

TRANSNET: Capabilities and Access on the Transportation Information Network (TIN)*

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INTRODUCTION

TRANSNET is a system of databases, analysis codes, routing programs, and information packages that are available to those interested in the transportation of radioactive materials. TRANSNET is the acronym assigned to a system of codes and databases that reside on a central computer and can be accessed by authorized users to either gain information or perform analyses of radioactive material transportation systems. Upon receipt of a password a user can access TRANSNET with a modem-equipped personal computer. The TRANSNET system was first announced in 1987 and initially resided on a dedicated microVAX II, but transfer to a UNIX-based Hewlett Packard work station, which will be transparent to the user, is presently being completed. This work is sponsored by the Office of Transportation, Emergency Management and Analytical Services, EM-26, U.S. Department of Energy (DOE). This paper will describe the various features of the TRANSNET system and how access to TRANSNET is accomplished.

INFORMATION AVAILABLE IN TRANSNET

Presently, the Radioactive Material Incident Report database (RMIR), the RADTRAN transportation environmental analysis code, and the routing programs HIGHWAY and INTERLINE (developed by Oak Ridge National Laboratory) reside on the TRANSNET system. In addition, TRANSNET has a bulletin board that is available to all TRANSNET users. This bulletin board is used as a public forum for information packages and other transportation systems that are located on the TRANSNET system.

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The availability of analysis codes such as RADTRAN through the TRANSNET system provides other Federal agencies, State and local governments, and public interest groups with state-of-the-art analysis techniques and information systems that have been developed with government funding. In technical areas such as radioactive waste management and transportation it is important that organizations outside of the DOE have available to them the same analytical tools and information databases that the DOE and its contractors have to support DOE programs. At present there are approximately 160 authorized TRANSNET users approximately 45 of which are from the U.S. news media. Workshops are held on an annual basis to gain input from the TRANSNET user community, and the minutes from these and similar meetings are placed in the TRANSNET bulletin board for view by the entire TRANSNET user community. Another advantage of the availability of an information distribution system such as TRANSNET, is that the latest version of a code such as RADTRAN can be made readily available to a relatively large user community. Over the years RADTRAN has been further developed and refined under DOE sponsorship. The present user version of RADTRAN is version 4.0. RADTRAN version 5.0 is under development and is nearing completion and will be available for distribution.

Other tools available in TRANSNET include the routing programs HIGHWAY for road transportation and INTERLINE for rail transportation. Such tools are used to determine routes from shipment origins to shipment destinations. The environmental effects of transporting radioactive materials along these routes can then be evaluated using the RADTRAN code.

The transportation accident and incident database within TRANSNET contains information for radioactive materials compiled from U.S. experience from 1971 up to the present time. This information comes mainly from the Hazardous Material Incident Report (HMIR) system which is operated by the U.S. Department of Transportation (DOT). The radioactive material incident report database follows the HMIR name pattern, but is termed RMIR indicating experience dealing with radioactive material incident reports. Information in RMIR is also supplemented with information from the U.S. Nuclear Regulatory Commission (NRC). Occasionally, information is available from the print media or from individual states. In any event, the RMIR database represents the most comprehensive collection of information on U.S. radioactive material transportation accident and incident experience that is presently available. Since RMIR is updated on a monthly basis, once again a system such as TRANSNET makes this specialty information available on a timely basis to a large audience.

THE TRANSNET PHILOSOPHY

The value of accessing RADTRAN and other analysis tools and databases through the TRANSNET system is manifold. First, it can implicitly be assumed that DOE approves the distribution of DOE-sponsored developments such as RADTRAN through TRANSNET access. TRANSNET access demonstrates DOE responsiveness to cooperate with State governments and public interest groups in the evaluation of the risks of transporting radioactive materials. Further, State governments can perform their own

analyses of waste management transportation problems using the same tools that DOE laboratories and DOE contractors use in their studies for the DOE. The menu of analysis codes and databases that are available through TRANSNET represent a philosophy of availability that can be applied to similar tools that are not presently in the TRANSNET system. When new tools are identified that are not presently in TRANSNET, they also can be added to the system, and they too will have the same degree of availability that present TRANSNET tools have.

ACCESS TO TRANSNET

Access to the TRANSNET system is obtained through contacting the Sandia National Laboratories at the following address.

Transportation Systems Analysis Department, 6641
MS 0718
Albuquerque, NM 87185-0718
USA

Attention:

H.R. Yoshimura, voice phone, 505-845-8181

J.D. McClure, voice phone, 505-845-8753

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