

EPA FINDINGS ABOUT MIGRATION OF RADIOACTIVE URANIUM MINING WASTES

The five on-site environmental pathways through which these tailings impoundments pose a risk are represented schematically in Figure AVI-3. In addition to the on-site scenarios, tailings have also been taken off-site and used as an inexpensive building material by some local populations. Each of these hazard pathways is listed below and the associated risks are discussed later.

- (i) The release of gaseous radon-222 to the atmosphere and subsequent inhalation
- (ii) Possible dust loading of contaminants from the impoundment due to natural wind conditions
- (iii) The localized effect of direct external gamma radiation exposure from the tailings impoundment
- (iv) Ground seepage and subsequent contamination of local aquifers, which has the potential to affect the water supply
- (v) Dam failure due to erosion or natural disasters (flood, earthquake, etc.)
- (vi) Improper use of tailings as a building material

All six of these hazard scenarios can apply to the general public and, with the exception of building materials, to the plant workers themselves. In addition, plant workers have added risks associated with accidents that may occur within the mill. The additional issues associated with workers are discussed in a separate section.

<http://www.epa.gov/radiation/docs/tenorm/402-r-08-005-volii/402-r-08-005-v2.pdf>