

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
GUIDANCE FROM HOTLINE COMPENDIUM

WSG H28
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SUBJECT: Compliance for Gross Beta Particle Activity

SOURCE: Greg Helms

Title 40 CFR, Section 141.26, sets forth provisions for the monitoring of radioactivity in community water systems. Section 141.26(b)(1) states that compliance for gross beta particle activity may be assumed without further analysis if the average annual concentration of gross beta particle activity is less than 50 pCi/l and the average annual concentrations of tritium and strontium-90 are less than 20,000 pCi/l and 8 pCi/l respectively, provided, that if both radionuclides are present the sum of their annual dose equivalents to bone marrow shall not exceed 4 millirems/year. According to Section 141.26(b)(1)(i), if the average annual gross beta particle activity exceeds 50 pCi/l, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated to determine compliance with Section 141.26. ~~Table B in Section 141.25~~ establishes detection limits for man-made beta particle and photon emitters. Are the constituents listed in Table B of Section 141.25 the major constituents to be determined?

Response:

No, any radionuclide found in the samples that are listed in CFR 141.25(a) and have body burdens listed in "Maximum Permissible Body Burdens...in Air or Water for Occupational Exposure" (NBS Handbook 69 as amended August 1963, U.S. Department of Commerce) is considered a major constituent as specified in CFR 141.16(b). While the constituents listed are most likely to occur, "major constituents" refers to the specific radioactive constituents in the particular (or an equivalent) sample.