
Attachment 1

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44. Section 5.4.4.1.2, pp. 5.4-10 thru 5.4-12

Calculate the effluent concentration ratio without taking credit for the respirable fraction.

SRP Section 9.1.4.6.3.A recommends that the applicant use appropriate and verified assessment methods, computer codes, and literature values. Equation 5.4-3, the equation for 24-hour average effluent concentration ratio, contains a term for source term (ST) which is the same term as that used in Equation 5.4-2 for total effective dose equivalent to human receptors. The definition of source term, which is provided in Equation 5.4-1, has a term for the respirable fraction (RF). However, the inclusion of RF in source term derivations for demonstrating compliance with 10 CFR 70.61(c)(3) is not appropriate. This performance requirement relates to protection of the environment, not to protection of human health. Therefore, the applicant should demonstrate that the performance requirement is met for the entire range of particle sizes released to the environment, not just the respirable particle sizes.

45. Section 5.4.4.1.2, pp. 5.4-10 thru 5.4-12

Clarify how dose conversion factors from Federal Guidance Report No. 11 were chosen with due consideration for the chemical forms of radionuclides involved in accident scenarios.

Section 9.1.4.6.3.A of the SRP recommends that the applicant use appropriate and verified assessment methods, computer codes, and literature values. Section 5.4.4.1.2, "Dose Evaluation," describes the assumptions for calculating bounding total effective dose equivalent to individuals exposed during accidents, including the use of Federal Guidance Report No. 11 as the source of dose conversion factors used in the analysis. In many cases, Federal Guidance Report No. 11 provides dose conversion factors for more than one chemical form (or solubility) of the radionuclides listed. These multiple forms are represented by the transportability classes D, W and Y, where, for plutonium, the more limiting dose conversion factors are generally associated with class W compounds (such as plutonium nitrate). The application does not contain a description in Section 5.4.4.1.2 of how the solubility of various chemical forms of plutonium and americium were considered in performing the dose assessments.

46. Section 5.4.4.1.3, pp. 5.4-12 thru 5.4-13

Provide the hourly meteorological data for the period from January 1, 1987 through December 31, 1996 that was collected from the H-area meteorological tower. Include the standard deviation of the horizontal wind direction fluctuations (sigma-theta), derived stability class, wind direction, wind speed and accumulated precipitation for each hour. Include a description of how stability classes are derived using sigma-a and sigma-theta.

Section 5.4.3.2.B.v of the SRP recommends that the applicant provide a scientifically correct and reasonable estimate of the consequences from analyzed accidents. Several radiological accident consequence models that NRC may use to verify the applicant's dose calculations require hourly measurements of meteorological data. Therefore, the NRC staff must have the actual hourly data, rather than statistical summaries, to verify the correctness and reasonableness of the applicant's estimates.