-
	Vapor	-	8E+2	4E-7	1E-9	-	-
	Organic D	5E+2	8E+2	3E-7	1E-9	7E-6	7E-5
81 Thallium-194m <sup>2</sup>	D, see <sup>193m</sup> Hg	2E+3	1E+3	5E-7	2E-9	3E-5	3E-4
	W, see <sup>193m</sup> Hg	-	1E+3	5E-7	2E-9	-	-
	D, all compounds	5E+4	2E+5	6E-5	2E-7	-	-
	St wall (7E+4)	-	-	-	-	1E-3	1E-2

Atomic Radionuclide No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
			Col. 1 Oral Ingestion ALI (μCi)	Col. 2		Col. 1 Air (μCi/ml)	Col. 2 Water (μCi/ml)	Monthly Average Concentration (μCi/ml)
				ALI (μCi)	DAC (μCi/ml)			
81	Thallium-194 <sup>2</sup>	D, all compounds	3E+5 St wall (3E+5)	6E+5	2E-4	8E-7	-	4E-2
81	Thallium-195 <sup>2</sup>	D, all compounds	6E+4	1E+5	5E-5	2E-7	9E-4	9E-3
81	Thallium-197	D, all compounds	7E+4	1E+5	5E-5	2E-7	1E-3	1E-2
81	Thallium-198m <sup>2</sup>	D, all compounds	3E+4	5E+4	2E-5	8E-8	4E-4	4E-3
81	Thallium-198	D, all compounds	2E+4	3E+4	1E-5	5E-8	3E-4	3E-3
81	Thallium-199	D, all compounds	6E+4	8E+4	4E-5	1E-7	9E-4	9E-3
81	Thallium-200	D, all compounds	8E+3	1E+4	5E-6	2E-8	1E-4	1E-3
81	Thallium-201	D, all compounds	2E+4	2E+4	9E-6	3E-8	2E-4	2E-3
81	Thallium-202	D, all compounds	4E+3	5E+3	2E-6	7E-9	5E-5	5E-4
81	Thallium-204	D, all compounds	2E+3	2E+3	9E-7	3E-9	2E-5	2E-4
82	Lead-195m <sup>2</sup>	D, all compounds	6E+4	2E+5	8E-5	3E-7	8E-4	8E-3
82	Lead-198	D, all compounds	3E+4	6E+4	3E-5	9E-8	4E-4	4E-3
82	Lead-199 <sup>2</sup>	D, all compounds	2E+4	7E+4	3E-5	1E-7	3E-4	3E-3
82	Lead-200	D, all compounds	3E+3	6E+3	3E-6	9E-9	4E-5	4E-4
82	Lead-201	D, all compounds	7E+3	2E+4	8E-6	3E-8	1E-4	1E-3
82	Lead-202m	D, all compounds	9E+3	3E+4	1E-5	4E-8	1E-4	1E-3
82	Lead-202	D, all compounds	1E+2	5E+1	2E-8	7E-11	2E-6	2E-5
82	Lead-203	D, all compounds	5E+3	9E+3	4E-6	1E-8	7E-5	7E-4
82	Lead-205	D, all compounds	4E+3	1E+3	6E-7	2E-9	5E-5	5E-4
82	Lead-209	D, all compounds	2E+4	6E+4	2E-5	8E-8	3E-4	3E-3
82	Lead-210	D, all compounds	6E-1 Bone surf (1E+0)	2E-1 Bone surf (4E-1)	1E-10	-	-	-
82	Lead-211 <sup>2</sup>	D, all compounds	1E+4	6E+2	3E-7	9E-10	2E-4	2E-3
82	Lead-212	D, all compounds	8E+1 Bone surf (1E+2)	3E+1	1E-8	5E-11	-	-
82	Lead-214 <sup>2</sup>	D, all compounds	9E+3	8E+2	3E-7	1E-9	1E-4	1E-3
83	Bismuth-200 <sup>2</sup>	D, nitrates W, all other compounds	3E+4 -	8E+4 1E+5	4E-5 4E-5	1E-7 1E-7	4E-4 -	4E-3 -
83	Bismuth-201 <sup>2</sup>	D, see <sup>200</sup> Bi W, see <sup>200</sup> Bi	1E+4 -	3E+4 4E+4	1E-5 2E-5	4E-8 5E-8	2E-4 -	2E-3 -
83	Bismuth-202 <sup>2</sup>	D, see <sup>200</sup> Bi W, see <sup>200</sup> Bi	1E+4 -	4E+4 8E+4	2E-5 3E-5	6E-8 1E-7	2E-4 -	2E-3 -

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Inhalation		Col. 1 Air ( $\mu\text{Ci}/\text{ml}$ )	Col. 2 Water ( $\mu\text{Ci}/\text{ml}$ )	Monthly Average Concentration ( $\mu\text{Ci}/\text{ml}$ )	
			Col. 2 ALI ( $\mu\text{Ci}$ )	Col. 3 DAC ( $\mu\text{Ci}/\text{ml}$ )				
83	Bismuth-203	D, see <sup>200</sup> Bi W, see <sup>200</sup> Bi	2E+3 -	7E+3 6E+3	3E-6 3E-6	9E-9 9E-9	3E-5 -	3E-4 -
83	Bismuth-205	D, see <sup>200</sup> Bi W, see <sup>200</sup> Bi	1E+3 -	3E+3 1E+3	1E-6 5E-7	3E-9 2E-9	2E-5 -	2E-4 -
83	Bismuth-206	D, see <sup>200</sup> Bi W, see <sup>200</sup> Bi	6E+2 -	1E+3 9E+2	6E-7 4E-7	2E-9 1E-9	9E-6 -	9E-5 -
83	Bismuth-207	D, see <sup>200</sup> Bi W, see <sup>200</sup> Bi	1E+3 -	2E+3 4E+2	7E-7 1E-7	2E-9 5E-10	1E-5 -	1E-4 -
83	Bismuth-210m	D, see <sup>200</sup> Bi W, see <sup>200</sup> Bi	4E+1 Kidneys (6E+1) -	5E+0 Kidneys (6E+0) 7E-1	2E-9 - 3E-10	- 9E-12 9E-13	- 8E-7 -	- 8E-6 -
83	Bismuth-210	D, see <sup>200</sup> Bi W, see <sup>200</sup> Bi	8E+2 - -	2E+2 Kidneys (4E+2) 3E+1	1E-7 - 1E-8	- 5E-10 4E-11	1E-5 - -	1E-4 - -
83	Bismuth-212 <sup>2</sup>	D, see <sup>200</sup> Bi W, see <sup>200</sup> Bi	5E+3 -	2E+2 3E+2	1E-7 1E-7	3E-10 4E-10	7E-5 -	7E-4 -
83	Bismuth-213 <sup>2</sup>	D, see <sup>200</sup> Bi W, see <sup>200</sup> Bi	7E+3 -	3E+2 4E+2	1E-7 1E-7	4E-10 5E-10	1E-4 -	1E-3 -
83	Bismuth-214 <sup>2</sup>	D, see <sup>200</sup> Bi W, see <sup>200</sup> Bi	2E+4 St wall (2E+4) -	8E+2 - 9E-2	3E-7 - 4E-7	1E-9 - 1E-9	- 3E-4 -	- 3E-3 -
84	Polonium-203 <sup>2</sup>	D, all compounds except those given for W W, oxides, hydroxides, and nitrates	3E+4 -	6E+4 9E+4	3E-5 4E-5	9E-8 1E-7	3E-4 -	3E-3 -
84	Polonium-205 <sup>2</sup>	D, see <sup>203</sup> Po W, see <sup>203</sup> Po	2E+4 -	4E+4 7E+4	2E-5 3E-5	5E-8 1E-7	3E-4 -	3E-3 -
84	Polonium-207	D, see <sup>203</sup> Po W, see <sup>203</sup> Po	8E+3 -	3E+4 3E+4	1E-5 1E-5	3E-8 4E-8	1E-4 -	1E-3 -
84	Polonium-210	D, see <sup>203</sup> Po W, see <sup>203</sup> Po	3E+0 -	6E-1 6E-1	3E-10 3E-10	9E-13 9E-13	4E-8 -	4E-7 -
85	Astatine-207 <sup>2</sup>	D, halides W	6E+3 -	3E+3 2E+3	1E-6 9E-7	4E-9 3E-9	8E-5 -	8E-4 -
85	Astatine-211	D, halides W	1E+2 -	8E+1 5E+1	3E-8 2E-8	1E-10 8E-11	2E-6 -	2E-5 -
86	Radon-220	With daughters removed With daughters present	- -	2E+4 2E+1 (or 12 working level months)	7E-6 9E-9 (or 1.0 working level)	2E-8 3E-11	- -	- -

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration (μCi/ml)	
		Oral Ingestion ALI (μCi)	Inhalation		Air (μCi/ml)	Water (μCi/ml)		
		ALI (μCi)	ALI (μCi)	DAC (μCi/ml)				
86	Radon-222	-	1E+4 1E+2 (or 4 working level months)	4E-6 3E-8 (or 0.33 working level)	1E-8 1E-10	-	-	
	With daughters removed	-						
	With daughters present	-						
87	Francium-222 <sup>2</sup>	D, all compounds	2E+3	5E+2	2E-7	6E-10	3E-5	3E-4
87	Francium-223 <sup>2</sup>	D, all compounds	6E+2	8E+2	3E-7	1E-9	8E-6	8E-5
88	Radium-223	W, all compounds	5E+0	7E-1	3E-10	9E-13	-	-
		Bone surf (9E+0)	-	-	-	-	1E-7	1E-6
88	Radium-224	W, all compounds	8E+0	2E+0	7E-10	2E-12	-	-
		Bone surf (2E+1)	-	-	-	-	2E-7	2E-6
88	Radium-225	W, all compounds	8E+0	7E-1	3E-10	9E-13	-	-
		Bone surf (2E+1)	-	-	-	-	2E-7	2E-6
88	Radium-226	W, all compounds	2E+0	6E-1	3E-10	9E-13	-	-
		Bone surf (5E+0)	-	-	-	-	6E-8	6E-7
88	Radium-227 <sup>2</sup>	W, all compounds	2E+4	1E+4	6E-6	-	-	-
		Bone surf (2E+4)	-	Bone surf (2E+4)	-	3E-8	3E-4	3E-3
88	Radium-228	W, all compounds	2E+0	1E+0	5E-10	2E-12	-	-
		Bone surf (4E+0)	-	-	-	-	6E-8	6E-7
89	Actinium-224	D, all compounds except those given for W and Y	2E+3	3E+1	1E-8	-	-	-
		LLI wall (2E+3)	-	Bone surf (4E+1)	-	5E-11	3E-5	3E-4
	W, halides and nitrates	-	5E+1	2E-8	-	7E-11	-	-
	Y, oxides and hydroxides	-	5E+1	2E-8	-	6E-11	-	-
89	Actinium-225	D, see <sup>224</sup> Ac	5E+1	3E-1	1E-10	-	-	-
		LLI wall (5E+1)	-	Bone surf (5E-1)	-	7E-13	7E-7	7E-6
	W, see <sup>224</sup> Ac	-	6E-1	3E-10	-	9E-13	-	-
	Y, see <sup>224</sup> Ac	-	6E-1	3E-10	-	9E-13	-	-
89	Actinium-226	D, see <sup>224</sup> Ac	1E+2	3E+0	1E-9	-	-	-
		LLI wall (1E+2)	-	Bone surf (4E+0)	-	5E-12	2E-6	2E-5
	W, see <sup>224</sup> Ac	-	5E+0	2E-9	-	7E-12	-	-
	Y, see <sup>224</sup> Ac	-	5E+0	2E-9	-	6E-12	-	-
89	Actinium-227	D, see <sup>224</sup> Ac	2E-1	4E-4	2E-13	-	-	-
		Bone surf (4E-1)	-	Bone surf (8E-4)	-	1E-15	5E-9	5E-8
	W, see <sup>224</sup> Ac	-	2E-3	7E-13	-	-	-	-
		-	Bone surf (3E-3)	-	-	4E-15	-	-
	Y, see <sup>224</sup> Ac	-	4E-3	2E-12	-	6E-15	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Col. 2		Col. 1 Air ( $\mu\text{Ci}/\text{ml}$ )	Col. 2 Water ( $\mu\text{Ci}/\text{ml}$ )	Monthly Average Concentration ( $\mu\text{Ci}/\text{ml}$ )
			Col. 3	Inhalation			
			ALI ( $\mu\text{Ci}$ )	DAC ( $\mu\text{Ci}/\text{ml}$ )			
89 Actinium-228	D, see $^{224}\text{Ac}$	2E+3	9E+0	4E-9	-	3E-5	3E-4
	W, see $^{224}\text{Ac}$	-	Bone surf (2E+1)	-	2E-11	-	-
	Y, see $^{224}\text{Ac}$	-	4E+1	2E-8	-	-	-
90 Thorium-226 <sup>2</sup>	W, all compounds except those given for Y	5E+3	2E+2	6E-8	2E-10	-	-
	Y, oxides and hydroxides	St wall (5E+3)	-	-	-	7E-5	7E-4
		-	1E+2	6E-8	2E-10	-	-
90 Thorium-227	W, see $^{226}\text{Th}$	1E+2	3E-1	1E-10	5E-13	2E-6	2E-5
	Y, see $^{226}\text{Th}$	-	3E-1	1E-10	5E-13	-	-
90 Thorium-228	W, see $^{226}\text{Th}$	6E+0	1E-2	4E-12	-	-	-
	Y, see $^{226}\text{Th}$	Bone surf (1E+1)	Bone surf (2E-2)	-	3E-14	2E-7	2E-6
90 Thorium-229	W, see $^{226}\text{Th}$	6E-1	9E-4	4E-13	-	-	-
	Y, see $^{226}\text{Th}$	Bone surf (1E+0)	Bone surf (2E-3)	-	3E-15	2E-8	2E-7
		-	2E-3	1E-12	-	-	-
90 Thorium-230	W, see $^{226}\text{Th}$	4E+0	6E-3	3E-12	-	-	-
	Y, see $^{226}\text{Th}$	Bone surf (9E+0)	Bone surf (2E-2)	-	2E-14	1E-7	1E-6
		-	2E-2	6E-12	-	-	-
90 Thorium-231	W, see $^{226}\text{Th}$	4E+3	6E+3	3E-6	9E-9	5E-5	5E-4
	Y, see $^{226}\text{Th}$	-	6E+3	3E-6	9E-9	-	-
90 Thorium-232	W, see $^{226}\text{Th}$	7E-1	1E-3	5E-13	-	-	-
	Y, see $^{226}\text{Th}$	Bone surf (2E+0)	Bone surf (3E-3)	-	4E-15	3E-8	3E-7
		-	3E-3	1E-12	-	-	-
90 Thorium-234	W, see $^{226}\text{Th}$	3E+2	2E+2	8E-8	3E-10	-	-
	Y, see $^{226}\text{Th}$	LLI wall (4E+2)	-	-	-	5E-6	5E-5
91 Protactinium-227 <sup>2</sup>	W, all compounds except those given for Y	4E+3	1E+2	5E-8	2E-10	5E-5	5E-4
	Y, oxides and hydroxides	-	1E+2	4E-8	1E-10	-	-
91 Protactinium-228	W, see $^{227}\text{Pa}$	1E+3	1E+1	5E-9	-	2E-5	2E-4
	Y, see $^{227}\text{Pa}$	-	Bone surf (2E+1)	-	3E-11	-	-
		-	1E+1	5E-9	2E-11	-	-



Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Col. 2 <u>Inhalation</u> ALI ( $\mu\text{Ci}$ )	Col. 3 DAC ( $\mu\text{Ci/ml}$ )	Col. 1 Air ( $\mu\text{Ci/ml}$ )	Col. 2 Water ( $\mu\text{Ci/ml}$ )	Monthly Average Concentration ( $\mu\text{Ci/ml}$ )
91	Protactinium-230 W, see <sup>227</sup> Pa	6E+2 Bone surf (9E+2)	5E+0	2E-9	7E-12	-	-
	Y, see <sup>227</sup> Pa	-	4E+0	1E-9	5E-12	1E-5	1E-4
91	Protactinium-231 W, see <sup>227</sup> Pa	2E-1 Bone surf (5E-1)	2E-3 Bone surf (4E-3)	6E-13	-	-	-
	Y, see <sup>227</sup> Pa	-	4E-3 Bone surf (6E-3)	2E-12	6E-15	6E-9	6E-8
	-	-	-	-	8E-15	-	-
91	Protactinium-232 W, see <sup>227</sup> Pa	1E+3	2E+1 Bone surf (6E+1)	9E-9	-	2E-5	2E-4
	Y, see <sup>227</sup> Pa	-	6E+1 Bone surf (7E+1)	2E-8	8E-11	-	-
	-	-	-	-	1E-10	-	-
91	Protactinium-233 W, see <sup>227</sup> Pa	1E+3 LLI wall (2E+3)	7E+2	3E-7	1E-9	-	-
	Y, see <sup>227</sup> Pa	-	6E+2	2E-7	8E-10	2E-5	2E-4
91	Protactinium-234 W, see <sup>227</sup> Pa	2E+3	8E+3	3E-6	1E-8	3E-5	3E-4
	Y, see <sup>227</sup> Pa	-	7E+3	3E-6	9E-9	-	-
92	Uranium-230 D, UF, UOF, UO(NO)	4E+0 Bone surf (6E+0)	4E-1 Bone surf (6E-1)	2E-10	-	-	-
	W, UO, UF, UCl	-	4E-1	1E-10	8E-13	8E-8	8E-7
	Y, UO, UO	-	3E-1	1E-10	5E-13	-	-
92	Uranium-231 D, see <sup>230</sup> U	5E+3 LLI wall (4E+3)	8E+3	3E-6	1E-8	-	-
	W, see <sup>230</sup> U	-	6E+3	2E-6	8E-9	6E-5	6E-4
	Y, see <sup>230</sup> U	-	5E+3	2E-6	6E-9	-	-
92	Uranium-232 D, see <sup>230</sup> U	2E+0 Bone surf (4E+0)	2E-1 Bone surf (4E-1)	9E-11	-	-	-
	W, see <sup>230</sup> U	-	4E-1	2E-10	6E-13	6E-8	6E-7
	Y, see <sup>230</sup> U	-	8E-3	3E-12	5E-13	-	-
92	Uranium-233 D, see <sup>230</sup> U	1E+1 Bone surf (2E+1)	1E+0 Bone surf (2E+0)	5E-10	-	-	-
	W, see <sup>230</sup> U	-	7E-1	3E-10	3E-12	3E-7	3E-6
	Y, see <sup>230</sup> U	-	4E-2	2E-11	1E-12	-	-
92	Uranium-234 <sup>3</sup> D, see <sup>230</sup> U	1E+1 Bone surf (2E+1)	1E+0 Bone surf (2E+0)	5E-10	-	-	-
	W, see <sup>230</sup> U	-	7E-1	3E-10	3E-12	3E-7	3E-6
	Y, see <sup>230</sup> U	-	4E-2	2E-11	1E-12	-	-
92	Uranium-235 <sup>3</sup> D, see <sup>230</sup> U	1E+1 Bone surf (2E+1)	1E+0 Bone surf (2E+0)	6E-10	-	-	-
	W, see <sup>230</sup> U	-	8E-1	3E-10	3E-12	3E-7	3E-6
	Y, see <sup>230</sup> U	-	4E-2	2E-11	1E-12	-	-

