Nevertheless, after reviewing public comments on the November 30, 1992, NPRM on administrative reporting exemptions, EPA would like to revisit the idea of a concentration cutoff to be applied specifically to land disturbance and piles of diffuse naturally occurring radioactive material (rather than all possible radionuclide releases, as originally envisioned in the radionuclide RQ adjustment NPRM). In particular, EPA requests information and comment on two major issues associated with such an approach. First, what would be an appropriate concentration cutoff level (or levels)? EPA believes that such a level would best be expressed as some increment to natural background. Second, what would be the best way to determine natural background levels?

With regard to the question of an appropriate level, 5 pCi/g of radium-226 above background is one possibility. This is EPA's standard in 40 CFR part 192 for the cleanup of surface soil contaminated with residual radioactive material from inactive uranium processing sites (i.e., uranium mill tailings). As stated in 40 CFR 192.12, remedial actions at such sites shall be conducted to provide reasonable assurance that the concentration of radium-226 in land averaged over any area of 100 square meters shall not exceed the background level by more than 5 pCi/g, averaged over the first 15 centimeters of soil below the surface. In promulgating this cleanup standard, the Agency stated:

The purpose of this standard is to limit the risk from inhalation of radon decay products in houses built on land contaminated with tailings, and to limit gamma radiation exposure of people using contaminated land. \* \* Because the risks from soils contaminated with radium-226 are potentially so great, the proposed standard was set at a level as close to background as we believed reasonable, taking into consideration the difficulties in measuring this level and distinguishing it from natural background. (48 FR 600, January 5, 1983)

EPA believes this underlying purpose and rationale make the 5 pCi/g standard a candidate for possible use as a lowerbound concentration cutoff for the purpose of reporting exemptions for land disturbance and piles of diffuse naturally occurring radioactive material, such as extraction, beneficiation, and mineral processing materials and wastes, as well as coal and coal ash.

EPA recognizes, however, that this number would have some limitations if applied in this context. Most notably, the standard was developed based on conditions that represent an inactive uranium mill tailings site, which would

not necessarily represent the conditions at other kinds of sites where naturally occurring radioactive materials are disturbed and handled (e.g., there may be differences in the physical properties and radionuclide concentrations of the materials being handled, as well as in potential human exposure scenarios). In addition, the 40 CFR part 192 standard was developed using risk assessment techniques and standards in place during the early 1980s. More recently, EPA has established guidelines for determining remediation goals for radioactively contaminated soils at Superfund sites.<sup>5</sup> Depending on the particular conditions at a site, use of these more recent guidelines may result in a cleanup target that differs from 5 pCi/g of radium-226 above background.

Nevertheless, these potential limitations may not seriously undermine the utility of 5 pCi/g above background as an administrative cutoff level for the purpose of establishing CERCLA section 103 and EPCRA section 304 reporting exemptions. If this approach is adopted, EPA could establish this level as an interim cutoff pending the development of a better value or set of values. As part of a separate rulemaking, the Agency is presently developing new cleanup levels for radioactively contaminated soil and ground water. Once these or other levels are finalized, and if they are considered appropriate for the purpose of CERCLA and EPCRA reporting exemptions, they could be adopted as updated concentration cutoffs.

The Agency specifically requests information and comment on the appropriateness of using 5 pCi/g of radium-226 above background as a concentration cutoff for the purpose of establishing CERCLA section 103 and **EPCRA** section 304 reporting exemptions for land disturbance and piles of diffuse naturally occurring radioactive material. EPA also requests proposals and supporting rationale for any alternative values. Major issues of interest that have a bearing on the appropriateness of any candidate value include its level of protectiveness, the ability to detect the value and distinguish it from natural background, and consistency with other existing regulations and controls.

With regard to the question of determining background, EPA believes that it would be appropriate to use a concentration that represents undisturbed background radioactivity in surface rocks and soils (to which the public is already exposed). EPA presently is considering three alternatives, but invites information and comment on the practicality and appropriateness of any other possibilities. The three alternatives presently being considered are: (1) Using site-specific values; (2) establishing a single value for the nation as a whole to be used when site-specific data are not available, or (3) establishing regional or State-specific values to be used when site-specific data are not available.

The first alternative, using sitespecific values, recognizes the variability in background radioactivity that exists across different sites and the difficulties in determining representative, undisturbed background values. Under this alternative, reporting would depend on site-specific background levels of radionuclides in surface soils. Existing and emerging EPA guidance for determining background concentrations of radionuclides could be used to establish these levels. For example, EPA's Guidance for Data Useability in Risk Assessment<sup>6</sup> provides general guidance on how to discriminate radioactive site contamination from background. Chapter 10 of the Agency's Risk Assessment Guidance for Superfund<sup>7</sup> also discusses general issues concerning the determination of background concentrations of radionuclides. In cooperation with the Department of Energy, Department of Defense, and Nuclear Regulatory Commission, EPA is in the process of developing more specific guidelines for surveying radioactively contaminated sites and determining radiological background levels (as part of the Multi-Agency Manual for Environmental Radiological Surveys). Once completed, these guidelines could be adopted for use in determining background levels under the RQ program.

Under the second and third alternatives, EPA would establish default values that site owners or operators would use in the absence of reliable site-specific data. If either of these alternatives were adopted, the Agency could use the background

<sup>&</sup>lt;sup>5</sup>U.S. EPA, "Risk Assessment Guidance for Superfund: Volume I—Human Health Evaluation Manual (Part B, Development of Risk-based Preliminary Remediation Goals)," Interim, Office of Emergency and Remedial Response, Publication 9285.7–01B, December 1991.

<sup>&</sup>lt;sup>6</sup> U.S. EPA, ''Guidance for Data Useability in Risk Assessment,'' Part A (Publication 9285.7–09A, April 1992) and Part B (Publication 9285.7–09B, May 1992), Office of Emergency and Remedial Response. For example, see Section 6.2 of Part B.

<sup>&</sup>lt;sup>7</sup> U.S. EPA, "Risk Assessment Guidance for Superfund, Volume I—Human Health Evaluation Manual (Part A), Interim Final," Office of Emergency and Remedial Response, EPA/540/1–89/ 002, December 1989. For example, see Sections 10.3.4 and 10.3.7.