WHO WE ARE

Sandia's Material Transportation Security & Risk Assessment Department develops innovative solutions that address technical issues associated with the packaging and transport of radioactive and other hazardous materials. These solutions cover a broad spectrum of activities ranging from new package design and analysis to package testing and from regulatory standard development to transportation risk/safety assessments. Our goal is to provide the technology to achieve safe, secure, efficient, and economical packaging and transportation of nuclear and other hazardous materials.

RISK ASSESSMENT

Our capabilities include conducting risk assessments for the transportation of radioactive and other hazardous materials, development of risk assessment tools, data development, and applications of tools and data. The Risk Assessment program supports transportation environmental assessments (EA) and transportation environmental impact statements (EIS). Our areas of expertise include but are not limited to:

- *RADTRAN 5.5 / RADCAT 2.2*
- *Transportation Risk Assessments*
- *Probabilistic Risk Assessments*
- *Decision Analysis*
- *HAZMAT Risk Assessments*
- *Geographic Information Systems (GIS)*

RADTRAN is sponsored by the U.S. Department of Energy

Sandia National Laboratories
Material Transportation
Security & Risk Assessment

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Sandia National Laboratories

RADTRAN 5.5 / RADCAT 2.2

THE TRANSPORTATION CONSEQUENCE & RISK ASSESSMENT COMPUTER CODE

Sandia National Laboratories Crash Test - A flatbed semi-trailer carrying a 24-ton Spent Fuel Cask being struck by a 150-ton diesel locomotive traveling at 81 miles per hour. The cask experienced minor exterior damage but would not have released any material.

WHY USE RADTRAN©

For over 30 years RADTRAN has been the national and international (INTERTRAN) computer code standard for transportation risk assessment and consequence analysis for radioactive materials. RADTRAN combines user-determined demographic, routing, transportation, packaging, materials, and radionuclide data with meteorological data (partly user-determined) and health physics data to calculate expected radiological risk and consequences of incident-free radioactive materials transportation and associated accident and sabotage events. Since its inception, RADTRAN has been used in most radiological transportation environmental assessments (EA) and environmental impact statements (EIS). RADTRAN also has the capabilities to conduct specific radiological transportation accident and sabotage scenarios.

HOW TO APPLY FOR ACCESS

The U.S. Department of Energy (DOE) provides RADTRAN at **NO COST** to users. Simply submit an online application at the RADCAT website listed below. Upon approval you will have access to RADTRAN 5.5/RADCAT 2.2 via Java™ Web Start. You will also be emailed the RADCAT 2.2 user guide to assist you in the downloading process as well as a detailed description on how to use the RADCAT 2.2 input file generator.

WEBSITES

https://radtran.sandia.gov
https://radtran.sandia.gov/radcat

WHAT IS RADTRAN 5.5

RADTRAN 5.5 is the most current version of RADTRAN combining user-determined packaging, demographic, routing, meteorological, material, and radionuclide data with health physics data to calculate incident-free exposure to workers and the general public. The program will help determine radiological consequences and risk from potential accidents and acts of sabotage during the transport of radioactive material.

WHAT IS RADCAT©

RADCAT 2.2 is the graphic user interface input file generator for RADTRAN. When RADCAT is downloaded from the web site, RADTRAN is also automatically installed. The user is able to import RADTRAN 5.0 files and WebTRAGIS routing data.

RADTRAN IMPROVEMENTS

RADTRAN 6.0, which is to be launched in FY 2006, will have all of the features listed in prior versions, a spent fuel loss of shielding model, and an alternate ingestion dose calculation method. The emphasis will move toward maximally exposed individuals (MEI) and critical group risks. A separate probabilistic risk assessment capability will also be introduced in FY 2006.