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration (µCi/ml)
		Oral Ingestion ALI (µCi)	Inhalation		Air (µCi/ml)	Water (µCi/ml)	
		ALI (µCi)	DAC (µCi/ml)				
92 Uranium-236	D, see <sup>230</sup> U	1E+1	1E+0	5E-10	-	-	-
		Bone surf (2E+1)	Bone surf (2E+0)	-	3E-12	3E-7	3E-6
	W, see <sup>230</sup> U Y, see <sup>230</sup> U	-	8E-1 4E-2	3E-10 2E-11	1E-12 6E-14	-	-
92 Uranium-237	D, see <sup>230</sup> U	2E+3	3E+3	1E-6	4E-9	-	-
		LLI wall (2E+3)	-	-	-	3E-5	3E-4
	W, see <sup>230</sup> U Y, see <sup>230</sup> U	-	2E+3 2E+3	7E-7 6E-7	2E-9 2E-9	-	-
92 Uranium-238 <sup>3</sup>	D, see <sup>230</sup> U	1E+1	1E+0	6E-10	-	-	-
		Bone surf (2E+1)	Bone surf (2E+0)	-	3E-12	3E-7	3E-6
	W, see <sup>230</sup> U Y, see <sup>230</sup> U	-	8E-1 4E-2	3E-10 2E-11	1E-12 6E-14	-	-
92 Uranium-239 <sup>2</sup>	D, see <sup>230</sup> U	7E+4	2E+5	8E-5	3E-7	9E-4	9E-3
	W, see <sup>230</sup> U	-	2E+5	7E-5	2E-7	-	-
	Y, see <sup>230</sup> U	-	2E+5	6E-5	2E-7	-	-
92 Uranium-240	D, see <sup>230</sup> U	1E+3	4E+3	2E-6	5E-9	2E-5	2E-4
	W, see <sup>230</sup> U	-	3E+3	1E-6	4E-9	-	-
	Y, see <sup>230</sup> U	-	2E+3	1E-6	3E-9	-	-
92 Uranium-natural <sup>3</sup>	D, see <sup>230</sup> U	1E+1	1E+0	5E-10	-	-	-
		Bone surf (2E+1)	Bone surf (2E+0)	-	3E-12	3E-7	3E-6
	W, see <sup>230</sup> U Y, see <sup>230</sup> U	-	8E-1 5E-2	3E-10 2E-11	9E-13 9E-14	-	-
93 Neptunium-232 <sup>2</sup>	W, all compounds	1E+5	2E+3 Bone surf (5E+2)	7E-7	- 6E-9	2E-3	2E-2
93 Neptunium-233 <sup>2</sup>	W, all compounds	8E+5	3E+6	1E-3	4E-6	1E-2	1E-1
93 Neptunium-234	W, all compounds	2E+3	3E+3	1E-6	4E-9	3E-5	3E-4
93 Neptunium-235	W, all compounds	2E+4	8E+2 Bone surf (1E+3)	3E-7	- 2E-9	- 3E-4	- 3E-3
93 Neptunium-236 (1.15E+5 y)	W, all compounds	3E+0	2E-2 Bone surf (5E-2)	9E-12	- 8E-14	- 9E-8	- 9E-7
93 Neptunium-236 (22.5 h)	W, all compounds	3E+3	3E+1 Bone surf (7E+1)	1E-8	- 1E-10	- 5E-5	- 5E-4
93 Neptunium-237	W, all compounds	5E-1	4E-3 Bone surf (1E-2)	2E-12	- 1E-14	- 2E-8	- 2E-7
93 Neptunium-238	W, all compounds	1E+3	6E+1 Bone surf (2E+2)	3E-8	- 2E-10	2E-5	2E-4
93 Neptunium-239	W, all compounds	2E+3	2E+3	9E-7	3E-9	-	-
		LLI wall (2E+3)	-	-	-	2E-5	2E-4

Atomic Radionuclide No.	Radionuclide	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
			Col. 1 Oral Ingestion ALI (μCi)	Col. 2	Col. 3	Col. 1 Air (μCi/ml)	Col. 2 Water (μCi/ml)	Monthly Average Concentration (μCi/ml)
				Inhalation				
			ALI (μCi)	ALI (μCi)	DAC (μCi/ml)			
93	Neptunium-240 <sup>2</sup>	W, all compounds	2E+4	8E+4	3E-5	1E-7	3E-4	3E-3
94	Plutonium-234	W, all compounds except PuO Y, PuO	8E+3 -	2E+2 2E+2	9E-8 8E-8	3E-10 3E-10	1E-4 -	1E-3 -
94	Plutonium-235 <sup>2</sup>	W, see <sup>234</sup> Pu Y, see <sup>234</sup> Pu	9E+5 -	3E+6 3E+6	1E-3 1E-3	4E-6 3E-6	1E-2 -	1E-1 -
94	Plutonium-236	W, see <sup>234</sup> Pu Y, see <sup>234</sup> Pu	2E+0 Bone surf (4E+0) -	2E-2 Bone surf (4E-2) 4E-2	8E-12 - 2E-11	- 5E-14 6E-14	- 6E-8 -	- 6E-7 -
94	Plutonium-237	W, see <sup>234</sup> Pu Y, see <sup>234</sup> Pu	1E+4 -	3E+3 3E+3	1E-6 1E-6	5E-9 4E-9	2E-4 -	2E-3 -
94	Plutonium-238	W, see <sup>234</sup> Pu Y, see <sup>234</sup> Pu	9E-1 Bone surf (2E+0) -	7E-3 Bone surf (1E-2) 2E-2	3E-12 - 8E-12	- 2E-14 2E-14	- 2E-8 -	- 2E-7 -
94	Plutonium-239	W, see <sup>234</sup> Pu Y, see <sup>234</sup> Pu	8E-1 Bone surf (1E+0) -	6E-3 Bone surf (1E-2) 2E-2 Bone surf (2E-2)	3E-12 - 7E-12 -	- 2E-14 -	- 2E-8 -	- 2E-7 -
94	Plutonium-240	W, see <sup>234</sup> Pu Y, see <sup>234</sup> Pu	8E-1 Bone surf (1E+0) -	6E-3 Bone surf (1E-2) 2E-2 Bone surf (2E-2)	3E-12 - 7E-12 -	- 2E-14 2E-14	- 2E-8 -	- 2E-7 -
94	Plutonium-241	W, see <sup>234</sup> Pu Y, see <sup>234</sup> Pu	4E+1 Bone surf (7E+1) -	3E-1 Bone surf (6E-1) 8E-1 Bone surf (1E+0)	1E-10 - 3E-10 -	- 8E-13 -	- 1E-6 -	- 1E-5 -
94	Plutonium-242	W, see <sup>234</sup> Pu Y, see <sup>234</sup> Pu	8E-1 Bone surf (1E+0) -	7E-3 Bone surf (1E-2) 2E-2 Bone surf (2E-2)	3E-12 - 7E-12 -	- 2E-14 2E-14	- 2E-8 -	- 2E-7 -
94	Plutonium-243	W, see <sup>234</sup> Pu Y, see <sup>234</sup> Pu	2E+4 -	4E+4 4E+4	2E-5 2E-5	5E-8 5E-8	2E-4 -	2E-3 -
94	Plutonium-244	W, see <sup>234</sup> Pu Y, see <sup>234</sup> Pu	8E-1 Bone surf (2E+0) -	7E-3 Bone surf (1E-2) 2E-2 Bone surf (2E-2)	3E-12 - 7E-12 -	- 2E-14 2E-14	- 2E-8 -	- 2E-7 -
94	Plutonium-245	W, see <sup>234</sup> Pu Y, see <sup>234</sup> Pu	2E+3 -	5E+3 4E+3	2E-6 2E-6	6E-9 6E-9	3E-5 -	3E-4 -

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI (μCi)	Col. 2	Col. 3	Col. 1 Air (μCi/ml)	Col. 2 Water (μCi/ml)	Monthly Average Concentration (μCi/ml)
			Inhalation				
		ALI (μCi)	DAC (μCi/ml)				
94 Plutonium-246	W, see <sup>234</sup> Pu	4E+2 LLI wall (4E+2)	3E+2	1E-7	4E-10	-	-
	Y, see <sup>234</sup> Pu	-	3E+2	1E-7	4E-10	6E-6	6E-5
95 Americium-237 <sup>2</sup>	W, all compounds	8E+4	3E+5	1E-4	4E-7	1E-3	1E-2
95 Americium-238 <sup>2</sup>	W, all compounds	4E+4	3E+3	1E-6	-	5E-4	5E-3
		-	Bone surf (6E+3)	-	9E-9	-	-
95 Americium-239	W, all compounds	5E+3	1E+4	5E-6	2E-8	7E-5	7E-4
95 Americium-240	W, all compounds	2E+3	3E+3	1E-6	4E-9	3E-5	3E-4
95 Americium-241	W, all compounds	8E-1	6E-3	3E-12	-	-	-
		Bone surf (1E+0)	Bone surf (1E-2)	-	2E-14	2E-8	2E-7
95 Americium-242m	W, all compounds	8E-1	6E-3	3E-12	-	-	-
		Bone surf (1E+0)	Bone surf (1E-2)	-	2E-14	2E-8	2E-7
95 Americium-242	W, all compounds	4E+3	8E+1	4E-8	-	5E-5	5E-4
		-	Bone surf (9E+1)	-	1E-10	-	-
95 Americium-243	W, all compounds	8E-1	6E-3	3E-12	-	-	-
		Bone surf (1E+0)	Bone surf (1E-2)	-	2E-14	2E-8	2E-7
95 Americium-244m <sup>2</sup>	W, all compounds	6E+4	4E+3	2E-6	-	-	-
		St wall (8E+4)	Bone surf (7E+3)	-	1E-8	1E-3	1E-2
95 Americium-244	W, all compounds	3E+3	2E+2	8E-8	-	4E-5	4E-4
		-	Bone surf (3E+2)	-	4E-10	-	-
95 Americium-245	W, all compounds	3E+4	8E+4	3E-5	1E-7	4E-4	4E-3
95 Americium-246m <sup>2</sup>	W, all compounds	5E+4	2E+5	8E-5	3E-7	-	-
		St wall (6E+4)	-	-	-	8E-4	8E-3
95 Americium-246 <sup>2</sup>	W, all compounds	3E+4	1E+5	4E-5	1E-7	4E-4	4E-3
96 Curium-238	W, all compounds	2E+4	1E+3	5E-7	2E-9	2E-4	2E-3
96 Curium-240	W, all compounds	6E+1	6E-1	2E-10	-	-	-
		Bone surf (8E+1)	Bone surf (6E-1)	-	9E-13	1E-6	1E-5
96 Curium-241	W, all compounds	1E+3	3E+1	1E-8	-	2E-5	2E-4
		-	Bone surf (4E+1)	-	5E-11	-	-
96 Curium-242	W, all compounds	3E+1	3E-1	1E-10	-	-	-
		Bone surf (5E+1)	Bone surf (3E-1)	-	4E-13	7E-7	7E-6
96 Curium-243	W, all compounds	1E+0	9E-3	4E-12	-	-	-
		Bone surf (2E+0)	Bone surf (2E-2)	-	2E-14	3E-8	3E-7

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1 Oral Ingestion ALI (µCi)	Col. 2 Inhalation		Col. 1 Air (µCi/ml)	Col. 2 Water (µCi/ml)	Monthly Average Concentration (µCi/ml)	
			ALI (µCi)	DAC (µCi/ml)				
96	Curium-244	W, all compounds	1E+0 Bone surf (3E+0)	1E-2 Bone surf (2E-2)	5E-12 -	-	3E-14 3E-8	- 3E-7
96	Curium-245	W, all compounds	7E-1 Bone surf (1E+0)	6E-3 Bone surf (1E-2)	3E-12 -	-	2E-14 2E-8	- 2E-7
96	Curium-246	W, all compounds	7E-1 Bone surf (1E+0)	6E-3 Bone surf (1E-2)	3E-12 -	-	2E-14 2E-8	- 2E-7
96	Curium-247	W, all compounds	8E-1 Bone surf (1E+0)	6E-3 Bone surf (1E-2)	3E-12 -	-	2E-14 2E-8	- 2E-7
96	Curium-248	W, all compounds	2E-1 Bone surf (4E-1)	2E-3 Bone surf (3E-3)	7E-13 -	-	4E-15 5E-9	- 5E-8
96	Curium-249 <sup>2</sup>	W, all compounds	5E+4 -	2E+4 Bone surf (3E+4)	7E-6 -	-	4E-8 7E-4	- 7E-3
96	Curium-250	W, all compounds	4E-2 Bone surf (6E-2)	3E-4 Bone surf (5E-4)	1E-13 -	-	8E-16 9E-10	- 9E-9
97	Berkelium-245	W, all compounds	2E+3	1E+3	5E-7	-	2E-9 3E-5	3E-4
97	Berkelium-246	W, all compounds	3E+3	3E+3	1E-6	-	4E-9 4E-5	4E-4
97	Berkelium-247	W, all compounds	5E-1 Bone surf (1E+0)	4E-3 Bone surf (9E-3)	2E-12 -	-	1E-14 2E-8	- 2E-7
97	Berkelium-249	W, all compounds	2E+2 Bone surf (5E+2)	2E+0 Bone surf (4E+0)	7E-10 -	-	5E-12 6E-6	- 6E-5
97	Berkelium-250	W, all compounds	9E+3 -	3E+2 Bone surf (7E+2)	1E-7 -	-	1E-9 1E-4	- 1E-3
98	Californium-244 <sup>2</sup>	W, all compounds except those given for Y	3E+4 St wall (3E+4)	6E+2 -	2E-7 -	-	8E-10 4E-4	- 4E-3
		Y, oxides and hydroxides	-	6E+2	2E-7	-	8E-10	-
98	Californium-246	W, see <sup>244</sup> Cf Y, see <sup>244</sup> Cf	4E+2 -	9E+0 9E+0	4E-9 4E-9	-	1E-11 1E-11	5E-6 -
98	Californium-248	W, see <sup>244</sup> Cf Y, see <sup>244</sup> Cf	8E+0 Bone surf (2E+1) -	6E-2 Bone surf (1E-1) 1E-1	3E-11 - 4E-11	-	2E-13 2E-7 1E-13	- 2E-6 -
98	Californium-249	W, see <sup>244</sup> Cf Y, see <sup>244</sup> Cf	5E-1 Bone surf (1E+0) -	4E-3 Bone surf (9E-3) 1E-2 Bone surf (1E-2)	2E-12 - 4E-12 -	-	1E-14 2E-8 2E-14	- 2E-7 -

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration (µCi/ml)	
		Oral Ingestion ALI (µCi)	Inhalation ALI (µCi)      DAC (µCi/ml)		Air (µCi/ml)	Water (µCi/ml)		
98	Californium-250	W, see <sup>244</sup> Cf	1E+0 Bone surf (2E+0)	9E-3 Bone surf (2E-2)	4E-12 - 1E-11	- 3E-14 4E-14	- 3E-8 -	- 3E-7 -
		Y, see <sup>244</sup> Cf	-	3E-2	-	-	-	-
98	Californium-251	W, see <sup>244</sup> Cf	5E-1 Bone surf (1E+0)	4E-3 Bone surf (9E-3)	2E-12 - 4E-12	- 1E-14 -	- 2E-8 -	- 2E-7 -
		Y, see <sup>244</sup> Cf	-	1E-2 Bone surf (1E-2)	-	2E-14	-	-
98	Californium-252	W, see <sup>244</sup> Cf	2E+0 Bone surf (5E+0)	2E-2 Bone surf (4E-2)	8E-12 - 1E-11	- 5E-14 5E-14	- 7E-8 -	- 7E-7 -
		Y, see <sup>244</sup> Cf	-	3E-2	-	-	-	-
98	Californium-253	W, see <sup>244</sup> Cf	2E+2 Bone surf (4E+2)	2E+0 -	8E-10 -	3E-12 -	- 5E-6	- 5E-5
		Y, see <sup>244</sup> Cf	-	2E+0	7E-10	2E-12	-	-
98	Californium-254	W, see <sup>244</sup> Cf	2E+0	2E-2	9E-12	3E-14	3E-8	3E-7
		Y, see <sup>244</sup> Cf	-	2E-2	7E-12	2E-14	-	-
99	Einsteinium-250	W, all compounds	4E+4 -	5E+2 Bone surf (1E+3)	2E-7 -	- 2E-9	6E-4 -	6E-3 -
99	Einsteinium-251	W, all compounds	7E+3 -	9E+2 Bone surf (1E+3)	4E-7 -	- 2E-9	1E-4 -	1E-3 -
99	Einsteinium-253	W, all compounds	2E+2	1E+0	6E-10	2E-12	2E-6	2E-5
99	Einsteinium-254m	W, all compounds	3E+2 LLI wall (3E+2)	1E+1 -	4E-9 -	1E-11 -	- 4E-6	- 4E-5
99	Einsteinium-254	W, all compounds	8E+0 Bone surf (2E+1)	7E-2 Bone surf (1E-1)	3E-11 -	- 2E-13	- 2E-7	- 2E-6
100	Fermium-252	W, all compounds	5E+2	1E+1	5E-9	2E-11	6E-6	6E-5
100	Fermium-253	W, all compounds	1E+3	1E+1	4E-9	1E-11	1E-5	1E-4
100	Fermium-254	W, all compounds	3E+3	9E+1	4E-8	1E-10	4E-5	4E-4
100	Fermium-255	W, all compounds	5E+2	2E+1	9E-9	3E-11	7E-6	7E-5
100	Fermium-257	W, all compounds	2E+1 Bone surf (4E+1)	2E-1 Bone surf (2E-1)	7E-11 -	- 3E-13	- 5E-7	- 5E-6
101	Mendelevium-257	W, all compounds	7E+3 -	8E+1 Bone surf (9E+1)	4E-8 -	- 1E-10	1E-4 -	1E-3 -
101	Mendelevium-258	W, all compounds	3E+1 Bone surf (5E+1)	2E-1 Bone surf (3E-1)	1E-10 -	- 5E-13	- 6E-7	- 6E-6

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers	
		Col. 1 Oral Ingestion ALI ( $\mu\text{Ci}$ )	Col. 2 <u>Inhalation</u> ALI ( $\mu\text{Ci}$ )	Col. 3 DAC ( $\mu\text{Ci/ml}$ )	Col. 1 Air ( $\mu\text{Ci/ml}$ )	Col. 2 Water ( $\mu\text{Ci/ml}$ )	Monthly Average Concentration ( $\mu\text{Ci/ml}$ )	
		-	Any single radionuclide not listed above with decay mode other than alpha emission or spontaneous fission and with radioactive half-life less than 2 hours	Submersion <sup>1</sup>	-	2E+2	1E-7	1E-9
-	Any single radionuclide not listed above with decay mode other than alpha emission or spontaneous fission and with radioactive half-life greater than 2 hours	.....	-	2E-1	1E-10	1E-12	1E-8	1E-7
-	Any single radionuclide not listed above that decays by alpha emission or spontaneous fission, or any mixture for which either the identity or the concentration of any radionuclide in the mixture is not known	.....	-	4E-4	2E-13	1E-15	2E-9	2E-8

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration (µCi/ml)
		Oral Ingestion ALI (µCi)	Inhalation ALI (µCi) DAC (µCi/ml)		Air (µCi/ml)	Water (µCi/ml)	

**FOOTNOTES:**

<sup>1</sup>"Submersion" means that values given are for submersion in a hemispherical semi-infinite cloud of airborne material.

<sup>2</sup>These radionuclides have radiological half-lives of less than 2 hours. The total effective dose equivalent received during operations with these radionuclides might include a significant contribution from external exposure. The DAC values for all radionuclides, other than those designated Class "Submersion," are based upon the committed effective dose equivalent due to the intake of the radionuclide into the body and do **NOT** include potentially significant contributions to dose equivalent from external exposures. The licensee may substitute 1E-7 µCi/ml for the listed DAC to account for the submersion dose prospectively, but should use individual monitoring devices or other radiation measuring instruments that measure external exposure to demonstrate compliance with the limits.

<sup>3</sup>For soluble mixtures of U-238, U-234, and U-235 in air, chemical toxicity may be the limiting factor. If the percent by weight (enrichment) of U-235 is not greater than 5, the concentration value for a 40-hour workweek is 0.2 milligrams uranium per cubic meter of air average. For any enrichment, the product of the average concentration and time of exposure during a 40-hour workweek shall not exceed 8E-3 (SA) µCi-hr/ml, where SA is the specific activity of the uranium inhaled. The specific activity for natural uranium is 6.77E-7 curies per gram U. The specific activity for other mixtures of U-238, U-235, and U-234, if not known, shall be:

$$SA = 3.6E-7 \text{ curies/gram U} \quad \text{U-depleted}$$

$$SA = [0.4 + 0.38 (\text{enrichment}) + 0.0034 (\text{enrichment})^2] E-6, \text{ enrichment} \geq 0.72$$

where enrichment is the percentage by weight of U-235, expressed as percent.

