The INTERTRAN2 Computer Code

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A new version of the INTERTRAN2 Risk Assessment tool for the transport of radioactive material was released in 2000. The INTERTRAN2 Transportation Risk Assessment tool represents the culmination of efforts begun in 1989 to improve the INTERTRAN package (first available in 1983), under the IAEA Co-ordinated Research Programme on Probabilistic Safety Techniques Related to the Safe Transport of Radioactive Material. INTERTRAN2 was originally developed for the DOS operating system on PCs but has now been upgraded for use with Windows 95/98/2000 and Windows NT. The INTERTRAN2 tool includes the following: INTERTRAN2, a handling program to assemble and manage input databases, construct input files for INTERTRAN2-RT4, and execute INTERTRAN2-RT4 cases; INTERTRAN2-RT4, based on RADTRAN4.019IOSI (date January 20, 2000), an SI-unit version of RADTRAN4.019. In the INTERTRAN2-RT4, the RADTRAN4.019IOSI has been modified and compiled for PC use; TRANSAT, an atmospheric dispersion model; TICLD, individual dose calculation program; and the Latin hypercube sampling program.

TICLD and LHS are not required for general transport risk assessments but are useful for more detailed analyses by experienced analysts. Documentation supporting the INTERTRAN2 tool comprise INTERTRAN2 Transportation User's Guide (this document); Advisory Material for the INTERTRAN2 computer program; RADTRAN4, Technical Manual and User's Guide; and TRANSAT User's Guide.

INTERTRAN2 was developed to enable IAEA Member States to perform transport risk assessments in a PC-based environment. The INTERTRAN2 Windows version represents a significant upgrade to the previous INTERTRAN2; it not only uses the Windows operating environment for input management and program execution, but also provides the ability for users to assemble risk assessment inputs as a collection of previously developed databases. The INTERTRAN2 handler was developed using CA-Visual Objects, a 32-bit fully object-oriented language for Windows 95/98/2000 and NT. The INTERTRAN2 handler contains a database handling system where the user can input and store data for different package types, package contents, Pasquill data, accident data, link data, etc. INTERTRAN2 is a menu driven program that helps the user to interactively create the INTERTRAN2-RT4 input file. It is also possible to combine available data sets in any way to produce an INTERTRAN2-RT4 input file.