

PAST RADIONUCLIDE RELEASES FROM ROUTINE OPERATIONS AT ROCKY FLATS

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Abstract—The Colorado Department of Public Health and Environment sponsored a study to reconstruct contaminant doses to the public from operations at the Rocky Flats nuclear weapons facility. This analysis of routine releases of plutonium and uranium, the principal radioactive materials used at the plant, was part of the Colorado Department of Public Health and Environment study. Historical radionuclide monitoring and data handling practices are characterized and uncertainties are quantified. Estimates of the annual release of plutonium and uranium are provided for the period from 1953 to 1989. Off-site airborne concentrations and deposition of plutonium and uranium associated with the releases are estimated, along with the highest doses for off-site populations. The predicted effective doses from the routine release of plutonium and uranium from Rocky Flats for a person residing near the plant boundary between 1953 and 1989 are very small.

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Key words: contamination, environmental; dose assessment; exposure, population; risk analysis