**NOTE:**

1. 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.
2. If the identity of each radionuclide in the mixture is not known, but it is known that certain radionuclides specified in subparagraph (F) of this paragraph are not present in the mixture, the inhalation ALI, DAC, and effluent and sewage concentrations for the mixture are the lowest values specified in subparagraph (F) of this paragraph for any radionuclide that is not known to be absent from the mixture; or



Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1 Oral Ingestion ALI ( $\mu$ Ci)	Col. 2 Inhalation ALI ( $\mu$ Ci)	Col. 3 DAC ( $\mu$ Ci/ml)	Col. 1 Air ( $\mu$ Ci/ml)	Col. 2 Water ( $\mu$ Ci/ml)	Monthly Average Concentration ( $\mu$ Ci/ml)
	If it is known that Ac-227-D and Cm-250-W are not present	-	7E-4	3E-13	-	-	-
	If, in addition, it is known that Ac-227-W,Y, Th-229-W,Y, Th-230-W, Th-232-W,Y, Pa-231-W,Y, Np-237-W, Pu-239-W, Pu-240-W, Pu-242-W, Am-241-W, Am-242m-W, Am-243-W, Cm-245-W, Cm-246-W, Cm-247-W, Cm-248-W, Bk-247-W, Cf-249-W, and Cf-251-W are not present	-	7E-3	3E-12	-	-	-
	If, in addition, it is known that Sm-146-W, Sm-147-W, Gd-148-D,W, Gd-152-D,W, Th-228-W,Y, Th-230-Y, U-232-Y, U-233-Y, U-234-Y, U-235-Y, U-236-Y, U-238-Y, Np-236-W, Pu-236-W,Y, Pu-238-W,Y, Pu-239-Y, Pu-240-Y, Pu-242-Y, Pu-244-W,Y, Cm-243-W, Cm-244-W, Cf-248-W, Cf-249-Y, Cf-250-W,Y, Cf-251-Y, Cf-252-W,Y, and Cf-254-W,Y are not present	-	7E-2	3E-11	-	-	-
	If, in addition, it is known that Pb-210-D, Bi-210m-W, Po-210-D,W, Ra-223-W, Ra-225-W, Ra-226-W, Ac-225-D,W,Y, Th-227-W,Y, U-230-D,W,Y, U-232-D,W, Pu-241-W, Cm-240-W, Cm-242-W, Cf-248-Y, Es-254-W, Fm-257-W, and Md-258-W are not present	-	7E-1	3E-10	-	-	-
	If, in addition, it is known that Si-32-Y, Ti-44-Y, Fe-60-D, Sr-90-Y, Zr-93-D, Cd-113m-D, Cd-113-D, In-115-D,W, La-138-D, Lu-176-W, Hf-178m-D,W, Hf-182-D,W, Bi-210m-D, Ra-224-W, Ra-228-W, Ac-226-D,W,Y, Pa-230-W,Y, U-233-D,W, U-234-D,W, U-235-D,W, U-236-D,W, U-238-D,W, Pu-241-Y, Bk-249-W, Cf-253-W,Y, and Es-253-W are not present	-	7E+0	3E-9	-	-	-
	If it is known that Ac-227-D,W,Y, Th-229-W,Y, Th-232-W,Y, Pa-231-W,Y, Cm-248-W, and Cm-250-W are not present	-	-	-	-	1E-14	-
	If, in addition, it is known that Sm-146-W, Gd-148-D,W, Gd-152-D, Th-228-W,Y, Th-230-W,Y, U-232-Y, U-233-Y, U-234-Y, U-235-Y, U-236-Y, U-238-Y, U-Nat-Y, Np-236-W, Np-237-W, Pu-236-W,Y, Pu-238-W,Y, Pu-239-W,Y, Pu-240-W,Y, Pu-242-W,Y, Pu-244-W,Y, Am-241-W, Am-242m-W, Am-243-W, Cm-243-W, Cm-244-W, Cm-245-W, Cm-246-W, Cm-247-W, Bk-247-W, Cf-249-W,Y, Cf-250-W,Y, Cf-251-W,Y, Cf-252-W,Y, and Cf-254-W,Y are not present	-	-	-	1E-13	-	-
	If, in addition, it is known that Sm-147-W, Gd-152-W, Pb-210-D, Bi-210m-W, Po-210-D,W, Ra-223-W, Ra-225-W, Ra-226-W, Ac-225-D,W,Y, Th-227-W,Y, U-230-D,W,Y, U-232-D,W, U-Nat-W, Pu-241-W, Cm-240-W, Cm-242-W, Cf-248-W,Y, Es-254-W, Fm-257-W, and Md-258-W are not present	-	-	-	-	1E-12	-
	If, in addition it is known that Fe-60,						

Atomic Radionuclide No.	Class	Table I Occupational Values			Table II Effluent Concentrations		Table III Releases to Sewers
		Col. 1	Col. 2	Col. 3	Col. 1	Col. 2	Monthly Average Concentration (µCi/ml)
		Oral Ingestion ALI (µCi)	Inhalation		Air (µCi/ml)	Water (µCi/ml)	
Sr-90, Cd-113m, Cd-113, In-115, I-129, Cs-134, Sm-145, Sm-147, Gd-148, Gd-152, Hg-194 (organic), Bi-210m, Ra-223, Ra-224, Ra-225, Ac-225, Th-228, Th-230, U-233, U-234, U-235, U-236, U-238, U-Nat, Cm-242, Cf-248, Es-254, Fm-257, and Md-258 are not present		-	-	-	-	1E-6	1E-5

- If a mixture of radionuclides consists of uranium and its daughters in ore dust (10 µm AMAD particle distribution assumed) prior to chemical separation of the uranium from the ore, the following values may be used for the DAC of the mixture: 6E-11 µCi of gross alpha activity from uranium-238, uranium-234, thorium-230, and radium-226 per milliliter of air; 3E-11 µCi of natural uranium per milliliter of air; or 45 micrograms of natural uranium per cubic meter of air.
- If the identity and concentration of each radionuclide in a mixture are known, the limiting values should be derived as follows: determine, for each radionuclide in the mixture, the ratio between the concentration present in the mixture and the concentration otherwise established in subsection (ggg)(2) of this section for the specific radionuclide when not in a mixture. The sum of such ratios for all of the radionuclides in the mixture may not exceed "1" (i.e., "unity").

Example: If radionuclides "A," "B," and "C" are present in concentrations CA, CB, and CC, and if the applicable DACs are DAC<sub>A</sub>, DAC<sub>B</sub>, and DAC<sub>C</sub>, respectively, then the concentrations shall be limited so that the following relationship exists:

$$\frac{C_A}{DAC_A} + \frac{C_B}{DAC_B} + \frac{C_C}{DAC_C} \leq 1$$

Quantities<sup>1</sup> of licensed material requiring labeling.

Radionuclide	Quantity ( $\mu$ Ci)*	Radionuclide	Quantity ( $\mu$ Ci)*
Hydrogen-3	1,000	Vanadium 47	1,000
Beryllium-7	1,000	Vanadium-48	100
Beryllium-10	1	Vanadium-49	1,000
Carbon-11	1,000	Chromium-48	1,000
Carbon-14	1,000	Chromium-49	1,000
Fluorine-18	1,000	Chromium-51	1,000
Sodium-22	10	Manganese-51	1,000
Sodium-24	100	Manganese-52m	1,000
Magnesium-28	100	Manganese-52	100
Aluminum-26	10	Manganese-53	1,000
Silicon-31	1,000	Manganese-54	100
Silicon-32	1	Manganese-56	1,000
Phosphorus-32	10	Iron-52	100
Phosphorus-33	100	Iron-55	100
Sulfur-35	100	Iron-59	10
Chlorine-36	10	Iron-60	1
Chlorine-38	1,000	Cobalt-55	100
Chlorine-39	1,000	Cobalt-56	10
Argon-39	1,000	Cobalt-57	100
Argon-41	1,000	Cobalt-58m	1,000
Potassium-40	100	Cobalt-58	100
Potassium-42	1,000	Cobalt-60m	1,000
Potassium-43	1,000	Cobalt-60	1
Potassium-44	1,000	Cobalt-61	1,000
Potassium-45	1,000	Cobalt-62m	1,000
Calcium-41	100	Nickel-56	100
Calcium-45	100	Nickel-57	100
Calcium-47	100	Nickel-59	100
Scandium-43	1,000	Nickel-63	100
Scandium-44m	100	Nickel-65	1,000
Scandium-44	100	Nickel-66	10
Scandium-46	10	Copper-60	1,000
Scandium-47	100	Copper-61	1,000
Scandium-48	100	Copper-64	1,000
Scandium-49	1,000	Copper-67	1,000
Titanium-44	1	Zinc-62	100
Titanium-45	1,000	Zinc-63	1,000

Zinc-65	10	Bromine-74m	1,000
Zinc-69m	100	Bromine-74	1,000
Zinc-69	1,000	Bromine-75	1,000
Zinc-71m	1,000	Bromine-76	100
Zinc-72	100	Bromine-77	1,000
Gallium-65	1,000	Bromine-80m	1,000
Gallium-66	100	Bromine-80	1,000
Gallium-67	1,000	Bromine-82	100
Gallium-68	1,000	Bromine-83	1,000
Gallium-70	1,000	Bromine-84	1,000
Gallium-72	100	Krypton-74	1,000
Gallium-73	1,000	Krypton-85	1,000
Germanium-66	1,000	Krypton-87	1,000
Germanium-67	1,000	Krypton-88	1,000
Germanium-68	10	Rubidium-79	1,000
Germanium-69	1,000	Rubidium-81m	1,000
Germanium-71	1,000	Rubidium-81	1,000
Germanium-75	1,000	Rubidium-82m	1,000
Germanium-77	1,000	Rubidium-83	100
Germanium-78	1,000	Rubidium-84	100
Arsenic-69	1,000	Rubidium-86	100
Arsenic-70	1,000	Rubidium-87	100
Arsenic-71	100	Rubidium-88	1,000
Arsenic-72	100	Rubidium-89	1,000
Arsenic-73	100	Strontium-80	100
Arsenic-74	100	Strontium-81	1,000
Arsenic-76	100	Strontium-83	100
Arsenic-77	100	Strontium-85m	1,000
Arsenic-78	1,000	Strontium-85	100
Selenium-70	1,000	Strontium-87m	1,000
Selenium-73m	1,000	Strontium-89	10
Selenium-73	100	Strontium-90	0.1
Selenium-75	100	Strontium-91	100
Selenium-79	100	Strontium-92	100
Selenium-81m	1,000	Yttrium-86m	1,000
Selenium-81	1,000	Yttrium-86	100
Selenium-83	1,000	Yttrium-87	100

Yttrium-88	10	Technitium-96m	1,000
Yttrium-90m	1,000	Technitium-96	100
Yttrium-90	10	Technitium-97m	100
Yttrium-91m	1,000	Technitium-97	1,000
Yttrium-91	10	Technitium-98	10
Yttrium-92	100	Technitium-99m	1,000
Yttrium-93	100	Technitium-99	100
Yttrium-94	1,000	Technitium-101	1,000
Yttrium-95	1,000	Technitium-104	1,000
Zirconium-86	100	Ruthenium-94	1,000
Zirconium-88	10	Ruthenium-97	1,000
Zirconium-89	100	Ruthenium-103	100
Zirconium-93	1	Ruthenium-105	1,000
Zirconium-95	10	Ruthenium-106	1
Zirconium-97	100	Rhodium-99m	1,000
Niobium-88	1,000	Rhodium-99	100
Krypton-76	1,000	Rhodium-100	100
Krypton-77	1,000	Rhodium-101m	1,000
Krypton-79	1,000	Rhodium-101	10
Krypton-81	1,000	Rhodium-102m	10
Krypton-83m	1,000	Rhodium-102	10
Krypton-85m	1,000	Niobium-89	
Niobium-94	1	(66 min)	1,000
Niobium-95m	100	Niobium-89	
Niobium-85	100	(122 min)	1,000
Niobium-96	100	Niobium-90	100
Niobium-97	1,000	Niobium-93m	10
Niobium-98	1,000	Silver-104	1,000
Molybdenum-90	100	Silver-105	100
Molybdenum-93m	100	Silver-106m	100
Molybdenum-93	10	Silver-106	1,000
Molybdenum-99	100	Silver-108m	1
Molybdenum-101	1,000	Silver-110m	10
Technitium-93m	1,000	Silver-111	100
Technitium-93	1,000	Silver-112	100
Technitium-94m	1,000	Silver-115	1,000
Technitium-94	1,000	Cadmium-104	1,000

Cadmium-107	1,000	Silver-104m	1,000
Cadmium-109	1	Antimony-116	1,000
Cadmium-113m	0.1	Antimony-117	1,000
Cadmium-113	100	Antimony-118m	1,000
Cadmium-115m	10	Antimony-119	1,000
Cadmium-115	100	Antimony-120	
Cadmium-117m	1,000	(16m)	1,000
Cadmium-117	1,000	Antimony-120	
Indium-109	1,000	(5.76d)	100
Indium-110m		Antimony-122	100
(69.1m)	1,000	Antimony-124m	1,000
Indium-110m		Antimony-124	10
(4.9h)	1,000	Antimony-125	100
Indium-111	100	Antimony-126m	1,000
Indium-112	1,000	Antimony-126	100
Indium-113m	1,000	Antimony-127	100
Indium-114m	10	Antimony-128	
Indium-115m	1,000	(10.4m)	1,000
Indium-115	100	Antimony-128	
Indium-116m	1,000	(9.01h)	100
Indium-117m	1,000	Antimony-129	100
Indium-117	1,000	Antimony-130	1,000
Indium-119m	1,000	Antimony-131	1,000
Tin-110	100	Tellurium-116	1,000
Tin-111	1,000	Tellurium-121m	10
Tin-113	100	Tellurium-121	100
Rhodium-103m	1,000	Tellurium-123m	10
Rhodium-105	100	Tellurium-123	100
Rhodium-106m	1,000	Tellurium-125m	10
Rhodium-107	1,000	Tellurium-127m	10
Palladium-100	100	Tellurium-127	1,000
Palladium-101	1,000	Tellurium-129m	10
Palladium-103	100	Tin-117m	100
Palladium-107	10	Tin-119m	100
Palladium-109	100	Tin-121m	100
Silver-102	1,000	Tin-121	1,000
Silver-103	1,000	Tin-123m	1,000

Tin-123	10	Cesium-137	10
Tin-125	10	Tellurium-129	1,000
Tin-126	10	Tellurium-131m	10
Tin-127	1,000	Tellurium-131	100
Tin-128	1,000	Tellurium-132	10
Antimony-115	1,000	Tellurium-133m	100
Antimony-116m	1,000	Tellurium-133	1,000
Iodine-131	1	Tellurium-134	1,000
Iodine-132m	100	Iodine-120m	1,000
Iodine-132	100	Iodine-120	100
Iodine-133	10	Iodine-121	1,000
Iodine-134	1,000	Iodine-123	100
Iodine-135	100	Iodine-124	10
Xenon-120	1,000	Iodine-125	1
Xenon-121	1,000	Iodine-126	1
Xenon-122	1,000	Iodine-128	1,000
Xenon-123	1,000	Iodine-129	1
Xenon-125	1,000	Iodine-130	10
Xenon-127	1,000	Lanthanum-140	100
Xenon-129m	1,000	Lanthanum-141	100
Xenon-131m	1,000	Lanthanum-142	1,000
Xenon-133m	1,000	Lanthanum-143	1,000
Xenon-133	1,000	Cerium-134	100
Xenon-135m	1,000	Cerium-135	100
Xenon-135	1,000	Cerium-137m	100
Xenon-138	1,000	Cerium-137	1,000
Cesium-125	1,000	Cerium-139	100
Cesium-127	1,000	Cerium-141	100
Cesium-129	1,000	Cerium-143	100
Cesium-130	1,000	Cerium-144	1
Cesium-131	1,000	Praseodymium-136	1,000
Cesium-132	100	Praseodymium-137	1,000
Cesium-134m	1,000	Praseodymium-138m	1,000
Cesium-134	10	Praseodymium-139	1,000
Cesium-135m	1,000	Praseodymium-142m	1,000
Cesium-135	100	Praseodymium-142	100
Cesium-136	10	Praseodymium-143	100

Praseodymium-144	1,000	Europium-152	1
Praseodymium-145	100	Europium-154	1
Praseodymium-147	1,000	Europium-155	10
Neodymium-136	1,000	Europium-156	100
Neodymium-138	100	Europium-157	100
Neodymium-139m	1,000	Europium-158	1,000
Neodymium-139	1,000	Gadolinium-145	1,000
Cesium-138	1,000	Gadolinium-146	10
Barium-126	1,000	Gadolinium-147	100
Barium-128	100	Gadolinium-148	0.001
Barium-131m	1,000	Gadolinium-149	100
Barium-131	100	Gadolinium-151	10
Barium-133m	100	Gadolinium-152	100
Barium-133	100	Neodymium-141	1,000
Barium-135m	100	Neodymium-147	100
Barium-139	1,000	Neodymium-149	1,000
Barium-140	100	Neodymium-151	1,000
Barium-141	1,000	Promethium-141	1,000
Barium-142	1,000	Promethium-143	100
Lanthanum-131	1,000	Promethium-144	10
Lanthanum-132	100	Promethium-145	10
Lanthanum-135	1,000	Promethium-146	1
Lanthanum-137	10	Promethium-147	10
Lanthanum-138	100	Promethium-148m	10
Samarium-153	100	Promethium-148	10
Samarium-155	1,000	Promethium-149	100
Samarium-156	1,000	Promethium-150	1,000
Europium-145	100	Promethium-151	100
Europium-146	100	Samarium-141m	1,000
Europium-147	100	Samarium-141	1,000
Europium-148	10	Samarium-142	1,000
Europium-149	100	Samarium-145	100
Europium-150		Samarium-146	1
(12.62h)	100	Samarium-147	100
Europium-150		Samarium-151	10
(34.2y)	1	Dysprosium-166	100
Europium-152m	100	Holmium-1155	1,000



Holmium-157	1,000	Dysprosium-155	1,000
Holmium-159	1,000	Dysprosium-157	1,000
Holmium-161	1,000	Dysprosium-159	100
Holmium-162m	1,000	Dysprosium-165	1,000
Holmium-162	1,000	Hafnium-173	1,000
Holmium-164m	1,000	Hafnium-175	100
Holmium-164	1,000	Hafnium-177m	1,000
Holmium-166m	1	Hafnium-178m	0.1
Holmium-166	100	Hafnium-179m	10
Holmium-167	1,000	Hafnium-180m	1,000
Erbium-161	1,000	Hafnium-181	10
Erbium-165	1,000	Hafnium-182m	1,000
Erbium-169	100	Hafnium-182	0.1
Erbium-171	100	Hafnium-183	1,000
Erbium-172	100	Hafnium-184	100
Thulium-162	1,000	Tantalum-172	1,000
Thulium-166	100	Tantalum-173	1,000
Thulium-167	100	Tantalum-174	1,000
Thulium-170	10	Tantalum-175	1,000
Gadolinium-153	10	Tantalum-176	100
Gadolinium-159	100	Tantalum-177	1,000
Terbium-147	1,000	Tantalum-178	1,000
Terbium-149	100	Tantalum-179	100
Terbium-150	1,000	Tantalum-180m	1,000
Terbium-151	100	Tantalum-180	100
Terbium-153	1,000	Thulium-171	10
Terbium-154	100	Thulium-172	100
Terbium-155	1,000	Thulium-173	100
Terbium-156m (5.0h)	1,000	Thulium-175	1,000
Terbium-156m (24.4h)	1,000	Ytterbium-162	1,000
Terbium-156	100	Ytterbium-166	100
Terbium-157	10	Ytterbium-167	1,000
Terbium-158	1	Ytterbium-169	100
Terbium-160	10	Ytterbium-175	100
Terbium-161	100	Ytterbium-177	1,000
		Ytterbium-178	1,000
		Lutetium-169	100