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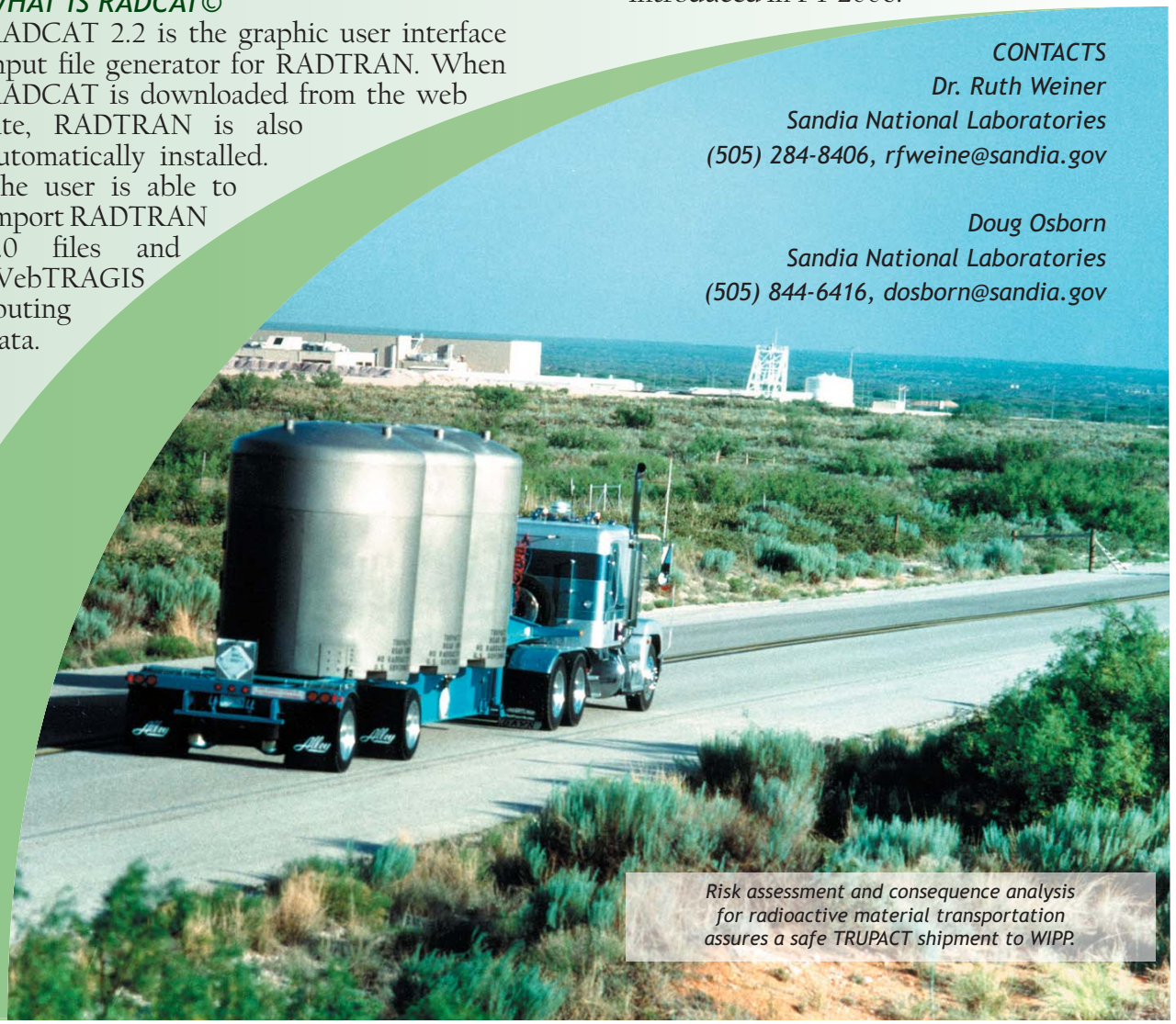

Risk assessment and consequence analysis for radioactive material transportation assures a safe TRUPACT shipment to WIPP.