PACKAGE ID - 001225IBMPC00 RESRAD-BUILD

KWIC TITLE - Computer Model Buildings Contaminated with Radioactive Material

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LIMITATION CODE -UNL **AUDIENCE CODE -** UNL

COMPLETION DATE - 05/19/1998 **PUBLICATION DATE -** 11/01/1994

DESCRIPTION - The RESRAD-BUILD computer code is a pathway analysis model designed to evaluate the potential radiological dose incurred by an individual who works or lives in a building contaminated with radioactive material.

PACKAGE CONTENTS - Media Directory; Software Abstract; ANL/EAD/LD-3; Media Includes Executables;

SOURCE CODE INCLUDED? - No

MEDIA QUANTITY - 1 3.5 Diskette

METHOD OF SOLUTION - The transport of radioactive material inside the building from one compartment to another is calculated with an indoor air quality model. The air quality model considers the transport of radioactive dust particulates and radon progeny due to air exchange, deposition and resuspension, and radioactive decay and ingrowth.

COMPUTER - IBM PC

OPERATING SYSTEMS - Windows 95

PROGRAMMING LANGUAGES - Lahey F77L and Microsoft QuickBasic

SOFTWARE LIMITATIONS - A single run of the RESRAD-BUILD code can model a building with up to: three compartments, 10 distinct source geometries, and 10 receptor locations.

SOURCE CODE AVAILABLE (Y/N) - N

UNIQUE FEATURES - A shielding material can be specified between each source-receptor pair for external gamma dose calculations.

RELATED SOFTWARE - RESRAD5.82

OTHER PROG/OPER SYS INFO - Six exposure pathways are considered in the RESRAD-BUILD code: (1) external exposure directly from the source; (2) external exposure to materials deposited on the floor; (3) external exposure due to air submersion; (4) inhalation of airborne radioactive particulates; (5) inhalation of aerosol indoor radon

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OTHER PROG/OPER SYS INFO -(CONT) progeny; (6) inadvertent ingestion of radioactive material, either directly from the sources or from materials deposited on the surfaces of the building compartments.

HARDWARE REQS - An IBM or IBM-compatible microcomputer with a 3.1 or higher disk operating system, a hard disk drive, and approximately 400 kilobytes of free memory are required to run the code. A printer capable of 132 column output is desirable. A mathematical coprocessor, a color monitor, and a mouse are optional, but recommended; however, a mouse may not work with all monitor/graphics cards used in IBM or clone configurations.

REFERENCES - C. Yu, D.J. LePoire, C.O. loureiro, L.G. Jones, and S.Y. Chen, RESRAD-BUILD: A Computer Model for Analyzing the Radiological Doses resulting from the Remediation and occupancy of Buildings Contaminated with Radioavtive Material, ANL/EAD-3, November 1994.

ABSTRACT STATUS - Released AS-IS May 29, 1998

SUBJECT CLASS CODE - G

KEYWORDS -
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EDB SUBJECT CATEGORIES -
990200

SPONSOR - DOE/EH

PACKAGE TYPE - AS - IS