Lutetium-170	100	Tungsten-176	1,000
Lutetium-171	100	Tungsten-177	1,000
Lutetium-172	100	Tungsten-178	1,000
Lutetium-173	10	Tungsten-179	1,000
Lutetium-174m	10	Tungsten-181	1,000
Lutetium-174	10	Tungsten-185	100
Lutetium-176m	1,000	Tungsten-187	100
Lutetium-176	100	Tungsten-188	10
Lutetium-177m	10	Rhenium-177	1,000
Lutetium-177	100	Rhenium-178	1,000
Lutetium-178m	1,000	Rhenium-181	1,000
Lutetium-178	1,000	Rhenium-182	
Lutetium-179	1,000	(12.7h)	1,000
Hafnium-170	100	Rhenium-182	
Hafnium-172	1	(64.0h)	100
Rhenium-188	100	Rhenium-184m	10
Rhenium-189	100	Rhenium-184	100
Osmium-180	1,000	Rhenium-186m	10
Osmium-181	1,000	Rhenium-186	100
Osmium-182	100	Rhenium-187	1,000
Osmium-185	100	Rhenium-188m	1,000
Osmium-189m	1,000	Mercury-194	1
Osmium-191m	1,000	Mercury-195m	100
Osmium-191	100	Mercury-195	1,000
Osmium-193	100	Mercury-197m	100
Osmium-194	100	Mercury-197	1,000
Iridium-182	1,000	Mercury-199m	1,000
Iridium-184	1,000	Mercury-203	100
Iridium-185	1,000	Thallium-194m	1,000
Iridium-186	100	Thallium-194	1,000
Iridium-187	1,000	Thallium-195	1,000
Tantalum-182m	1,000	Thallium-197	1,000
Tantalum-182	10	Thallium-198m	1,000
Tantalum-183	100	Thallium-198	1,000
Tantalum-184	100	Thallium-199	1,000
Tantalum-185	1,000	Thallium-200	1,000
Tantalum-186	1,000	Thallium-201	1,000

Iridium-188	100	Francium-223	100
Iridium-189	100	Radium-223	0.1
Iridium-190m	1,000	Radium-224	0.1
Iridium-190	100	Radium-225	0.1
Iridium-192m	1	Radium-226	0.1
Iridium-192	10	Radium-227	1,000
Iridium-194m	10	Thallium-202	100
Iridium-194	100	Thallium-204	100
Iridium-195m	1,000	Lead-195m	1,000
Iridium-195	1,000	Lead-198	1,000
Platinum-186	1,000	Lead-199	1,000
Platinum-188	100	Lead-200	100
Platinum-189	1,000	Lead-201	1,000
Platinum-191	100	Lead-202m	1,000
Platinum-193m	100	Lead-202	10
Platinum-193	1,000	Lead-203	1,000
Platinum-195m	100	Lead-205	100
Platinum-197m	1,000	Lead-209	1,000
Platinum-197	100	Lead-210	0.01
Platinum-199	1,000	Lead-211	100
Platinum-200	100	Lead-212	1
Gold-193	1,000	Lead-214	100
Gold-194	100	Bismuth-200	1,000
Gold-195	10	Bismuth-201	1,000
Gold-198m	100	Bismuth-202	1,000
Gold-198	100	Bismuth-203	100
Gold-199	100	Bismuth-205	100
Gold-200m	100	Bismuth-206	100
Gold-200	1,000	Bismuth-207	10
Gold-201	1,000	Bismuth-210m	0.1
Mercury-193m	100	Bismuth-210	1
Mercury-193	1,000	Bismuth-212	10
Astatine-207	100	Bismuth-213	10
Astatine-211	10	Bismuth-214	100
Radon-220	1	Polonium-203	1,000
Radon-222	1	Polonium-205	1,000
Francium-222	100	Polonium-207	1,000

Polonium-210	0.1	Uranium-233	0.001
Neptunium-234	100	Uranium-234	0.001
Neptunium-235	100	Uranium-235	0.001
Neptunium-236		Uranium-236	0.001
(1.15x10y)	0.001	Uranium-237	100
Neptunium-236		Uranium-238	100
(22.5h)	1	Uranium-239	1,000
Neptunium-237	0.001	Uranium-240	100
Neptunium-238	10	Uranium-natural	100
Neptunium-239	100	Neptunium-232	100
Neptunium-240	1,000	Neptunium-233	1,000
Plutonium-234	10	Berkelium-246	100
Radium-228	0.1	Berkelium-247	0.001
Actinium-224	1	Berkelium-249	0.1
Actinium-225	0.01	Berkelium-250	10
Actinium-226	0.1	Californium-244	100
Actinium-227	0.001	Californium-246	1
Actinium-228	1	Californium-248	0.01
Thorium-226	10	Plutonium-235	1,000
Thorium-227	0.01	Plutonium-236	0.001
Thorium-228	0.001	Plutonium-237	100
Thorium-229	0.001	Plutonium-238	0.001
Thorium-230	0.001	Plutonium-239	0.001
Thorium-231	100	Plutonium-240	0.001
Thorium-232	100	Plutonium-241	0.01
Thorium-234	10	Plutonium-242	0.001
Thorium-natural	100	Plutonium-243	1,000
Protactinium-227	10	Plutonium-244	0.001
Protactinium-228	1	Plutonium-245	100
Protactinium-230	0.1	Americium-237	1,000
Protactinium-231	0.001	Americium-238	100
Protactinium-232	1	Americium-239	1,000
Protactinium-233	100	Americium-240	100
Protactinium-234	100	Americium-241	0.001
Uranium-230	0.01	Americium-242m	0.001
Uranium-231	100	Americium-242	10
Uranium-232	0.001	Americium-243	0.001

Americium-244m	100	Einsteinium-251	100
Americium-244	10	Einsteinium-253	0.1
Americium-245	1,000	Einsteinium-254m	1
Americium-246m	1,000	Einsteinium-254	0.01
Americium-246	1,000	Fermium-252	1
Curium-238	100	Fermium-253	1
Curium-240	0.1	Californium-249	0.001
Curium-241	1	Californium-250	0.001
Curium-242	0.01	Californium-251	0.001
Curium-243	0.001	Californium-252	0.001
Curium-244	0.001	Californium-253	0.1
Curium-245	0.001	Californium-254	0.001
Curium-246	0.001	Fermium-254	10
Curium-247	0.001	Fermium-255	1
Curium-248	0.001	Fermium-257	0.01
Curium-249	1,000	Mendelevium-257	10
Berkelium-245	100	Mendelevium-258	0.01
Einsteinium-250	100		

Any alpha-emitting radionuclide not listed above or mixtures of alpha emitters of unknown composition

0.001

Any radionuclide other than alpha-emitting radionuclides not listed above, or mixtures of beta emitters of unknown composition

0.01

NOTE: For purposes of subsections (aa)(5), (dd)(1), and (ww)(1) of this section where there is involved a combination of radionuclides in known amounts, the limit for the combination should be derived as follows: determine, for each radionuclide in the combination, the ratio between the quantity present in the combination and the limit otherwise established for the specific radionuclide when not in combination. The sum of such ratios for all radionuclides in the combination may not exceed "1" -- that is, unity.

<sup>1</sup>The quantities listed above were derived by taking 1/10th of the most restrictive ALI listed in Columns 1 and 2 of Table I of paragraph (2)(F) of this subsection, rounding to the nearest factor of 10, and constraining the values listed between 0.001 and 1,000 microcuries (37 becquerels and 37 megabecquerels). Values of 100 microcuries (3.7 megabecquerels) have been assigned for radionuclides having a radioactive half-life in excess of E+9 years, except rhenium, 1,000 microcuries (37 megabecquerels), to take into account their low specific activity.

\* To convert microcurie ( $\mu\text{Ci}$ ) to kilobecquerel, multiply the microcurie value by 37.

Figure 10: 25 TAC §289.202(ggg)(5)(A)(iii)(V)

Concentration Radionuclide	curie/cubic meter*	nanocurie/gram**
C-14	8	
C-14 in activated metal	80	
Ni-59 in activated metal	220	
Nb-94 in activated metal	0.2	
Tc-99	3	
I-129	0.08	
Alpha emitting transuranic radionuclides with half- life greater than five years		100
Pu-241		3,500
Cm-242		20,000
Ra-226		100

\* To convert the Ci/m<sup>3</sup> values to gigabecquerel (GBq) per cubic meter, multiply the Ci/m<sup>3</sup> value by 37.

\*\* To convert the nCi/g values to becquerel (Bq) per gram, multiply the Nci/g value by 37.

Figure 11: 25 TAC §289.202(ggg)(5)(A)(iv)(VI)

Radionuclide	Concentration, curie/cubic meter*		
	Column 1	Column 2	Column 3
Total of all radionuclides with less than 5-year half-life	700	*	*
H-3	40	*	*
Co-60	700	*	*
Ni-63	3.5	70	700
Ni-63 in activated metal	35	700	7,000
Sr-90	0.04	150	7,000
Cs-137	1	44	4,600

\* To convert the Ci/m<sup>3</sup> value to gigabecquerel (G bq) per cubic meter, multiply the Ci/m<sup>3</sup> value by 37. There are no limits established for these radionuclides in Class B or C wastes. Practical considerations such as the effects of external radiation and internal heat generation on transportation, handling, and disposal will limit the concentrations for these wastes. These wastes shall be Class B unless the concentrations of other radionuclides in this table determine the waste to be Class C independent of these radionuclides.

<u>Specific Section</u>	<u>Name of Record</u>	<u>Time Interval Required for Record Keeping</u>
subsection (ll)(4) of this section	Records at Additional Authorized Use/ Storage Sites	While site is authorized on license/registration
subsection (mm)(1)(A) of this section	Radiation Protection Programs	Until termination of license/ registration
subsection (mm)(1)(B) of this section	Program Audits	3 years
subsection (nn)(1) of this section	Routine Surveys, Instrument Calibrations and Package Surveys	3 years
subsection (nn)(2) of this section	Surveys, Measurements, Calculations Used for Dose Determination; Results of Air Sampling, Bioassays; Measurements, Calculations Used to Determine Release of Radioactive Effluents	Until termination of license/ registration
subsection (oo) of this section	Tests for leakage/ contamination of sealed sources	5 years
subsection (pp) of this section	Lifetime Cumulative Occupational Radiation Dose, TRC Form 21-2	Until termination of license
subsection (pp) of this section	Records Used to Prepare TRC Form 21-2	3 years
subsection (qq)(B) of this section	Planned Special Exposures	Until termination of license



subsections (rr)(1-3) of this section	Individual Monitoring Results; TRC Form 21-3	Update annually; Maintain until termination of license/ registration
subsection (rr)(5) of this section	Records Used to Prepare TRC Form 21-3	3 years
subsection (rr)(4) of this section	Embryo/Fetus Dose	Until termination of license/ registration
subsection (ss) of this section	Dose to Individual Members of the Public	Until termination of license/ registration
subsection (tt) of this section	Discharge, Treatment, or Transfer for Disposal	Until termination of license/ registration
subsection (uu) of this section	Entry Control Device Testing for Very High Radiation Areas	3 years

NUCLIDE <sup>a</sup>	AVERAGE <sup>b,c,f</sup>	MAXIMUM <sup>b,d,f</sup>	REMOVABLE <sup>b,c,e,f</sup>
U-nat, U-235, U-238, and associated decay products except Ra-226, Th-230, Ac-227, and Pa-231	5,000 dpm alpha/ 100 cm <sup>2</sup>	15,000 dpm alpha/ 100 cm <sup>2</sup>	1,000 dpm alpha/ 100 cm <sup>2</sup>
Transuranics, Ra-223, Ra-224, Ra-226, Ra-228, Th-nat, Th-228, Th-230, Th-232, U-232, Pa-231, Ac-227, Sr-90, I-125, I-126, I-129, I-131, I-133	1,000 dpm/100 cm <sup>2</sup>	3,000 dpm/100 cm <sup>2</sup>	200 dpm/100 cm <sup>2</sup>
Beta-gamma emitters (nuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others noted above.	5,000 dpm beta, gamma/100 cm <sup>2</sup>	15,000 dpm beta, gamma/100 cm <sup>2</sup>	1,000 dpm beta, gamma/100 cm <sup>2</sup>

<sup>a</sup> Where surface contamination by both alpha and beta-gamma emitting nuclides exists, the limits established for alpha and beta-gamma emitting nuclides should apply independently.

<sup>b</sup> As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

<sup>c</sup> Measurements of average contamination level should not be averaged over more than 1 square meter. For objects of less surface area, the average should be derived for each object.

<sup>d</sup> The maximum contamination level applies to an area of not more than 100 cm<sup>2</sup>.

- c The amount of removable radioactive material per 100 cm<sup>2</sup> of surface area should be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of less surface area is determined, the pertinent levels should be reduced proportionally and the entire surface should be wiped.
- f The average and maximum radiation levels associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/hr at 1 centimeter and 1.0 mrad/hr at 1 centimeter, respectively, measured through not more than 7 mg/cm<sup>2</sup> of total absorber.

Nuclides	Concentrations Limit (Ci/m <sup>3</sup> )	Annual Generator Disposal Limit (Ci/yr)
F-18	3 x 10 <sup>-1</sup>	8
Si-31	1 x 10 <sup>+2</sup>	3 x 10 <sup>+3</sup>
Na-24	9 x 10 <sup>-4</sup>	2 x 10 <sup>-2</sup>
P-32	2	5 x 10 <sup>+1</sup>
P-33	10	3 x 10 <sup>+2</sup>
S-35	9	2 x 10 <sup>+2</sup>
Ar-41	3 x 10 <sup>-1</sup>	8
K-42	2 x 10 <sup>-2</sup>	5 x 10 <sup>-1</sup>
Ca-45	4	1 x 10 <sup>+2</sup>
Ca-47	2 x 10 <sup>-2</sup>	5 x 10 <sup>-1</sup>
Sc-46	2 x 10 <sup>-3</sup>	5 x 10 <sup>-2</sup>
Cr-51	6 x 10 <sup>-1</sup>	2 x 10 <sup>+1</sup>
Fe-59	5 x 10 <sup>-3</sup>	1 x 10 <sup>-1</sup>
Co-57	6 x 10 <sup>-2</sup>	2
Co-58	1 x 10 <sup>-2</sup>	3 x 10 <sup>-1</sup>
Zn-65	7 x 10 <sup>-3</sup>	2 x 10 <sup>-1</sup>
Ga-67	3 x 10 <sup>-1</sup>	8
Se-75	5 x 10 <sup>-2</sup>	1
Br-82	2 x 10 <sup>-3</sup>	5 x 10 <sup>-2</sup>
Rb-86	4 x 10 <sup>-2</sup>	1
Sr-85	2 x 10 <sup>-2</sup>	5 x 10 <sup>-1</sup>
Sr-89	8	2 x 10 <sup>+2</sup>
Y-90	4	1 x 10 <sup>+2</sup>
Y-91	4 x 10 <sup>-1</sup>	10
Zr-95	8 x 10 <sup>-3</sup>	2 x 10 <sup>-1</sup>
Nb-95	8 x 10 <sup>-3</sup>	2 x 10 <sup>-1</sup>
Mo-99	5 x 10 <sup>-2</sup>	1
Tc-99m	1	3 x 10 <sup>+1</sup>
Rh-106	1	3 x 10 <sup>+1</sup>
Ag-110m	2 x 10 <sup>-3</sup>	5 x 10 <sup>-2</sup>
Cd-115m	2 x 10 <sup>-1</sup>	5
In-111	9 x 10 <sup>-2</sup>	2

In-113m	9	$2 \times 10^{+2}$
Sn-113	$6 \times 10^{-2}$	2
Sn-119	$2 \times 10^{+1}$	$5 \times 10^{+2}$
Sb-124	$2 \times 10^{-3}$	$5 \times 10^{-2}$
Te-129	$2 \times 10^{-1}$	5
I-123	$4 \times 10^{-1}$	$1 \times 10^{+1}$
I-125	$7 \times 10^{-1}$	$2 \times 10^{+1}$
I-131	$4 \times 10^{-2}$	1
I-133	$2 \times 10^{-2}$	$5 \times 10^{-1}$
Xe-127	$8 \times 10^{-2}$	2
Xe-133	1	$3 \times 10^{+1}$
Ba-140	$2 \times 10^{-3}$	$5 \times 10^{-2}$
La-140	$2 \times 10^{-3}$	$5 \times 10^{-2}$
Ce-141	$4 \times 10^{-1}$	$1 \times 10^{+1}$
Ce-144	$1 \times 10^{-3}$	$3 \times 10^{-2}$
Pr-143	6	$2 \times 10^{+2}$
Nd-147	$7 \times 10^{-2}$	2
Yb-169	$6 \times 10^{-2}$	2
Ir-192	$1 \times 10^{-2}$	$3 \times 10^{-1}$
Au-198	$3 \times 10^{-2}$	$8 \times 10^{-1}$
Hg-197	$8 \times 10^{-1}$	$2 \times 10^{+1}$
Tl-201	$4 \times 10^{-1}$	$1 \times 10^{+1}$
Hg-203	$1 \times 10^{-1}$	3

**NOTE:** In any case where there is a mixture in waste of more than one radionuclide, the limiting values for purposes of this paragraph shall be determined as follows:

For each radionuclide in the mixture, calculate the ratio between the quantity present in the mixture and the limit established in this paragraph for the specific radionuclide when not in a mixture. The sum of such ratios for all the radionuclides in the mixture may not exceed "1" (i.e., "unity").

**Examples:** If radionuclides a, b, and c are present in concentrations  $C_a$ ,  $C_b$ , and  $C_c$ , and if the applicable concentrations are  $CL_a$ ,  $CL_b$ , and  $CL_c$  respectively, then the concentrations shall be limited so that the following relationship exists:

$$(C_a/CL_a) + (C_b/CL_b) + (C_c/CL_c) \leq 1$$

If the total curies for radionuclides a, b, and c are represented  $A_a$ ,  $A_b$ , and  $A_c$ , and the annual curie limit for each radionuclide is  $AL_a$ ,  $AL_b$ , and  $AL_c$ , then the generator is limited to the following:

$$(A_a/AL_a) + (A_b/AL_b) + (A_c/AL_c) \leq 1$$

Figure 15: 25 TAC §289.202(ggg)(9)

<u>Isotope</u>	<u>Concentration Limits* (pCi/g)</u>
Americium-241	6
Antimony-125	100
Bismuth-207	60
Cadmium-109	200
Carbon-14	800
Cesium-137	40
Cobalt-60	300
Europium-152	80
Europium-154	20
Europium-155	200
Hydrogen-3	3,000
Iodine-125	200
Iodine-129	200
Iodine-131	60
Iridium-192	40
Iron-55	2,000
Nickel-63	700
Plutonium-238	6
Plutonium-239	6
Plutonium-240	6
Promethium-147	200
Scandium-46	40
Sodium-22	30
Strontium-90	40
Technetium-99	200
Thallium-204	60
Thorium-230	6
Thorium-232	8
Uranium-234	6
Uranium-238	8
Uranium-natural	30

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\* It must be emphasized that every effort must be made to reduce contamination to background levels and that the limits in this table only apply when it is technically or economically impractical to do so.

