



# Building Dose Compliance Concentration (BDCC) Calculator



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BDCC: <http://epa-bdcc.ornl.gov>

## What is BDCC?

- BDCC stands for **building dose compliance concentrations**.
- BDCCs are cleanup levels that correspond to a specific dose of radiation in radioactively contaminated buildings.
- Superfund is **NOT** a dose-based program.
- Used for residential and commercial/industrial indoor worker exposure.

## BDCC Calculator

- The **BDCC Calculator** is a tool that allows EPA to calculate cleanup levels that correspond to a specific dose of radiation in radioactively contaminated buildings at a Superfund site. The calculator uses **dose conversion factors (DCF)** in calculating radiation dose.
  - **Dose** is the amount of radiation absorbed by a person's body.
  - **DCF**s use concentration of a radionuclide in soil, air, water, and food to determine the dose of radiation a person at a contaminated site is exposed to. DCFs also take into account the type of exposure (inhalation, ingestion, or external) in determining dose.
- Superfund takes into account cancer risk, not radiation dose, in deciding cleanup levels. The DCC calculator is useful to show compliance with previously existing regulation of cleanup levels that may be in place.
- Below are some exposure pathways considered by the DCC.

## How does the BDCC Calculator work?

### Dose Conversion Factors



### BDCC Equations



### BDCC Calculation



Residential Land Use



Industrial (Indoor worker)

