PACKAGE ID - 001221IBMPC00 DWPFAST

KWIC TITLE - DWPF Algorithm for Calculation of Source Terms and Consequences for EXCEL

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LIMITATION CODE -COPY **AUDIENCE CODE -** LIM

COMPLETION DATE - 11/01/1994 **PUBLICATION DATE -** 11/01/1994

DESCRIPTION - The DWPFAST software application algorithm is an Excel spreadsheet, with optional macros, designed to calculate the radiological source terms and consequences due to postulated accident progressions in non-reactor nuclear facilities (currently it is being used for DWPF). Upon input of a multi-character accident progression identification code, and basic facility data, the algorithm calculates individual accident segment releases, overall facility releases, and radiological consequences for various receptors, for up to 13 individual radionuclides. The algorithm was designed to support probabilistic safety assements (PSAs).

PACKAGE CONTENTS - Media Directory; Software Abstract: Media Includes Source Code, User's Guide;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 1 3.5 Diskette

METHOD OF SOLUTION - Identification of material of risk, appropriate damage volumes, and release fractions, wing IF-THEN-ELSE structures. Combination of above with DF and EDE factors.

COMPUTER - IBM PC

OPERATING SYSTEMS - Windows or Macintosh

PROGRAMMING LANGUAGES - Microsoft excel Version 4.0

SOFTWARE LIMITATIONS - This is a multi-user code that currently is set up for the number of process vessels and event tree basic events determined for the DWPF SAR. These are easily changed to accomodate other problems.

SOURCE CODE AVAILABLE (Y/N) - Y

UNIQUE FEATURES - The advantages of an application algorithm for this type of analysis include the ability to evaluate consequence effects of input perturbations quickly, ease and speed in execution, and simpler certification. The algorithm, therefore, is

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UNIQUE FEATURES -(CONT) especially useful for preliminary, scoping, and uncertainty analyses. Since it is an application algorithm, rather than a more traditional fORTRAN code, no compiling or debugging is generally necessary. input data changes are easily made via the Excel interface as opposed to code editing and debugging.

RELATED SOFTWARE - This is an application version of the author's FORTRAN code DWPFAST Version 2.0.

OTHER PROG/OPER SYS INFO - The proprietary software Microsoft Excel (for Windows or Mac) is required.

HARDWARE REQS - No specific requirements have been identified.

TIME REQUIREMENTS - The time required to execute the code for a single accident is less than 1 sec of real time.

REFERENCES - S.T. Gough, DWPFASTXL: Defense Waste Processing Facility Algorithm for Source Terms for Excel, WSRC-TR-94-0532, November 1994.

ABSTRACT STATUS - Released AS-IS 5/25/1998.

SUBJECT CLASS CODE - G

KEYWORDS -
COMPUTER PROGRAM DOCUMENTATION
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EDB SUBJECT CATEGORIES -
990200

SPONSOR - DOE/DP

PACKAGE TYPE - AS - IS