Figure 16: 25 TAC §289.202(ggg)(10)

TRC Form 21-2  
(1993)

### CUMULATIVE OCCUPATIONAL EXPOSURE HISTORY

(AGENCY)

PAGE \_\_\_\_\_ OF \_\_\_\_\_

1. NAME (LAST, FIRST, MIDDLE INITIAL)	2. IDENTIFICATION NUMBER		3. ID TYPE		4. SEX		5. DATE OF BIRTH	
6. MONITORING PERIOD	7. LICENSEE OR REGISTRANT NAME	7. LICENSEE OR REGISTRANT NAME	8. LICENSE OR REGISTRATION NUMBER	18. CEDE	18. CDE	9. RECORD ESTIMATE	10. ROUTINE	PSE
	11. DOE					12. LDE		
6. MONITORING PERIOD	7. LICENSEE OR REGISTRANT NAME	7. LICENSEE OR REGISTRANT NAME	8. LICENSE OR REGISTRATION NUMBER	18. CEDE	18. CDE	9. RECORD ESTIMATE	10. ROUTINE	PSE
	11. DOE					12. LDE		
6. MONITORING PERIOD	7. LICENSEE OR REGISTRANT NAME	7. LICENSEE OR REGISTRANT NAME	8. LICENSE OR REGISTRATION NUMBER	18. CEDE	18. CDE	9. RECORD ESTIMATE	10. ROUTINE	PSE
	11. DOE					12. LDE		
6. MONITORING PERIOD	7. LICENSEE OR REGISTRANT NAME	7. LICENSEE OR REGISTRANT NAME	8. LICENSE OR REGISTRATION NUMBER	18. CEDE	18. CDE	9. RECORD ESTIMATE	10. ROUTINE	PSE
	11. DOE					12. LDE		
6. MONITORING PERIOD	7. LICENSEE OR REGISTRANT NAME	7. LICENSEE OR REGISTRANT NAME	8. LICENSE OR REGISTRATION NUMBER	18. CEDE	18. CDE	9. RECORD ESTIMATE	10. ROUTINE	PSE
	11. DOE					12. LDE		
6. MONITORING PERIOD	7. LICENSEE OR REGISTRANT NAME	7. LICENSEE OR REGISTRANT NAME	8. LICENSE OR REGISTRATION NUMBER	18. CEDE	18. CDE	9. RECORD ESTIMATE	10. ROUTINE	PSE
	11. DOE					12. LDE		
6. MONITORING PERIOD	7. LICENSEE OR REGISTRANT NAME	7. LICENSEE OR REGISTRANT NAME	8. LICENSE OR REGISTRATION NUMBER	18. CEDE	18. CDE	9. RECORD ESTIMATE	10. ROUTINE	PSE
	11. DOE					12. LDE		
6. MONITORING PERIOD	7. LICENSEE OR REGISTRANT NAME	7. LICENSEE OR REGISTRANT NAME	8. LICENSE OR REGISTRATION NUMBER	18. CEDE	18. CDE	9. RECORD ESTIMATE	10. ROUTINE	PSE
	11. DOE					12. LDE		
6. MONITORING PERIOD	7. LICENSEE OR REGISTRANT NAME	7. LICENSEE OR REGISTRANT NAME	8. LICENSE OR REGISTRATION NUMBER	18. CEDE	18. CDE	9. RECORD ESTIMATE	10. ROUTINE	PSE
	11. DOE					12. LDE		
6. MONITORING PERIOD	7. LICENSEE OR REGISTRANT NAME	7. LICENSEE OR REGISTRANT NAME	8. LICENSE OR REGISTRATION NUMBER	18. CEDE	18. CDE	9. RECORD ESTIMATE	10. ROUTINE	PSE
	11. DOE					12. LDE		
18. SIGNATURE OF MONITORED INDIVIDUAL	20. DATE SIGNED		21. CERTIFYING ORGANIZATION		22. SIGNATURE OF DESIGNEE		23. DATE SIGNED	

INSTRUCTIONS AND ADDITIONAL INFORMATION PERTINENT TO THE COMPLETION OF TRC FORM 21-2 <i>(All doses should be stated in terms)</i>		
<p>1. Type or print the full name of the monitored individual in the order of lastname (include "Jr.", "Sr.", "III," etc.), first name, middle initial (if applicable).</p> <p>2. Enter the individual's identification number, including punctuation. This number should be the 9-digit social security number if at all possible. If the individual has no social security number, enter the number from another official identification such as a passport or work permit.</p> <p>3. Enter the code for the type of identification used as shown below:</p> <p style="margin-left: 20px;"><u>CODE</u>    <u>ID TYPE</u></p> <p style="margin-left: 20px;">SSN    U.S. Social Security Number</p> <p style="margin-left: 20px;">PPN    Passport Number</p> <p style="margin-left: 20px;">CSI    Canadian Social Insurance Number</p> <p style="margin-left: 20px;">WPN    Work Permit Number</p> <p style="margin-left: 20px;">IND    INDEX Identification Number</p> <p style="margin-left: 20px;">OTH    Other</p> <p>4. Check the box that denotes the sex of the individual being monitored.</p> <p>5. Enter the date of birth of the individual being monitored in the format MM/DD/YY.</p> <p>6. Enter the monitoring period for which this report is filed. The format should be MM/DD/YY - MM/DD/YY.</p> <p>7. Enter the name of the licensee, registrant, or facility not licensed by the Agency that provided monitoring.</p> <p>8. Enter the Agency license or registration number or numbers.</p> <p>9. Place an "X" in Record, Estimate, or No Record. Choose "Record" if the dose data listed represent a final determination of the dose received to the best of the licensee's or registrant's knowledge. Choose "Estimate" only if the listed dose data are preliminary and will be superseded by a final determination resulting in a subsequent report. An example of such an instance would be dose data based on self-reading dosimeter results and the licensee or registrant intends to assign the record dose on the basis of TLD results that are not yet available.</p>	<p>10. Place an "X" in either Routine or PSE. Choose "Routine" if the data represent the results of monitoring for routine exposures. Choose "PSE" if the listed dose data represents the results of monitoring of planned special exposures received during the monitoring period. If more than one PSE was received in a single year, the licensee should sum them and report the total of all PSEs.</p> <p>11. Enter the deep dose equivalent (DDE) to the whole body.</p> <p>12. Enter the eye dose equivalent (EDE) recorded for the lens of the eye.</p> <p>13. Enter the shallow dose equivalent recorded for the skin of the whole body (SDE,WBI)</p> <p>14. Enter the shallow dose equivalent recorded for the skin of the extremity receiving the maximum dose (SDE,ME).</p> <p>15. Enter the committed effective dose equivalent (CEDE).</p> <p>16. Enter the committed dose equivalent (CDE) recorded for the maximally exposed organ.</p> <p>17. Enter the total effective dose equivalent (TEDE). The TEDE is the sum of items 11 and 15.</p> <p>18. Enter the total organ dose equivalent (TODE) for the maximally exposed organ. The TODE is the sum of items 11 and 16.</p> <p>19. Signature of the monitored individual. The signature of the monitored individual on this form indicates that the information contained on the form is complete and correct to the best of his or her knowledge.</p> <p>20. Enter the date this form was signed by the monitored individual.</p> <p>21. [OPTIONAL] Enter the name of the licensee, registrant or facility not licensed by the Agency, providing monitoring for exposure to radiation (such as a DOE facility) or the employer if the individual is not employed by the licensee or registrant and the employer chooses to maintain exposure records for its employees.</p>	<p>22. [OPTIONAL] Signature of the person designated to represent the licensee, registrant or employer entered in item 21. The licensee, registrant or employer who chooses to countersign the form should have on file documentation of all the information on the Agency Form Y being signed.</p> <p>23. [OPTIONAL] Enter the date this form was signed by the designated representative.</p>



Figure 17: 25 TAC §289.202(gg)(11)

PAGE \_\_\_\_ OF \_\_\_\_

TRC Form 21-3 (1993)		<b>OCCUPATIONAL EXPOSURE RECORD FOR A MONITORING PERIOD</b>		AGENCY	
1. NAME (LAST, FIRST, MIDDLE INITIAL)		2. IDENTIFICATION NUMBER	3. ID TYPE	4. SEX	5. DATE OF BIRTH
6. MONITORING PERIOD		7. LICENSEE OR REGISTRANT NAME		<input type="checkbox"/> MALE <input type="checkbox"/> FEMALE	8. LICENSE OR REGISTRATION NUMBER(S)
				9A. RECORD ESTIMATE	9B. ROUTINE PSE
<b>INTAKES</b>			<b>DOSES (In rem)</b>		
10A. RADIONUCLIDE	10B. CLASS	10C. MODE	10D. INTAKE IN $\mu$ Ci	DEEP DOSE EQUIVALENT (DDE)	11.
				EYE DOSE EQUIVALENT TO THE LENS OF THE EYE (LDE)	12.
				SHALLOW DOSE EQUIVALENT, WHOLE BODY (SDE,WB)	13.
				SHALLOW DOSE EQUIVALENT, MAX EXTREMITY (SDE,ME)	14.
				COMMITTED EFFECTIVE DOSE EQUIVALENT (CEDE)	15.
				COMMITTED DOSE EQUIVALENT, MAXIMALLY EXPOSED ORGAN (CDE)	16.
				TOTAL EFFECTIVE DOSE EQUIVALENT (RDOCS 11 + 15) (TEDE)	17.
				TOTAL ORGAN DOSE EQUIVALENT, MAX ORGAN (ROCS 11 + 16) (TODE)	18.
19. COMMENTS					
20. SIGNATURE - LICENSEE OR REGISTRANT					21. DATE PREPARED

INSTRUCTIONS AND ADDITIONAL INFORMATION PERTINENT TO THE COMPLETION OF TRC FORM 21-3 <i>(All doses should be stated in terms)</i>		
<p>1. Type or print the full name of the monitored individual in the order of last name (include "Jr.", "Sr.", "III," etc.), first name, middle initial (if applicable).</p> <p>2. Enter the individual's identification number, including punctuation. This number should be the 8-digit social security number if at all possible. If the individual has no social security number, enter the number from another official identification such as a passport or work permit.</p> <p>3. Enter the code for the type of identification used as shown below:</p> <p style="margin-left: 20px;"><u>CODE ID TYPE</u></p> <p style="margin-left: 20px;">SSN U.S. Social Security Number</p> <p style="margin-left: 20px;">PPN Passport Number</p> <p style="margin-left: 20px;">CSI Canadian Social Insurance Number</p> <p style="margin-left: 20px;">WPN Work Permit Number</p> <p style="margin-left: 20px;">MID INDEX Identification Number</p> <p style="margin-left: 20px;">OTH Other</p> <p>4. Check the box that denotes the sex of the individual being monitored.</p> <p>5. Enter the date of birth of the individual being monitored in the format MM/DD/YY.</p> <p>6. Enter the monitoring period for which this report is filed. The format should be MM/DD/YY - MM/DD/YY.</p> <p>7. Enter the name of the licensee or registrant.</p> <p>8. Enter the Agency license or registration number or numbers.</p> <p>9A. Place an "X" in Record or Estimate. Choose "Record" if the dose data listed represent a final determination of the dose received to the best of the licensee's or registrant's knowledge. Choose "Estimate" only if the listed dose data are preliminary and will be superseded by a final determination resulting in a subsequent report. An example of such an instance would be dose data based on self-reading dosimeter results and the licensee intends to assign the record dose on the basis of TLD results that are not yet available.</p> <p>9B. Place an "X" in either Routine or PSE. Choose "Routine" if the data represent the results of monitoring for routine exposures. Choose "PSE" if the listed dose data represents the results of monitoring of planned special exposures received during the monitoring</p>	<p>period. If more than one PSE was received in a single year, the licensee or registrant should sum them and report the total of all PSEs.</p> <p>10A. Enter the symbol for each radionuclide that resulted in an internal exposure recorded for the individual, using the format "Xc-#Z#X," for instance, Cs-137 or Tc-99m.</p> <p>10B. Enter the lung clearance class as listed in Appendix B to Part D (D, W, Y, V, or O for other) for all intakes by inhalation.</p> <p>10C. Enter the mode of intake. For inhalation, enter "H." For absorption through the skin, enter "S." For oral ingestion, enter "G." For injection, enter "I."</p> <p>10D. Enter the intake of each radionuclide in <math>\mu</math>Ci.</p> <p>11. Enter the deep dose equivalent (DDE) to the whole body.</p> <p>12. Enter the eye dose equivalent (EDE) recorded for the lens of the eye.</p> <p>13. Enter the shallow dose equivalent recorded for the skin of the whole body (SDE,WB).</p> <p>14. Enter the shallow dose equivalent recorded for the skin of the extremity receiving the maximum dose (SDE,ME).</p> <p>15. Enter the committed effective dose equivalent (CEDE) or "NRC" for "Not Required" or "NC" for "Not Calculated".</p> <p>16. Enter the committed dose equivalent (CDE) recorded for the maximally exposed organ or "NRC" for "Not Required" or "NC" for "Not Calculated".</p> <p>17. Enter the total effective dose equivalent (TEDE). The TEDE is the sum of items 11 and 15.</p> <p>18. Enter the total organ dose equivalent (TODE) for the maximally exposed organ. The TODE is the sum of items 11 and 16.</p>	<p>19. COMMENTS. In the space provided, enter additional information that might be needed to determine compliance with limits. An example might be to enter the note that the SDE,ME was the result of exposure from a discrete hot particle. Another possibility would be to indicate that an overexposed report has been sent to the Agency in reference to the exposure report.</p> <p>20. Signature of the person designated to represent the licensee or registrant.</p> <p>21. Enter the date this form was prepared.</p>

**NOTICE REGARDING REINSTATEMENT OF A LAPSED POLICY  
DUE TO THE MENTAL INCAPACITY OF THE INSURED**

(Insurance Company's Name)  
(Address)

**KEEP THIS NOTICE WITH YOUR INSURANCE PAPERS  
IT MAY BE IMPORTANT TO YOU IN THE FUTURE**

**ELIGIBILITY**            If your policy lapses, it may be eligible for reinstatement if all of the following conditions are met:

- (1)    The policy has been in force continuously for at least five years immediately prior to the date of lapse;
- (2)    All premiums have been paid in a timely manner during this period;
- (3)    The lapse results from an unintentional default in premium payments caused by the mental incapacity of the insured; and
- (4)    We receive a request for reinstatement and proof of the insured's mental incapacity within one year from the date of the lapse.

**PROOF AND  
REQUEST**

To establish proof of the insured's mental incapacity, we must be provided with a clinical diagnosis by a physician licensed in Texas and qualified to make the diagnosis. We will accept the proof and request for reinstatement from:

- (1) you;
- (2) the insured, if you are not the insured;
- (3) the legal guardian of the insured;
- (4) other legal representative of the insured; or
- (5) the legal representative of the estate of the insured.

**MENTAL  
INCAPACITY**

Mental incapacity means lacking the ability, based on reasonable medical judgment, to understand and appreciate the nature and consequences of a decision regarding failure to pay a premium when due and the ability to reach an informed decision in the matter.

**REINSTATEMENT**

We will reinstate an eligible policy within a period of one year after the date of lapse. We will require payment of all unpaid premiums; plus {up to 6%} interest, from the date of lapse to the date of reinstatement.

- (1) Your policy will be treated as if it had been in force continuously since the lapse;
- (2) The policy provisions will apply as if there had been no lapse; and
- (3) You will be required to make any and all future premium payments required by the policy provisions to keep the policy in force.

**REDUCED BENEFITS**

We will pay the death benefit under an eligible policy if the insured dies within one year from the date of lapse, provided that the requirements for submitting proof of mental incapacity and request for reinstatement are met. We may reduce the death benefit by any unpaid premiums due, plus {up to 6%} interest from the date of lapse to the date of death.

**EXCEPTIONS**

We are not required to reinstate the policy or pay the death benefit if the insured becomes mentally incapacitated after the grace period contained in the policy expires.

**DEFINITIONS**

You and Your - The owner of the policy.

We - {The Name of the Insurer}

Lapse The due date of the last premium that remains unpaid after the expiration of the grace period defined in the policy.

**NOTICE REGARDING REINSTATEMENT OF A LAPSED POLICY  
DUE TO THE MENTAL INCAPACITY OF THE INSURED**

(Insurance Company's Name)  
(Address)

**YOUR POLICY HAS LAPSED**

**ELIGIBILITY**

Your policy has lapsed. It may be eligible for reinstatement if all of the following conditions are met:

- (1) The policy has been in force continuously for at least five years immediately prior to the date of lapse;
- (2) All premiums have been paid in a timely manner during this period;
- (3) The lapse resulted from an unintentional default in premium payments caused by the mental incapacity of the insured; and
- (4) We receive a request for reinstatement and proof of the insured's mental incapacity within one year from the date of the lapse.

**PROOF AND  
REQUEST**

To establish proof of the insured's mental incapacity, we must be provided with a clinical diagnosis by a physician licensed in this state and qualified to make the diagnosis. We will accept the proof and request for reinstatement from:

- (1) you;
- (2) the insured, if you are not the insured;
- (3) the legal guardian of the insured;
- (4) any other legal representative of the insured; or
- (5) the legal representative of the estate of the insured.

**MENTAL  
INCAPACITY**

Mental incapacity means lacking the ability, based on reasonable medical judgment, to understand and appreciate the nature and consequences of a decision regarding failure to pay a premium when due and the ability to reach an informed decision in the matter.



**REINSTATEMENT**

We will reinstate an eligible policy within a period of one year after the date of lapse. We will require payment of all unpaid premiums, plus {up to 6%} interest, from the date of lapse to the date of reinstatement. After reinstatement:

- (1) your policy will be treated as if it had been in force continuously since the lapse;
- (2) the policy provisions will apply as if there had been no lapse; and
- (3) you will be required to make any and all future premium payments required by the policy provisions to keep the policy in force.

**REDUCED BENEFITS**

We will pay the death benefit under an eligible policy if the insured dies within one year from the date of lapse, provided that the requirements for submitting proof of mental incapacity and request for reinstatement are met. We may reduce the death benefit by any unpaid premiums due, plus {up to 6%} interest from the date of lapse to the date of death.

**EXCEPTIONS**

We are not required to reinstate the policy or pay the death benefit if the insured becomes mentally incapacitated after the grace period contained in the policy expires.

**DEFINITIONS**

You and Your - The owner of the policy.

We - {The Name of the Insurer}

Lapse - The due date of the last premium that remains unpaid after the expiration of the grace period defined in the policy.