### Resident: Settled Dust

External Exposure

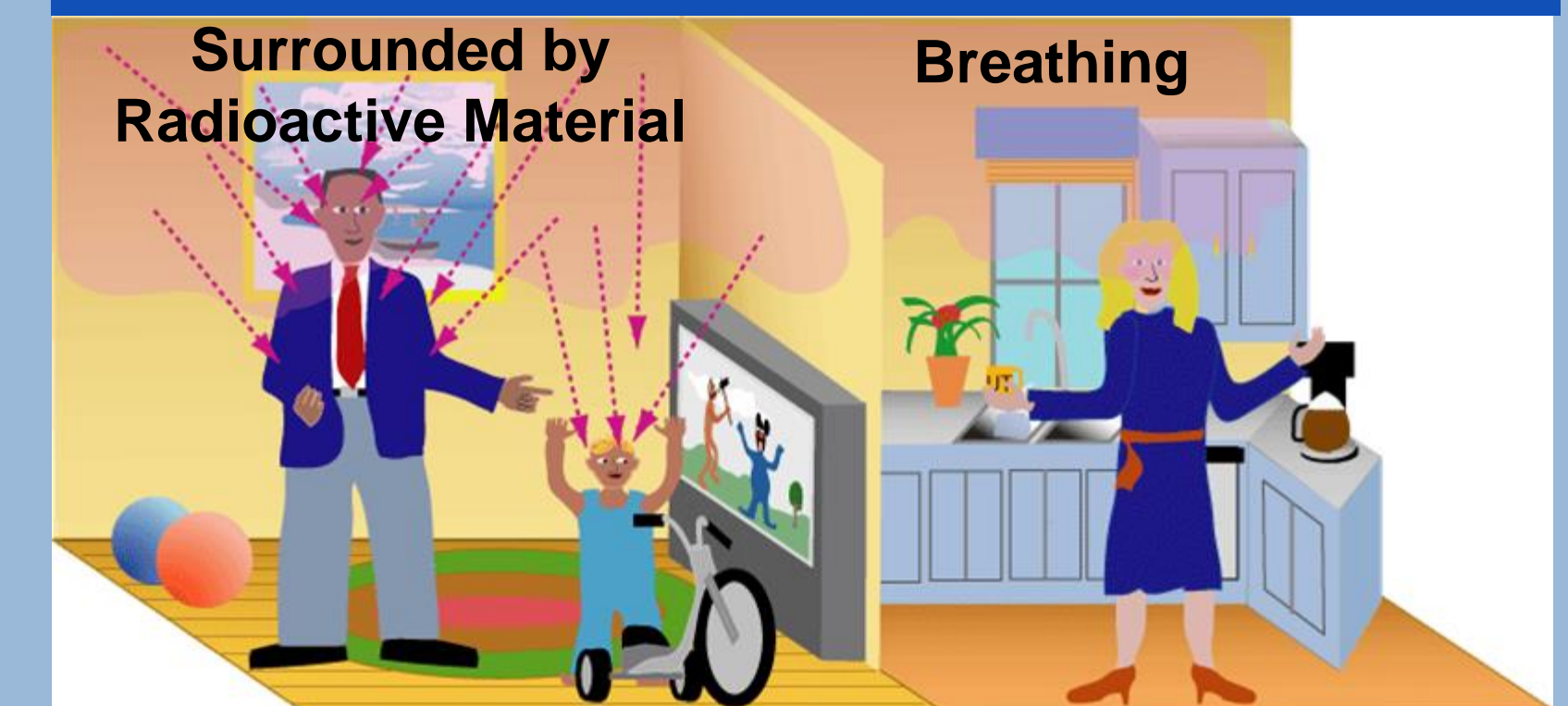
Ingestion of Dust



### Resident: Ambient Air

Surrounded by Radioactive Material

Breathing



### Resident: Contaminated Building Materials

External Exposure

External Exposure



### Indoor Worker: Contaminated Building Materials

External Exposure

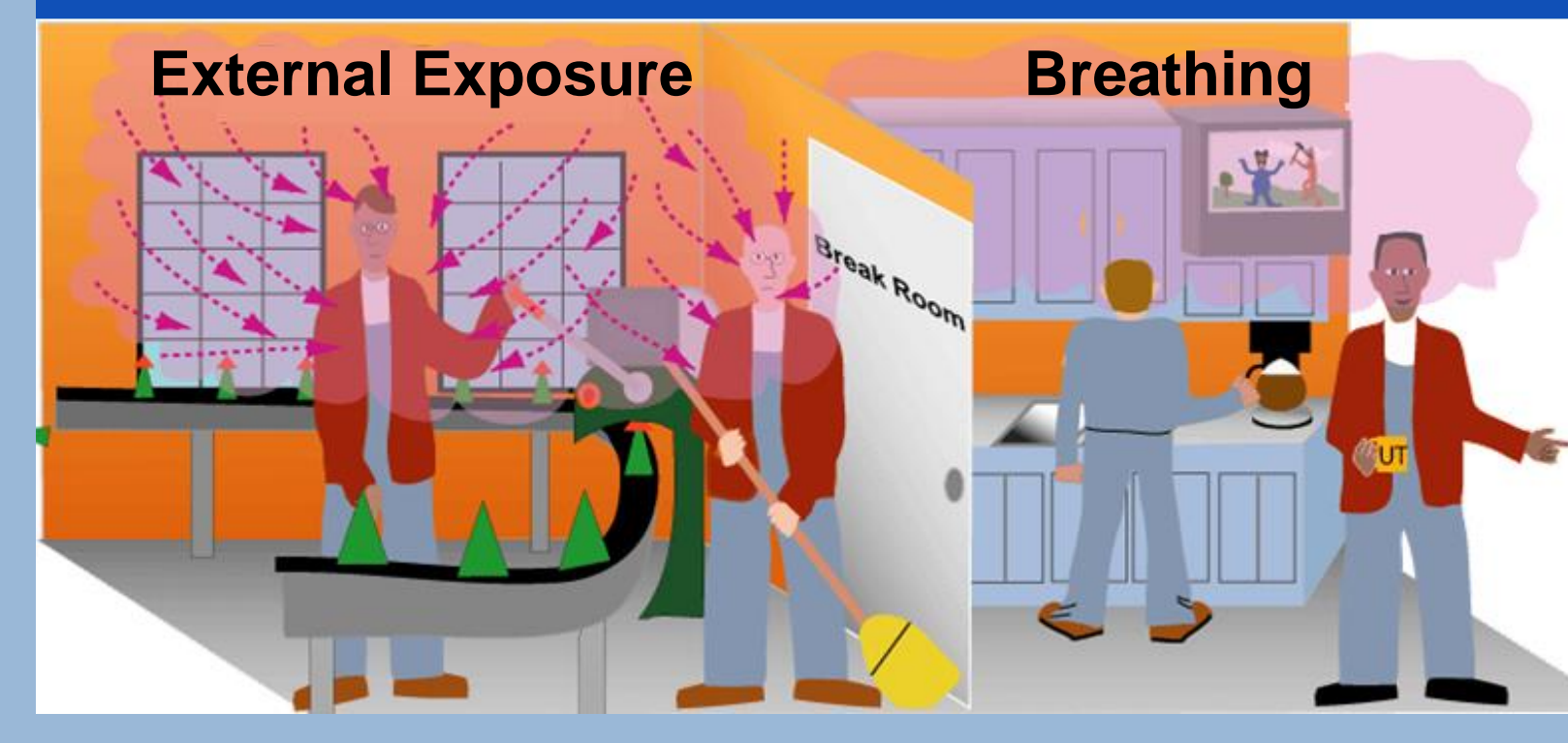
External Exposure



### Indoor Worker: Ambient Air

External Exposure

Breathing



### Indoor Worker: Settled Dust

External Exposure

Ingestion of Dust

