

MAY 8, 1985

C O R R E C T I O N   N O T I C E

TO ALL HOLDERS OF

SECY-85-147   PROPOSED REVISION TO 10 CFR PART 20,  
"STANDARDS FOR PROTECTION AGAINST RADIATION"  
(COMMISSION ACTION ITEM)

ATTACHED ARE PAGES 96 AND 201 OF ENCLOSURE 1, PLEASE INSERT  
IN YOUR COPIES OF THE SECY PAPER.

ATTACHMENTS:  
AS STATED

THE SECRETARIAT

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85-147  
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(6) The prefixes in Table 1 are used when the unit of radiation dose is expressed in the International System of Units (SI).

TABLE 1 - SI PREFIXES

| Factor    | Prefix | Symbol | Factor     | Prefix | Symbol |
|-----------|--------|--------|------------|--------|--------|
| $10^{18}$ | exa    | E      | $10^{-1}$  | deci   | d      |
| $10^{15}$ | peta   | P      | $10^{-2}$  | centi  | c      |
| $10^{12}$ | tera   | T      | $10^{-3}$  | milli  | m      |
| $10^9$    | giga   | G      | $10^{-6}$  | micro  | $\mu$  |
| $10^6$    | mega   | M      | $10^{-9}$  | nano   | n      |
| $10^3$    | kilo   | k      | $10^{-12}$ | pico   | p      |
| $10^2$    | hecto  | h      | $10^{-15}$ | femto  | f      |
| $10^1$    | deka   | da     | $10^{-18}$ | atto   | a      |

(b) For the purposes of the regulations in this part, any of the following is considered to result in a dose of 1 rem:

(1) An exposure of 1 roentgen of x- or gamma-radiation, except for personnel monitoring purposes which shall comply with the requirements in § 20.501(c);

(2) An absorbed dose, in tissue, of 1 rad due to beta radiation;

(3) An absorbed dose, in tissue, of 0.05 rad due to alpha particles, fission fragments, and other particles heavier than neutrons; or

(4) An absorbed dose, in tissue, of 0.1 rad due to neutrons or high energy protons.

(c) If it is more convenient to measure the neutron fluence rate than to determine the neutron dose equivalent rate in rems per hour, as provided in paragraph (b)(4) of this section, 1 rem of neutron radiation of unknown energies may, for purposes of the regulations in this part, be assumed to result from a total fluence of 25 million neutrons per square centimeter incident upon the body. If sufficient information exists to estimate the approximate energy distribution of the neutrons, the licensee may use the incident fluence equivalent to 1 rem or the appropriate Q value from Table 2 to convert a measured tissue-dose in rads to dose equivalent in rems.

| Atomic No. | Radionuclide               | Class  | Table 1<br>OCCUPATIONAL VALUES                            |  |  | Table 2<br>REFERENCE LEVEL<br>CONCENTRATIONS |   | Table 3<br>RELEASE TO<br>SEWERAGE           |
|------------|----------------------------|--|---|--|--|--|---|---|
|            |                            |  | Col. 1-<br>Oral<br>Ingestion<br>ALI<br>( $\mu\text{Ci}$ ) | Col. 2-<br>Inhalation<br>ALI<br>( $\mu\text{Ci}$ ) | Col. 3-<br>DAC<br>( $\mu\text{Ci/ml}$ )  | Col. 1-<br>Air<br>( $\mu\text{Ci/ml}$ )      | Col. 2-<br>Water<br>( $\mu\text{Ci/ml}$ ) | Monthly<br>Average<br>( $\mu\text{Ci/ml}$ ) |
| 57         | Lanthanum-138              | D, see $^{131}\text{La}$<br>W, see $^{131}\text{La}$                                   | $9 \times 10^2$<br>-                                      | $4 \times 10^0$<br>$1 \times 10^1$                 | $1 \times 10^{-9}$<br>$6 \times 10^{-9}$ | $5 \times 10^{-12}$<br>$2 \times 10^{-11}$   | $1 \times 10^{-5}$<br>-                   | $1 \times 10^{-4}$<br>-                     |
| 57         | Lanthanum-140              | D, see $^{131}\text{La}$<br>W, see $^{131}\text{La}$                                   | $6 \times 10^2$<br>-                                      | $1 \times 10^3$<br>$1 \times 10^3$                 | $6 \times 10^{-7}$<br>$5 \times 10^{-7}$ | $2 \times 10^{-9}$<br>$2 \times 10^{-9}$     | $9 \times 10^{-6}$<br>-                   | $9 \times 10^{-5}$<br>-                     |
| 57         | Lanthanum-141              | D, see $^{131}\text{La}$<br>W, see $^{131}\text{La}$                                   | $4 \times 10^3$<br>-                                      | $9 \times 10^3$<br>$1 \times 10^4$                 | $4 \times 10^{-6}$<br>$5 \times 10^{-6}$ | $1 \times 10^{-8}$<br>$2 \times 10^{-8}$     | $5 \times 10^{-5}$<br>-                   | $5 \times 10^{-4}$<br>-                     |
| 57         | Lanthanum-142 <sup>2</sup> | D, see $^{131}\text{La}$<br>W, see $^{131}\text{La}$                                   | $8 \times 10^3$<br>-                                      | $2 \times 10^4$<br>$3 \times 10^4$                 | $9 \times 10^{-6}$<br>$1 \times 10^{-5}$ | $3 \times 10^{-8}$<br>$5 \times 10^{-8}$     | $1 \times 10^{-4}$<br>-                   | $1 \times 10^{-3}$<br>-                     |
| 57         | Lanthanum-143 <sup>2</sup> | D, see $^{131}\text{La}$<br>W, see $^{131}\text{La}$                                   | $4 \times 10^4$<br>-                                      | $1 \times 10^5$<br>$9 \times 10^4$                 | $4 \times 10^{-5}$<br>$4 \times 10^{-5}$ | $1 \times 10^{-7}$<br>$1 \times 10^{-7}$     | $5 \times 10^{-4}$<br>-                   | $5 \times 10^{-3}$<br>-                     |
| 58         | Cerium-134                 | W, all compounds except<br>those given for Y<br>Y, oxides, hydroxides<br>and fluorides | $5 \times 10^2$<br>-                                      | $7 \times 10^2$<br>$7 \times 10^2$                 | $3 \times 10^{-7}$<br>$3 \times 10^{-7}$ | $1 \times 10^{-9}$<br>$9 \times 10^{-10}$    | $7 \times 10^{-6}$<br>-                   | $7 \times 10^{-5}$<br>-                     |
| 58         | Cerium-135                 | W, see $^{134}\text{Ce}$<br>Y, see $^{134}\text{Ce}$                                   | $2 \times 10^3$<br>-                                      | $4 \times 10^3$<br>$4 \times 10^3$                 | $2 \times 10^{-6}$<br>$1 \times 10^{-6}$ | $5 \times 10^{-9}$<br>$5 \times 10^{-9}$     | $2 \times 10^{-5}$<br>-                   | $2 \times 10^{-4}$<br>-                     |
| 58         | Cerium-137m                | W, see $^{134}\text{Ce}$<br>Y, see $^{134}\text{Ce}$                                   | $2 \times 10^3$<br>-                                      | $4 \times 10^3$<br>$4 \times 10^3$                 | $2 \times 10^{-6}$<br>$2 \times 10^{-6}$ | $6 \times 10^{-9}$<br>$5 \times 10^{-9}$     | $3 \times 10^{-5}$<br>-                   | $3 \times 10^{-4}$<br>-                     |

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of Part 20

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