Texas Low-Level Radioactive Waste Disposal Authority  
 Chapter 450. Planning and Implementation Fees

Section 450.3(a)

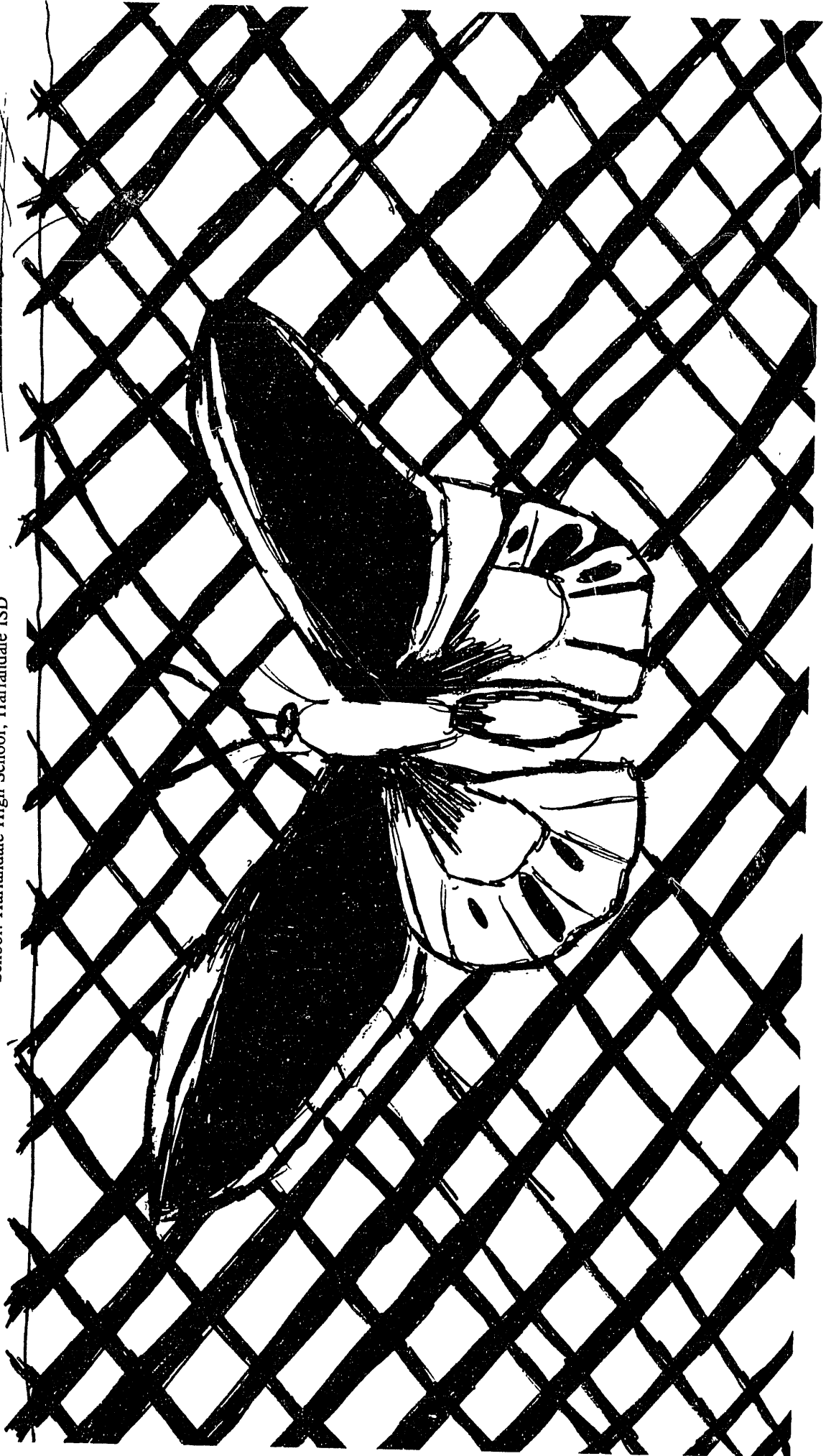
	FY 1996
Houston Lighting and Power as managing partner of the South Texas Project	<b>\$3,825,000</b>
Texas Utilities as owner of the Comanche Peak Project	<b><u>\$3,825,000</u></b>
	<b><u>\$7,650,000</u></b>

	[FY 1994	FY 1995	Totals
Houston Lighting and Power as managing partner of the South Texas Project	\$2,221,860	\$4,206,099	\$6,427,959
Texas Utilities as owner of the Comanche Peak Project	\$2,221,860	\$4,206,099	<u>\$6,427,959</u>
			<u>\$12,855,918]</u>

Name: Juan Hernandez

Grade: 11

School: Harlandale High School, Harlandale ISD



# OPEN MEETINGS

Agencies with statewide jurisdiction must give at least seven days notice before an impending meeting. Institutions of higher education or political subdivisions covering all or part of four or more counties (regional agencies) must post notice at least 72 hours before a scheduled meeting time. Some notices may be received too late to be published before the meeting is held, but all notices are published in the **Texas Register**.

**Emergency meetings and agendas.** Any of the governmental entities listed above must have notice of an emergency meeting, an emergency revision to an agenda, and the reason for such emergency posted for at least two hours before the meeting is convened. All emergency meeting notices filed by governmental agencies will be published.

**Posting of open meeting notices.** All notices are posted on the bulletin board at the main office of the Secretary of State in lobby of the James Earl Rudder Building, 1019 Brazos, Austin. These notices may contain a more detailed agenda than what is published in the **Texas Register**.

**Meeting Accessibility.** Under the Americans with Disabilities Act, an individual with a disability must have an equal opportunity for effective communication and participation in public meetings. Upon request, agencies must provide auxiliary aids and services, such as interpreters for the deaf and hearing impaired, readers, large print or braille documents. In determining type of auxiliary aid or service, agencies must give primary consideration to the individual's request. Those requesting auxiliary aids or services should notify the contact person listed on the meeting summary several days prior to the meeting by mail, telephone, or RELAY Texas (1-800-735-2989).

## State Office of Administrative Hearings

Tuesday, January 9, 1996, 9:00 a.m.

7800 Shoal Creek Boulevard

Austin

Utility Division

### AGENDA:

A prehearing conference will be held at the above date and time in SOAH Docket Number 473-95-1572—Application of Time Warner Communications for facilities-based Certificate of Operating Authority within Travis and Williamson counties (PUC Docket Number 15025).

Contact: J. Kay Trostle, 7800 Shoal Creek Boulevard, Austin, Texas 78757, (512) 458-0233.

Filed: December 20, 1995, 3:03 p.m.

TRD-9516590

## Texas Planning Council for Developmental Disabilities

Wednesday, January 3, 1996, 10:00 a.m.

Sheraton Hotel, 500 North IH-35, Sabine Room

Austin

Executive Committee Meeting

### AGENDA:

Wednesday, January 3, 1996

10:00 a.m.—Call to order

1. Introductions
2. Public comments
3. Approval of minutes
4. Consideration of stipends applications
5. Consideration of bylaws amendments
6. Budget status report
7. Chair's report
8. Executive director's report

Noon—Adjourn

Persons with disabilities who plan to attend this meeting and who may need auxiliary aids or services such as interpreters for persons who are deaf or hearing impaired, readers, large print or braille, are requested to contact Rosalinda Lopez at (512) 483-4094.

Contact: Roger Webb, 4900 North Lamar Boulevard, Austin, Texas 78751, (512) 483-4080.

Filed: December 19, 1995, 1:16 p.m.

TRD-9516523

Wednesday-Thursday, January 3-4, 1996, 1:00 p.m. and 9:00 a.m., respectively.

Sheraton Austin Hotel, 500 North IH-35 at Sixth Street, Rio Grande Room

Austin

Planning Committee

### AGENDA:

Wednesday, January 3, 1996, 1:00 p.m.-5:00 p.m.

- I. Call to order
- II. Introduction of council members, staff and guests
- III. Public comments
- IV. Approval of minutes
- V. Election of Nominating Committee representative
- VI. Development of strategic plan and topic areas for fiscal year 1996
- VII. Consideration of new funding activities

Recess

Thursday, January 4, 1996, 9:00 a.m.-10:30 a.m.

Reconvene

- VIII. Introductions
- IX. Continuation of unfinished business from January 3, 1996
- X. Other discussion items

Adjourn

Persons with disabilities who plan to attend this meeting and who may need auxiliary aids or services such as interpreters for persons who are deaf or hearing impaired, readers, large print or braille, are requested to contact Marilyn Simpson at (512) 483-4085.

Contact: Roger Webb, 4900 North Lamar

Boulevard, Austin, Texas 78751, (512) 483-4081.

Filed: December 20, 1995, 9:51 a.m.

TRD-9516578

Wednesday-Thursday, January 3-4, 1996, 1:30 p.m. and 8:30 a.m., respectively.

Sheraton Hotel, 500 North IH-35, Sabine Room

Austin

Advocacy and Public Information Committee Meeting

AGENDA:

Wednesday, January 3, 1996

1:30 p.m.-I. Call to order/introduction and public comments

II. Approval of minutes

III. Selection of A&PI representative to the Nominating Committee

IV. Federal policy/legislation

V. State policy/legislation

VI. Position statements

VII. Public information report

5:00 p.m.-Recess

Thursday, January 4, 1996

8:30 a.m.-Reconvene

Continuation of unfinished business from January 3, 1996

10:30 a.m.-Adjourn

Persons with disabilities who plan to attend this meeting and who may need auxiliary aids or services such as interpreters for persons who are deaf or hearing impaired, readers, large print or braille, are requested to contact Michelle Kuempel at (512) 483-4087.

Contact: Roger Webb, 4900 North Lamar Boulevard, Austin, Texas 78751, (512) 483-4080.

Filed: December 19, 1995, 1:22 p.m.

TRD-9516526

Thursday, January 4, 1996, 11:00 a.m.

Sheraton Hotel, 500 North IH-35, Sabine/Rio Grande

Austin

Committee Meeting of the Whole

AGENDA:

Thursday, January 4, 1996

11:00 a.m.-Call to order

1. Introductions

2. Public comments

3. Approval of minutes

4. Election of Nominating Committee chair

5. Updates of committee meetings

6. Update on fiscal year 1996 budget status

7. Other discussion items

12:30 p.m.-Adjourn

Persons with disabilities who plan to attend this meeting and who may need auxiliary aids or services such as interpreters for persons who are deaf or hearing impaired, readers, large print or braille, are requested to contact Rosalinda Lopez at (512) 483-4094.

Contact: Roger Webb, 4900 North Lamar Boulevard, Austin, Texas 78751, (512) 483-4080.

Filed: December 19, 1995, 1:18 p.m.

TRD-9516524

### Texas Education Agency

Friday-Sunday, January 5-7, 1996, 5:00 p.m. (Friday) and 8:00 a.m. (Saturday-Sunday).

Lake Austin Center, 3001 Lake Austin Boulevard, Scoring Room

Austin

Marketing Education Essential Knowledge and Skills Clarification Team

AGENDA:

The following meeting is not subject to the Open Meetings Act; however, the Texas Education Agency desires to publicize the event as a courtesy to the public and to allow all interested parties to have opportunity to be informed of the meeting.

The team will meet Friday, January 5, for a project update and review of work completed to date. On Saturday, January 6, the team will refine the work completed. On Sunday, January 7, the team will submit its work to the project coordinator and review the entire project.

Contact: Emmett Eary, 1701 North Congress Avenue, Austin, Texas 78701, (512) 463-9443.

Filed: December 20, 1995, 4:22 p.m.

TRD-9516599

Thursday-Friday, January 11-12, 1996, 9:30 a.m. and 8:00 a.m., respectively.

University of Houston, 4800 Calhoun, College of Technology, Room 1-100

Houston

Industrial Technology Education Essential Knowledge and Skills Clarification Team

AGENDA:

The following meeting is not subject to the Open Meetings Act; however, the Texas Education Agency desires to publicize the event as a courtesy to the public and to allow all interested parties to have opportunity to be informed of the meeting.

On Thursday, January 11, the team will meet and review programs from the last meeting and work on finishing the performance description for the essential knowledge and skills. On Friday, January 12, the team will discuss courses, develop performance description for the courses, and work on course coherent sequence models.

Contact: Richard Grimsley, 1701 North Congress Avenue, Austin, Texas 78701, (512) 463-9474.

Filed: December 20, 1995, 4:21 p.m.

TRD-9516598

### Texas Commission on Fire Protection

Tuesday-Friday, January 9-12, 1996, 9:00 a.m.

12675 North Research Boulevard

Austin

Funds Allocation Advisory Committee

AGENDA:

I. Approval of minutes of previous meeting.

II. Election of committee chairman and vice-chairman.

III. Discussion of monitoring reports.

IV. Discussion and possible action on applications for financial assistance.

V. Discussion and possible action on the interest rate to be used for loans under the Fire Department Emergency Program.

VI. Discussion and possible action on changes to the rules of the Fire Department Emergency Program.

VII. Discussion of and possible action on the repeal of 37 TAC 476, Funding Standards for Equipment, Facilities, Education, and Training.

VIII. Discussion and possible action regarding changes to the instructions, application, and contract for the Fire Department Emergency Program.

IX. Discussion of report on acquisition of resources and distribution of same.

Contact: Carol Menchu, 12675 North Research Boulevard, Austin, Texas 78759, (512) 919-7100.

Filed: December 20, 1995, 8:33 a.m.

TRD-9516552

Tuesday, January 9, 1996, 5:15 p.m.

12675 North Research Boulevard

Austin

Fire Protection Personnel Advisory Committee

AGENDA:

1. Discussion and receipt of public comments concerning 1996 performance skills testing procedures and skill sheets for basic structure fire protection personnel certification.

2. Discussion and receipt of public comments concerning the Fire Protection Personnel Advisory Committee recommendation of proposed 1997 changes to performance skills testing procedures for basic structure fire protection personnel certification.

3. Discussion and receipt of public comments concerning the Curricula Manual for Paid Fire Protection Personnel, including Basic Fire Suppression, Basic Aircraft Rescue and Fire Protection, Marine Fire Suppression, Basic Fire Inspector, and Basic Fire and Arson Investigator.

4. Discussion and receipt of public comments concerning matters related to training of fire protection personnel regulated under Texas Government Code, Chapter 419, Subchapter B.

Contact: Carol Menchu, 12675 North Research Boulevard, Austin, Texas 78759, (512) 919-7100.

Filed: December 20, 1995, 8:33 a.m.

TRD-9516553



Texas Department of Human Services

Friday, January 5, 1996, 10:00 a.m.

701 West 51st Street, Conference Room 103-W, John H. Winters Building

Austin

Aged and Disabled Advisory Committee

AGENDA:

1. Opening comments. 2. Deputy commissioner's comments. 3. Approval of minutes. Action items: 4. Amendments to nursing facility requirements for licensure and Medicaid certification as a result of House Bill 2644 and Senate Bills 1059 and 436. Information/technical items: 5. Technical amendment to the Medicaid nursing facility enforcement rules. 6. Status report on the Community Based Alternatives (CBA) waiver. 7. Certification of Community Care for the Aged and Disabled (CCAD) services. 8. Medicaid application for a de-

ceased client. 9. Ensuring QMB/SLMB eligibility. Reports: Proceedings of the Subcommittee on Services to Persons with Disabilities. Proceedings of the Nursing Facility Subcommittee. 10. Open discussion by members. 11. Next meeting/adjournment.

Contact: Anthony Venza, P.O. Box 149030, Austin, Texas 78714-9030, (512) 450-4943.

Filed: December 20, 1995, 9:41 a.m.

TRD-9516575



Texas Department of Licensing and Regulation

Thursday, January 4, 1996, 11:30 a.m.

920 Colorado, E.O. Thompson Building, Fourth Floor, Room 420

Austin

Enforcement Division, Boxing

AGENDA:

According to the complete agenda, the department will hold an administrative hearing to consider the application of Larry Holmes, applicant, for a boxing license in accordance with 16 Texas Administrative Code (TAC) §61.27(d), the Texas Civil Statutes Annotated, Articles 8501-1 (the Act) and 9100; the Texas Government Code, Chapter 2001 (APA); and 16 TAC, Chapter 61.

Contact: Paula Hamje, 920 Colorado, Austin, Texas 78701, (512) 463-3192.

Filed: December 20, 1995, 3:37 p.m.

TRD-9516593



Texas Council on Offenders with Mental Impairments

Wednesday, January 3, 1996, 9:00 a.m.

8610 Shoal Creek Boulevard

Austin

Executive Committee

AGENDA:

- I. Introductions
II. Public comments
III. Approval of minutes
IV. Retreat discussion
V. Committee reports
Planning/Legislative Committee
Program/Research Committee
Finance Committee
VI. Nominations Committee

VII. Council agenda

VIII. Executive director's report

Each item above includes discussion and action as necessary

Contact: Dee Kifowit, 8610 Shoal Creek Boulevard, Austin, Texas 78757, (512) 406-5406.

Filed: December 19, 1995, 11:38 a.m.

TRD-9516519



Texas Natural Resource Conservation Commission

Wednesday, January 24, 1996, 10:00 a.m.

Plainview City Hall, Council Chambers, 901 Broadway

Plainview

AGENDA:

The Texas Natural Resource Conservation Commission has referred Craig B. Silverthorne doing business as Plainview Feedyard to the State Office of Administrative Hearing for a public hearing. The public hearing will be on a petition for suspension and a petition for revocation of a permit issued to Craig B. Silverthorne doing business as Plainview Feedyard, SOAH Docket Number 582-95-1657.

Contact: Susan Prior, Mail Code 102, P.O. Box 13087, Austin, Texas 78711-3087, (512) 239-4100.

Filed: December 19, 1995, 4:40 p.m.

TRD-9516550



Board of Nurse Examiners

Wednesday-Thursday, January 10-11, 1996, 8:00 a.m.

333 Guadalupe, Tower Two, Suite 225

Austin

AGENDA:

The Board of Nurse Examiners will receive the minutes from the November meeting, October and November financial statements; consider education/examination and practice and compliance matters. An open forum will be held from 1:30-2:00 p.m. on January 10 to provide an opportunity for public comment. The board will receive reports from various committees, take action on two proposed board orders, three petitions for declaratory orders and one eligibility matter. The board will hold a working session on January 11, 1995 from 8:30 a.m.-2:30 p.m.

Contact: Erlene Fisher, Box 140466, Austin, Texas 78714, (512) 305-6811.

Filed: December 20, 1995, 3:33 p.m.

TRD-9516591

◆ ◆ ◆  
**Public Utility Commission of Texas**

Monday, January 8, 1996, 9:00 a.m.

7800 Shoal Creek Boulevard

Austin

**AGENDA:**

A hearing on the merits will be held by the State Office of Administrative Hearings in Docket Number 15145--Application of Metro-Link Telecom, Inc. for a Service Provider Certificate of Operating Authority. This application was filed on December 19, 1995. Applicant plans to provide, on a resell basis, monthly recurring, flat-rate exchange service including extended area service, toll restriction, call control options, tone dialing, custom calling services, Caller ID and any other services which are available on a resell basis from the underlying incumbent local exchange carrier or other certificated carrier within the service area of Metrolink as a service provider pursuant to §3. 2532 of the Public Utility Regulatory Act. These services include, but are not limited to, one and two way EMS/EAS service and foreign exchange type services. Applicant intends to provide local exchange service in a geographic area which exactly follows the local exchange boundaries of the following underlying local exchange companies within the state of Texas: Southwestern Bell Telephone, GTE Southwest, Inc., Contel, Inc., United and any other electing local exchange company. Persons who wish to intervene or otherwise participate in these proceedings should make appropriate filings or comments to the commission by December 29, 1995.

Contact: Paula Mueller, 7800 Shoal Creek Boulevard, Austin, Texas 78757, (512) 458-0100.

Filed: December 20, 1995, 9:53 a.m.

TRD-9516580

◆ ◆ ◆  
**Council on Sex Offender Treatment**

Friday, January 12, 1996, 9:00 a.m.

MHMR Central Office, 909 West 45th Street, Room 295

Austin

Joint Meeting of the Council on Sex Offender Treatment and the Interagency Advisory Committee

**AGENDA:**

I. Convene, Dr. Collier M. Cole, chairperson

II. Adoption of the minutes

III. Executive director's report

IV. Discussion and possible action on the council's self-evaluation report to the Sunset Commission

V. Discussion and possible action on the supervision requirements for the affiliate sex offender treatment provider designation

VI. Other business

VII. Public comment

VIII. Adjourn

Contact: Evelyn Nichols, P.O. Box 12546, Austin, Texas 78711-2546, (512) 463-2323.

Filed: December 20, 1995, 3:34 p.m.

TRD-9516592

◆ ◆ ◆  
**Structural Pest Control Board**

Tuesday, January 9, 1996, 9:30 a.m.

TAEX Bear Creek, #2 Abercrombie Drive

Houston

Public Hearing

**AGENDA:**

The Structural Pest Control Board will hold public hearings on the following changes to the Structural Pest Control Board law and regulations.

1. Continuing education requirements for certified applicators

2. Employee deletion

3. IPM in schools

4. Grounds for enforcement actions

5. Termite treatment disclosure documents

6. Structural fumigation requirements

Contact: Benny Mathis, 9101 FM 1325, Suite 201, Austin, Texas 78758, (512) 835-4066.

Filed: December 20, 1995, 8:59 a.m.

TRD-9516557

Monday, January 22, 1996, 9:30 a.m.

TAEX, 17360 Coit Road

Dallas

Public Hearing

**AGENDA:**

The Structural Pest Control Board will hold public hearings on the following changes the Structural Pest Control Board law and regulations.

1. Continuing education requirements for certified applicators

2. Employee deletion

3. IPM in schools

4. Grounds for enforcement actions

5. Termite treatment disclosure documents

6. Structural fumigation requirements

Contact: Benny Mathis, 9101 FM 1325, Suite 201, Austin, Texas 78758, (512) 835-4066.

Filed: December 20, 1995, 8:59 a.m.

TRD-9516556

Wednesday, January 31, 1996, 9:00 a.m.

Joe C. Thompson Conference Center, 2405 East Campus Drive, Room #2.120

Austin

Public Hearing

**AGENDA:**

The Structural Pest Control Board will hold public hearings on the following changes the Structural Pest Control Board law and regulations.

1. Continuing education requirements for certified applicators

2. Employee deletion

3. IPM in schools

4. Grounds for enforcement actions

5. Termite treatment disclosure documents

6. Structural fumigation requirements

Contact: Benny Mathis, 9101 FM 1325, Suite 201, Austin, Texas 78758, (512) 835-4066.

Filed: December 20, 1995, 8:59 a.m.

TRD-9516555

◆ ◆ ◆  
**Telecommunications Infrastructure Fund Board**

Friday, December 29, 1995, 10:30 a.m.

100 Crescent Court, Suite 1660

Dallas

Executive Director Search Committee

**AGENDA:**

I. Call to order/quorum call--Chairman Carolyn Bacon

II. Board comments

III. Review of executive director search firm bids

IV. Award contract to search firm

V. Discuss personnel matters

VI. Other business



VII. Adjourn

Contact: Jimmy Glotfelty, P.O. Box 12428, Austin, Texas 78701, (512) 936-8432.

Filed: December 21, 1995, 9:30 a.m.  
TRD-9516612

**Texas State Technical College System**

Wednesday, December 27, 1995, 10:00 a.m.

Texas Higher Education Coordinating Board, Building Five, Room 200, 7745 Chevy Chase Drive

Austin

Board of Regents

AGENDA:

Response to Senator Ratliff's letter of November 17, 1995.

Contact: Sandra J. Krumnow, 3801 Campus Drive, Waco, Texas 76705, (817) 867-4890.

Filed: December 21, 1995, 9:12 a.m.  
TRD-9516610

Wednesday, December 27, 1995, 10:00 a.m.

Texas Higher Education Coordinating Board, Building Five, Room 200, 7745 Chevy Chase Drive

Austin

Board of Regents

AGENDA:

Following Item VI of the agenda and shown as Item VII the Board of Regents will go into executive session in accordance with Chapter 551 of the Texas Government Code for the specific purpose provided in §§551.071, 551.074, and 551.075 and will discuss the following:

Discussion of legal issues including potential litigation posed by upcoming hearings with the Senate Education Committee and briefing from system attorney regarding confidential information relative to the Senate Education Committee and Texas State Technical College pursuant to Texas Disciplinary Rules of Professional Conduct.

Discuss personnel issues relative to possible changes in Texas State Technical College System as a result of upcoming Senate Education Committee hearings, including appointment, employment, evaluation, reassignment, duties, discipline, or dismissal of employees.

Contact: Sandra J. Krumnow, 3801 Campus Drive, Waco, Texas 76705, (817) 867-4890.

Filed: December 21, 1995, 9:12 a.m.  
TRD-9516611

**Texas Department of Transportation**

Tuesday, January 23, 1996, 2:30 p.m.

200 East Riverside Drive, Room Number 2.12

Austin

Public Transportation Advisory Committee

AGENDA:

Approve minutes. Briefing on commission meetings. Report on the future of the Public Transportation Advisory Committee. Discussion and comments on the statewide transit study. Discussion regarding proposed amendments to Title 43, Texas Administrative Code, §§31.1, 31.3, 31.11, 31.13, 31.36, update on strategic plan for public transportation, briefing on Public Transportation Division's priorities for fiscal year 1996.

Contact: Diane Northam, 125 East 11th Street, Austin, Texas 78701, (512) 463-8630.

Filed: December 20, 1995, 9:24 a.m.  
TRD-9516558

**University of Texas Health Science Center at San Antonio**

Wednesday, January 10, 1996, 3:00 p.m.

7703 Floyd Curl Drive, Room 422A

San Antonio

Institutional Animal Care and Use Committee

AGENDA:

- 1. Approval of minutes
- 2. Protocols for review
- 3. Subcommittee reports
- 4. Other business

Contact: Molly Greene, 7703 Floyd Curl Drive, San Antonio, Texas 78284-7822, (210) 567-3717.

Filed: December 19, 1995, 2:54 p.m.  
TRD-9516531

**Regional Meetings**

Meetings Filed December 19, 1995

The Edwards Central Appraisal District Board of Directors will meet at 408 Austin Street, County Annex Building, Rocksprings, January 3, 1996, at 10:00 a.m. Information may be obtained from Teresa Sweeten, P.O. Box 378, Rocksprings, Texas 78880, (210) 683-4189. TRD-9516516.

The Lamb County Appraisal District Appraisal Review Board will meet at 331 Littlefield Drive, Littlefield, January 9, 1996, at 8:00 a.m. Information may be obtained from Vaughn E. McKee, P.O. Box 950, Littlefield, Texas 79339-0950, (806) 385-6474. TRD-9516517.

Meetings Filed December 20, 1995

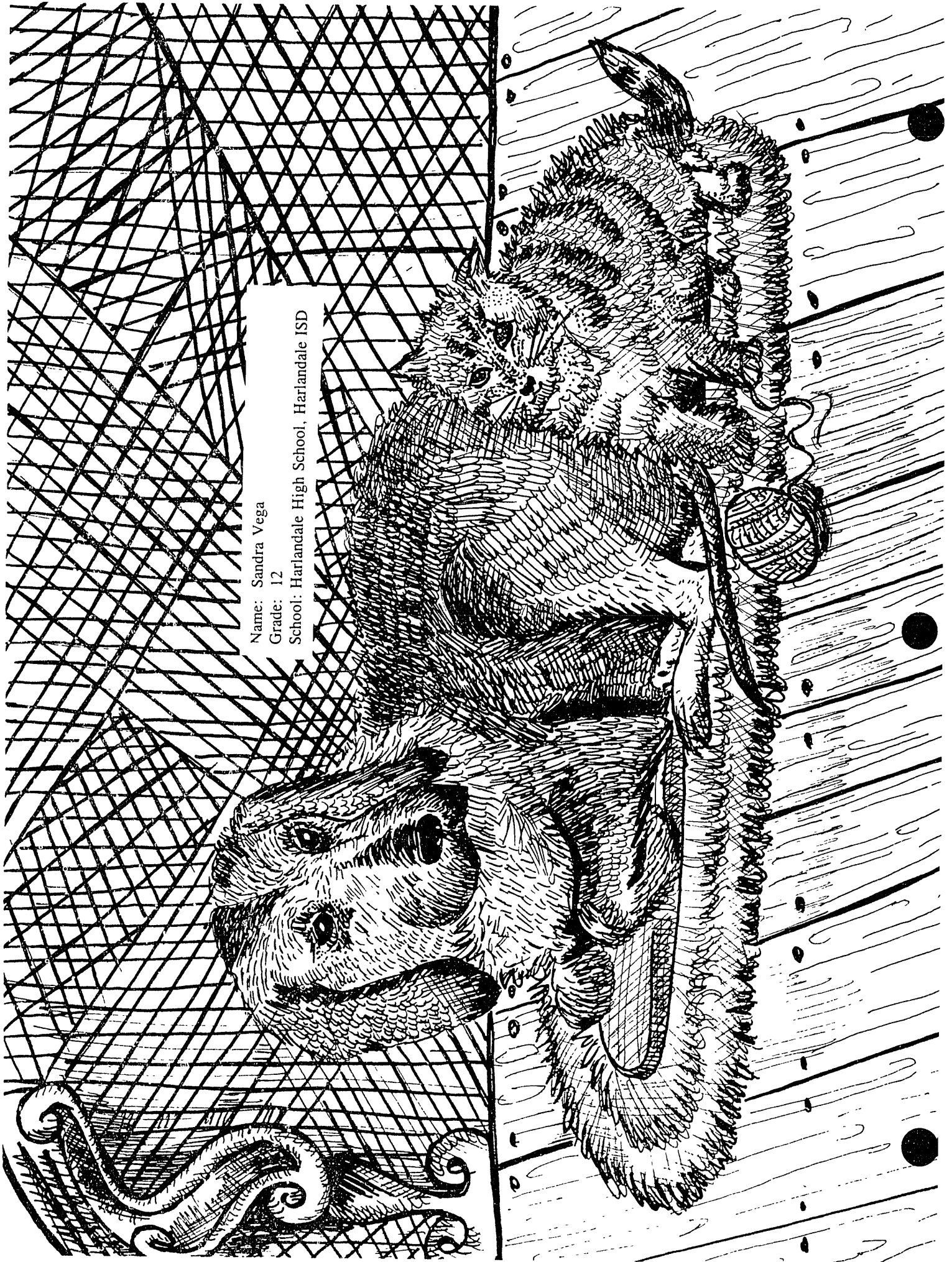
The Andrews Center Board of Trustees, Executive will meet at 100 East Ferguson Street, Petroleum Club Restaurant, Tyler, December 27, 1995, at Noon. Information may be obtained from Richard J. DeSanto, CEO, P.O. Box 4730, Tyler, Texas 75712, (903) 535-7338. TRD-9516597.

The Dewitt County Appraisal District Board of Directors will meet at 103 Bailey Street, Cuero, January 9, 1996, at 7:30 p.m. Information may be obtained from Kay Ruth, P.O. Box 4, Cuero, Texas 77954, (512) 275-5753. TRD-9516583.

The Edwards Central Appraisal District (Rescheduled from January 3, 1996) Board of Directors will meet at 408 Austin Street, County Annex Building, Rocksprings, January 5, 1996, at 10:00 a.m. Information may be obtained from Teresa Sweeten, P.O. Box 378, Rocksprings, Texas 78880, (210) 683-4189. TRD-9516589.

The Jack County Appraisal District Appraisal Review Board will meet at 210 North Church Street, Jacksboro, Jack County, December 28, 1995, at 7:00 p.m. Information may be obtained from Gary L. Zeitler or Vicky L. Easter, P.O. Box 958, Jacksboro, Texas 76458, (817) 567-6301. TRD-9516600.

Name: Sandra Vega  
Grade: 12  
School: Harlandale High School, Harlandale ISD



# IN ADDITION

The *Texas Register* is required by statute to publish certain documents, including applications to purchase control of state banks, notices of rate ceilings, changes in interest rate and applications to install remote service units, and consultant proposal requests and awards.

To aid agencies in communicating information quickly and effectively, other information of general interest to the public is published as space allows.

## Office of the Governor-Criminal Justice Division

### Request for Applications

Notice of Invitation for Applications: The Criminal Justice Division of the Office of the Governor (CJD), is soliciting applications for grants to be awarded under the federal S.T.O.P. Violence Against Women Act.

In May, 1995 Governor George W. Bush signed an Executive Order creating The Governor's Planning Council for S.T.O.P. Violence Against Women. Of the seven legislatively authorized purpose areas in the Violence Against Women Act, the Planning Council has identified the following for first-year funding:

- (1) Training law enforcement officers and prosecutors to more effectively identify and respond to violent crimes against women, including sexual assault and domestic violence.
- (2) Developing, training, or expanding specialized units of law enforcement officers and prosecutors targeting violence against women.
- (3) Developing, enlarging, or strengthening victim service programs; developing or improving delivery of victim services to racial, cultural, ethnic, and language minorities; providing specialized domestic violence advocates in courts where a significant number of protection orders are granted; and increasing reporting and reducing attrition rates for cases involving violent crimes against women.

CJD will award grants to projects that demonstrate the greatest need based on the availability of existing domestic violence and sexual assault programs in the population and geographic area of the project. CJD will also give priority to projects that address the needs of unserved, underserved, and special populations. The grants will be awarded June 1, 1996.

The Criminal Justice Division has placed a new focus on the needs of communities. CJD will base funding decisions for local and regional projects on how agencies and citizens work together to develop a comprehensive strategy that addresses an identified problem.

The minimum award is \$5,000 and the maximum is \$40,000. There is a 25% cash and/or in-kind match required for units of government; however nonprofit organizations are exempt from this requirement.

Contact Persons: Details including the selection process and application kits will be made available through the Office of the Governor Criminal Justice Division. Call Carol Funderburgh at (512) 463-1929, Valerie Curbo at (512) 463-1927, or Dan Gutierrez at (512) 463-1945.

Grantees must apply annually for funding. Continuation funding is not automatic and grantees must show progress during the grant year to be eligible for continuation funding.

Issued in Austin, Texas, on December 19, 1995

TRD-9516518      Pete Wassdorf  
Deputy, General Counsel  
Office of the Governor

Filed: December 19, 1995

## Texas Department of Health

### Fiscal Year 1996 Public Health Regions 2 and 3, Community Oriented Primary Care (COPC) Program Projects

Public Health Regions 2 and 3 is considering the development of up to four Community Oriented Primary Care (COPC) Program planning projects in the 49 counties coterminous with Public Health Regions 2 and 3. The planning projects will integrate public health and community health resources to develop a community-based, community-driven health care system which is focused on "health" rather than "illness".

Public Health Regions 2 and 3 is requesting information and proposals for piloting innovative COPC variations of planning for community-driven health care systems in which: (1) public health activities and private/community providers are integrated with key community leaders to build support for the concept; (2) the community is involved in COPC planning and development, including implementation strategies; (3) the process of community development planning includes assessment of resources and identification of community health problems to be impacted; (4) community health care resources are modified or customized in response to community health problems; and (5) outcomes are subject to measurement and evaluation.

Any organization interested in recommending a COPC Program project possessing the previous listed characteristics should contact Public Health Regions 2 and 3 for application materials on or after December 27, 1995. Final proposals must be received by the close of business on January 26, 1996. Awards decisions will be made by February 15, 1996. Planning grants will be awarded March 1, 1996, and funds must be used before August 31, 1996. Responses should be limited to no more than 12 pages. All proposals will be considered as prospective candidates for future COPC Program projects and funding. Public Health Regions 2 and 3 reserves the right not to fund any proposal(s).

Creative suggestions and innovative approaches to a health care delivery system that promotes accessible, comprehensive, coordinated, community-driven health care services in a cost efficient manner are encouraged and welcomed.

For additional information, please contact: Ann Hayward, Texas Department of Health, Public Health Regions 2 and 3, 2561 Matlock Road, Arlington, Texas 76015, (817) 261-2911 before January 12, 1996. After January 12, 1996 contact Ann Hayward, Texas Department of Health, 1351 East Bardin Road, Arlington, Texas 76018, (817) 264-4460.

Issued in Austin, Texas, on December 18, 1995.

TRD-9516485 Susan K. Steeg  
General Counsel  
Texas Department of Health

Filed: December 18, 1995

## Licensing Actions for Radioactive Materials

The Texas Department of Health has taken actions regarding licenses for the possession and use of radioactive materials as listed in the table below. The subheading labeled "Location" indicates the city in which the radioactive material may be possessed and/or used. The location listing "Throughout Texas" indicates that the radioactive material may be used on a temporary basis at job sites throughout the state.

### NEW LICENSES ISSUED:

Location	Name	License#	City	Amend- ment #	Date of Action
-----	----	-----	----	-----	-----
Austin	Austin Diagnostic Medical Center	L04910	Austin	0	12/05/95
Groesbeck	Limestone Medical Center	L04879	Groesbeck	0	12/05/95
Marlin	Falls Community Hospital	L04903	Marlin	0	11/30/95
Rio Grande City	Starr Regional Imaging Center, L.L.C.	L04928	Rio Grande City	0	11/30/95
San Antonio	Theron C. Toole, M.D.	L04892	San Antonio	0	12/05/95

### AMENDMENTS TO EXISTING LICENSES ISSUED:

Location	Name	License#	City	Amend- ment #	Date of Action
-----	----	-----	----	-----	-----
Alice	Alice Physicians and Surgeons Hospital	L02390	Alice	16	12/12/95
Baytown	Baycoast Medical Center	L02462	Baytown	19	12/01/95
Clute	Professional Service Industries, Inc.	L00203	Houston	83	12/13/95
Corpus Christi	Spohn Hospital	L02357	Corpus Christi	15	12/05/95
Corpus Christi	Radiology Associates	L04169	Corpus Christi	15	12/08/95
Corpus Christi	Cardiology Associates of Corpus Christi	L04611	Corpus Christi	5	12/14/95
Dallas	Mallinckrodt, Inc.	L03580	Dallas	25	12/08/95
Dallas	North Texas Heart Center, P.A.	L04608	Dallas	9	12/05/95
Dallas	North Texas Heart Center, P.A.	L04608	Dallas	10	12/12/95
Deer Park	Quantum Chemical Corporation	L00204	Deer Park	42	12/12/95
Deer Park	Fina Oil and Chemical Company	L00302	Deer Park	30	12/06/95
El Paso	Columbia Medical Center - West	L02715	El Paso	18	12/05/95
Fort Worth	Moncrief Radiation Center	L00047	Fort Worth	31	12/05/95
Georgetown	Georgetown Hospital	L03152	Georgetown	14	12/06/95
Houston	Huntingdon Engineering and Environmental, Inc.	L00299	Houston	96	12/14/95
Houston	St. Lukes Episcopal Hospital	L00581	Houston	55	12/14/95
Houston	H & G Inspection Company, Inc.	L02181	Houston	99	12/12/95
Houston	Dowser Consulting, Inc.	L04165	Houston	6	11/30/95
Houston	Fannin Imaging Center	L04609	Houston	3	11/30/95
Lubbock	Saint Mary of the Plains Hospital and Rehab. Center	L01547	Lubbock	44	12/12/95
Lubbock	Methodist Diagnostic Imaging	L03948	Lubbock	18	12/05/95
Lubbock	Joe Arrington Cancer Research and Treatment Center	L04881	Lubbock	2	12/08/95
McAllen	McAllen Medical Center	L01713	McAllen	51	12/11/95

CONTINUED AMENDMENTS TO EXISTING LICENSES ISSUED:

Location	Name	License#	City	Amend- ment #	Date of Action
-----	----	-----	----	-----	-----
McAllen	Valley Cardiology, P.A.	L04692	McAllen	3	12/12/95
Odessa	Medical Center Hospital	L01223	Odessa	51	12/12/95
Paris	St. Josephs Hospital and Health Center	L00459	Paris	28	12/11/95
Paris	Paris Regional Cancer Center	L04664	Paris	2	12/14/95
Pasadena	Phillips Petroleum Company	L00230	Pasadena	59	12/05/95
Richardson	Baylor/Richardson Medical Center	L02336	Richardson	22	12/05/95
San Antonio	Southwest Texas Methodist Hospital	L00594	San Antonio	119	12/08/95
Seadrift	Union Carbide Chemicals & Plastics Company, Inc.	L00051	Port Lavaca	62	12/01/95
Throughout Texas	Bonded Inspections, Inc.	L00693	Garland	50	12/06/95
Throughout Texas	Sivalle, Inc.	L02298	Odessa	25	12/12/95
Throughout Texas	O'Malley Engineers	L02310	Brenham	13	12/11/95
Throughout Texas	H & H X-Ray Services, Inc.	L02516	Tyler	23	12/06/95
Throughout Texas	Panhandle N.D.T. & Inspection, Inc.	L02627	Borger	34	12/13/95
Throughout Texas	Catch-A-Fault	L02725	Denton	12	12/14/95
Throughout Texas	METCO	L03018	Houston	46	12/04/95
Throughout Texas	METCO	L03018	Houston	47	12/14/95
Throughout Texas	Apex Geoscience, Inc.	L04929	Tyler	1	12/11/95
Tyler	Mother Frances Hospital	L01670	Tyler	56	12/14/95
Tyler	The Trinity Clinic, P.A.	L04517	Tyler	4	12/12/95
Wichita Falls	Wichita General Hospital	L00350	Wichita Falls	55	12/13/95

RENEWALS OF EXISTING LICENSES ISSUED:

Location	Name	License#	City	Amend- ment #	Date of Action
-----	-----	-----	----	-----	-----
Paris	McCuiston Regional Medical Center	L02457	Paris	11	11/30/95
The Woodlands	Zonagen, Inc.	L04464	The Woodlands	5	12/11/95
Throughout Texas	AGRA Earth & Environmental, Inc.	L03622	El Paso	9	12/11/95

TERMINATIONS OF LICENSES ISSUED:

Location	Name	License#	City	Amend- ment #	Date of Action
-----	-----	-----	----	-----	-----
Austin	Austin Diagnostic Clinic	L00868	Austin	49	12/05/95
Tyler	The Trinity Clinic, P.A.	L04517	Tyler	5	12/14/95

AMENDMENTS TO EXISTING LICENSES DENIED:

Location	Name	License#	City	Amend- ment #	Date of Action
-----	-----	-----	----	-----	-----
San Antonio	Southwest Research Institute	L00775	San Antonio	0	11/30/95

In issuing new licenses and amending and renewing existing licenses, the Texas Department of Health, Bureau of Radiation Control, has determined that the applicants are qualified by reason of training and experience to use the material in question for the purposes requested in accordance with *Texas Regulations for Control of Radiation* in such a manner as to minimize danger to public health and safety or property and the environment; the applicants' proposed equipment, facilities, and procedures are adequate to minimize danger to public health and safety or property and the environment; the issuance of the license(s) will not be inimical to the health and safety of the public or the environment; and the applicants satisfy any applicable special requirements in the *Texas Regulations for Control of Radiation*.

This notice affords the opportunity for a hearing on written request of a licensee, applicant, or person affected within 30 days of the date of publication of this notice. A person affected is defined as a person who is resident of a county, or a county adjacent to the county, in which the radioactive materials are or will be located, including any person who is doing business or who has a legal interest in land in the county or adjacent county, and any local government in the county; and who can demonstrate that he has suffered or will suffer actual injury or economic damage due to emissions of radiation. A licensee, applicant, or person affected may request a hearing by writing Richard A. Ratliff, P.E., Chief, Bureau of Radiation Control (Director, Radiation Control Program), 1100 West 49th Street, Austin, Texas, 78756-3189.

Any request for a hearing must contain the name and address of the person who considers himself affected by agency action, identify the subject license, specify the reasons why the person considers himself affected, and state the relief sought. If the person is represented by an agent, the name and address of the agent must be stated.

Copies of these documents and supporting materials are available for inspection and copying at the office of the Bureau of Radiation Control, Texas Department of Health, Exchange Building, 8407 Wall Street, Austin, Texas, from 8:00 a.m. to 5:00 p.m., Monday-Friday (except holidays).

Issued in Austin, Texas, on December 18, 1995.

TRD-9516530 Susan K. Staeg  
General Counsel, Office of General  
Counsel  
Texas Department of Health

Filed: December 19, 1995

## Texas Department of Insurance Insurer Services

The following applications have been filed with the Texas Department of Insurance and are under consideration:

Application for a name change in Texas for IIT Lyndon Life Insurance Company, a foreign life, accident and health company. The proposed new name is Lyndon Life Insurance Company. The home office is in St. Louis, Missouri.

Application for a name change in Texas for IIT Lyndon Property Insurance Company, a foreign fire and casualty company. The proposed new name is Lyndon Property

Insurance Company. The home office is in St. Louis, Missouri.

Any objections must be filed within 20 days after this notice was filed with the Texas Department of Insurance, addressed to the attention of Cindy Thurman, 333 Guadalupe Street, M/C 305-2C, Austin, Texas 78701.

Issued in Austin, Texas, on December 19, 1995.

TRD-9516547 Alicia M. Fechtel  
General Counsel and Chief Clerk  
Texas Department of Insurance

Filed: December 19, 1995

## Notice of Public Hearing

The Commissioner of Insurance will hold a public hearing under Docket Number 2195, on February 8, 1996, from 1:00 p.m. to 5:00 p.m. and from 6:00 p.m. to 8:00 p.m. at the Arlington City Hall, 101 West Abram Street, Arlington, Texas, to hear public testimony from residents of Dallas and Tarrant Counties and adjacent counties and from insurers, agents, consumer groups, and various other parties on residential property insurance availability problems in these counties. All interested parties, including members of the general public, are invited to attend and provide comments and recommendations.

The Commissioner is interested in hearing from area homeowners, insurers, agents, the Texas Catastrophe Property Insurance Association, mortgage lenders, consumer groups, community development organizations, builders and contractors, local government officials, legislators, and any other interested parties on (i) the nature and extent of the residential property insurance availability problem, (ii) the causes, and (iii) possible solutions.

This hearing is held pursuant to the Insurance Code, Articles 1.04C, 5.35, 5.96, and 5.98. Article 1.04C requires the Commissioner to provide the public with a reasonable opportunity to appear before the Commissioner and to speak on any issue under the jurisdiction of the Commissioner. Article 5.35 authorizes the Commissioner to adopt policy forms and endorsements for residential property insurance in Texas. Article 5.96 authorizes the Commissioner to promulgate standard and uniform manual rules, rating plans, and classification plans for fire and allied lines insurance. Article 5.98 authorizes the Commissioner to adopt reasonable rules that are appropriate to accomplish the purposes of Chapter 5 of the Insurance Code, which includes Subchapter C (Fire Insurance and Allied Lines). No rules are being considered in this hearing, but the information obtained may be used for the promulgation of rules in the future.

Anyone wishing to comment on this matter is requested to complete a witness card which will be available at Arlington City Hall immediately prior to the hearing.

Issued in Austin, Texas, on December 19, 1995.

TRD-9516549 Alicia M. Fechtel  
General Counsel and Chief Clerk  
Texas Department of Insurance

Filed: December 19, 1995

## Public Notice

I hereby find and certify that the National Association of Insurance Commissioners has provided the budgetary disclosure required under House Bill 1243, §18. This notice shall constitute the certification required for the Texas Insurance Code, Article 21.49-8, to take effect.

Issued in Austin, Texas, on December 19, 1995.

TRD-9516548      Elton Bomer  
Commissioner of Insurance  
>Alicia M. Fechtel  
General Counsel and Chief Clerk  
Texas Department of Insurance

Filed: December 19, 1995

## Third Party Administrator Applications

The following third party administrator (TPA) applications have been filed with the Texas Department of Insurance and are under consideration.

Application for incorporation in Texas of Praxis Resources International, Inc., (doing business under the assumed name of Praxis Benefit Plan Management), a domestic third party administrator. The home office is San Antonio, Texas.

Application for admission to Texas of Chesterfield Resources, Inc., a foreign third party administrator. The home office is Uniontown, Ohio.

Application for admission to Texas of TXEN, Inc., a foreign third party administrator. The home office is Birmingham, Alabama.

Any objections must be filed within 20 days after this notice was filed with the Secretary of State, addressed to the attention of Charles M. Waits, MC 107-5A, 333 Guadalupe, Austin, Texas 78714-9104.

Issued in Austin, Texas, on December 19, 1995.

TRD-9516546      Alicia M. Fechtel  
General Counsel and Chief Clerk  
Texas Department of Insurance

Filed: December 19, 1995

## Texas Lottery Commission

### Temporary Personnel Services Invitation for Bid

The Texas Lottery Commission is soliciting bids to obtain temporary personnel services for the Texas Lottery Commission headquarters as provided in the Invitation for Bid.

Objectives.

The Texas Lottery requires temporary personnel to perform various job duties as indicated in the Invitation to Bid. The Texas Lottery Commission headquarters is located in Austin, Texas.

Schedule.

Event-Date

IFB Issued-December 26, 1995

Letter of Intent to Bid-January 5, 1996 (3:00 p.m. Central Time)

Written Questions-January 9, 1996 (3:00 p.m. Central Time)

TLC Answers to Written Questions Issued-January 11, 1996 (or as soon as possible thereafter)

Bid Due Date-January 16, 1996 (2:00 p.m. Central Time)

Primary term. Prices quoted must be in effect for the primary term of this contract which is the date of execution through August 31, 1996. At its sole option, the Texas Lottery Commission may extend this contract for two one-year periods following the primary term (August 31, 1996).

For a copy of the complete Invitation for Bids please contact: Joanne Severn, Purchasing Supervisor, Texas Lottery Commission, (512) 323-3662.

Issued in Austin, Texas, on December 19, 1995.

TRD-9516529      Kimberly L. Kiplin  
General Counsel  
Texas Lottery Commission

Filed: December 19, 1995

## Texas Natural Resource Conservation Commission

### Notice Regarding Acid Rain Permit Applications

The United States Environmental Protection Agency (EPA) in a notice in the *Federal Register*, dated December 7, 1995, (Volume 60, Number 235, Page 62846) summarized aspects of Title IV of the Clean Air Act that established the Acid Rain Program to reduce the adverse environmental and public health effects of acidic deposition. Under Titles IV and V of the Clean Air Act, state and local permitting authorities are required to develop and administer acid rain programs as part of their Title V operating permits programs. In the notice, EPA identified which permitting authorities should receive Phase II acid rain permit applications (due January 1, 1996) from designated representatives of affected sources. The notice provided supplementary information stating that designated representatives of affected sources within the jurisdiction of permitting authority of Texas should submit the original Phase II acid rain permit application and all required copies to Texas. The application is not to be submitted to EPA.

Therefore, the designated representatives of affected sources located in Texas should submit the original Phase II acid rain permit application to the Texas Natural Resources Conservation Commission (TNRCC) at the following address. The TNRCC Acid Rain Program permit application forms are available by calling the TNRCC at (512) 239-1334, on the TNRCC Electronic Bulletin Board System, or by mail from the following addresses: U.S. Mail: TNRCC, Office of Air Quality, Operating Permits Division, Acid Rain Unit, Mail Code 163, Post Office Box 13087, Austin, Texas 78711-3087; Overnight Courier (physical address required): TNRCC, Office of Air Quality, Operating Permits Division, Acid Rain Unit, Mail Code 163, 12100 Park 35 Circle, Austin, Texas 78753.

For further information, please contact the Office of Air Quality, Operating Permits Division at (512) 239-1334 (Fax Number (512) 239-1070).

Issued in Austin, Texas, on December 20, 1995.

TRD-9516554

Kevin McCalla  
Director, Legal Services Division  
Texas Natural Resource Conservation  
Commission

Filed: December 20, 1995

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**Texas Department of Public Safety**  
**Environmental Protection Agency**  
**(EPA)-EPA Innovative Technical**  
**Assistance Grants Request for**  
**Proposals**

**INTRODUCTION.** The Division of Emergency Management (DEM), acting for the State Emergency Response Commission (SERC) is requesting proposals from Local Emergency Planning Committees (LEPCs) and Emergency Management Coordinators (EMCs) of the major population centers along the Texas/Mexico border.

**DESCRIPTION OF ACTIVITIES.** LEPCs are mandated by the Federal Emergency Planning and Community Right-to-Know Act (EPCRA) to provide planning and information for the community relating to hazardous materials. The U.S. EPA has made grant monies available to improve LEPCs and EMCs effectiveness to helping communities mitigate hazmat situations and improve their hazmat planning and response capabilities. A grant may be used by an LEPC in various ways, depending on a community's needs.

**ELIGIBLE APPLICANTS.** Each proposal must be developed by an LEPC, the membership of which is recognized by the SERC, in cooperation with the EMC. The proposal must be approved by a vote of the LEPC. Each LEPC shall arrange for a city or county to serve as its fiscal agent for management of any and all monies awarded under this grant.

**BUDGET LIMITATIONS.** A required 25% match (any combination of soft or hard) will be required by border LEPC/EMC subgrantees. This will be shown in the form of local project manager's time, project participants time, use of government facilities and equipment, office spaces, secretarial support, or in cash outlay. The subgrantee match will be projected on an average salary and benefits scale not to exceed \$15 per hour of project management, meetings and training time. No indirect costs will be attributed to this grant.

**EXAMPLES OF PROPOSALS:**

Identify and locate additional fixed facilities required to report Tier II hazardous materials. Educate responsible parties regarding Tier II reporting requirements and procedures.

Collect CAMEO data from available sources and update existing databases.

Procure additional digitized maps in support of CAMEO databases.

Work with cross-border officials to develop integrated CAMEO databases, mutual-aid agreements, and joint-use response SOPs.

Host one or more Business and Industry Meetings. Participants would include sister-city and surrounding country elected officials, LEPC members key industry officials,

and hazmat planners and responders. Agenda items could include EPCRA requirements, compliance procedures, and LEPC initiatives.

Coordinate with Mexican authorities to help them create, develop, and train a counterpart organization to the LEPC.

Develop a model sister-city Emergency Management Plan, to include mutual support agreements and an interoperability assessment.

Travel to other border cities to brief a model Emergency Management Plan. Discuss how to coordinate local government emergency management preparedness and LEPC activities in developing a comprehensive hazardous materials response capability.

Provide hazmat mitigation and/or response training not available under the HMEP or SARA Title III (305a) programs. This could include CAMEO training. Whenever multi-national meetings/training courses are conducted, bilingual presentations will be provided as required.

**CONTRACT PERIOD.** The Grant period begins as early as March 15, 1996, and ends August 15, 1996.

**FINAL SELECTION.** DEM shall review and the SERC shall approve the proposals. The DEM is under no obligation to award grants to all applicants.

**APPLICATION FORMS AND DEADLINE.** A grant application package can be obtained from the Division of Emergency Management, Texas Department of Public Safety, Box 4087, Austin, Texas 78773-0001. Completed application must be received at the previous listed address by 5:00 p.m., February 29, 1996. For further information, please call (512) 424-5985.

Issued in Austin, Texas, on December 15, 1995.

TRD-9516528

James R. Wilson  
Director  
Texas Department of Public Safety

Filed: December 19, 1995

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**Texas Department of Transportation**  
**Request for Proposals**

**Notice of Invitation.** The Texas Department of Transportation (TxDOT) intends to engage an engineer, pursuant to Texas Government Code, Chapter 2254, Subchapter A, and 43 TAC, §§9.30-9.40, to provide the following services. The engineer selected must perform a minimum of 30% of the actual contract work to qualify for contract award.

Request for Proposal (RFP) #12-6RFP5001 for engineering of services of ten Professional Engineering Firms as prime providers to provide Design Engineering Services for the Houston District. All work will be independently performed on ten proposed transportation improvement projects in the Houston District. The work will be performed in Harris, Fort Bend, Galveston, Brazoria, Waller and Montgomery counties. The total of ten prime provider firms will be selected for inclusion in one of two ranked provider pools of five firms each. All responding firms will be ranked in accordance with their responses to the detailed selection criteria presented in the official Request for Proposal. The top five ranked firms will be selected for the first provider pool with estimated provider fees totaling between \$1.0-\$2.0 million. The second five ranked firms will be selected for the second provider pool with esti-



mated fees up to \$1.0 million.

**Deadline.** A letter of interest notifying TxDOT of the provider's intent to submit a proposal will be accepted by Fax at (713) 802-5640, or hand-delivered to TxDOT, Houston District Office, Attention: Gus Nowak, P.E., 7721 Washington Avenue, Houston, Texas 77251-1386, or mailed to P.O. Box 1386, Houston, Texas 77251-1386. Letters of interest will be received until 5:00 p.m. on Friday, January 12, 1996. The letter of interest must include the engineer's firm name, address, telephone number, name of engineer's contact person and refer to RFP #12-6RFP5001. Upon receipt of the letter of interest a Request for Proposal packet will be issued. (Note: Written requests, either by mail/hand delivery or fax, will be required to receive Request for Proposal packet.) TxDOT will not issue Request for Proposal packet without receipt of letter of interest.

**Pre-proposal Meeting.** A pre-proposal meeting will be held on Wednesday, January 17, 1996, at the S.P.J.S.T. Lodge Number 88, 1435 Beall, Houston, Texas at 10:00 a.m. (TxDOT will not accept a proposal from an engineer who has failed for any reason to attend the mandatory pre-proposal meeting.)

Persons with disabilities who plan to attend this meeting and who may need auxiliary aids or services such as interpreters for persons who are deaf or hearing impaired, readers, large print or braille, are requested to contact Mark W. Litzmann, P.E. at (713) 802-5513 at least two work days prior to the meeting so that appropriate arrangements can be made.

**Proposal Submittal Deadline.** Proposals for RFP #12-6RFP5001 will be accepted until 5:00 p.m. on Friday, February 9, 1996, at the TxDOT Houston District Office mentioned address.

**Agency Contact.** Requests for additional information regarding this notice of invitation should be addressed to Gus Nowak, P.E. at (713) 802-5501 or Fax (713) 802-5640.

**Contract(s) #21-645P5013**—to provide research, surveying, pedestrian and vehicular study, bridge inspection, material sampling/testing, structural evaluation/analysis for the restoration of the Roma International Suspension Bridge for use as pedestrian/bicycle crossing.

**Deadline.** A letter of interest notifying TxDOT of the provider's intent to submit a proposal will be accepted by Fax at (210) 689-6690, or mailed to TxDOT, Raymondville Office, P.O. Box 248, Raymondville, Texas 78580. Letters of interest will be received until 5:00 p.m. on Wednesday, January 10, 1996. The letter of interest must include the engineer's firm name, address, telephone number, name of engineer's contact person and number of TxDOT contract. Upon receipt of the letter of interest a Request for Proposal packet will be issued. (Note: Written requests, either by mail/hand delivery or fax, will be required to receive Request for Proposal packet.) TxDOT will not issue Request for Proposal packet without receipt of letter of interest.

**Pre-proposal Meeting.** A pre-proposal meeting will be held on Tuesday, January 16, 1996, at the TxDOT, Pharr District Office, 600 West Expressway, Pharr, Texas at 10:00 a.m. (TxDOT will not accept a proposal from an engineer who has failed for any reason to attend the mandatory pre-proposal meeting.)

Persons with disabilities who plan to attend this meeting and who may need auxiliary aids or services such as interpreters for persons who are deaf or hearing impaired, readers, large print or braille, are requested to contact Jody Ellington, P.E. at (210) 689-2183 at least two work days prior to the meeting so that appropriate arrangements can be made.

**Proposal Submittal Deadline.** Proposals for contract #21-645P5013 will be accepted until 5:00 p.m. on Wednesday, January 31, 1996, at the TxDOT, Raymondville Office, P.O. Box 248, Raymondville, Texas 78580.

**Agency Contact.** Requests for additional information regarding this notice of invitation should be addressed to Jody Ellington, P.E., Area Engineer at (210) 689-2183 or Fax (210) 689-6690.

Issued in Austin, Texas, on December 20, 1995.

TRD-9516559      Robert E. Shaddock  
General Counsel  
Texas Department of Transportation

Filed: December 20, 1995

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## Texas Council on Workforce and Economic Competitiveness

### One-Stop State Training Functions

The state One-Stop Conference scheduled for January of 1996 has been canceled and all training functions have been moved from the Texas Council on Workforce and Economic Competitiveness to the Texas Employment Commission (TEC). The contact at TEC is Peggy Garrison. Ms. Garrison can be reached at (512) 463-7760.

Issued in Austin, Texas, on December 14, 1995.

TRD-9516460      Alexa Ray  
Business Manager  
Texas Council on Workforce and Economic  
Competitiveness

Filed: December 14, 1995

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The following is the January 1996 Publication Schedule for the *Texas Register*. Listed below are the deadline dates for these issues of the *Texas Register*. Because of printing schedules, material received after the deadline for an issue cannot be published until the next issue. Generally, deadlines for a Tuesday edition of the *Texas Register* are Wednesday and Thursday of the week preceding publication, and deadlines for a Friday edition are Monday and Tuesday of the week of publication.

<b>FOR ISSUE PUBLISHED ON</b>	<b>ALL COPY EXCEPT NOTICES OF OPEN MEETINGS BY 10 A.M.</b>	<b>ALL NOTICES OF OPEN MEETINGS BY 10 A.M.</b>
1 Tuesday, January 2	Wednesday, December 27	Thursday, December 28
2 Friday, January 5	*Friday, December 29	Tuesday, January 2
3 Tuesday, January 9	Wednesday, January 3	Thursday, January 4
4 Friday, January 12	Monday, January 8	Tuesday, January 9
5 Tuesday, January 16	Wednesday, January 10	Thursday, January 11
6 Friday, January 19	*Friday, January 12	Tuesday, January 16
7 Tuesday, January 23	Wednesday, January 17	Thursday, January 18
8 Friday, January 26	Monday, January 22	Tuesday, January 23
9 Tuesday, January 30	Wednesday, January 24	Thursday, January 25