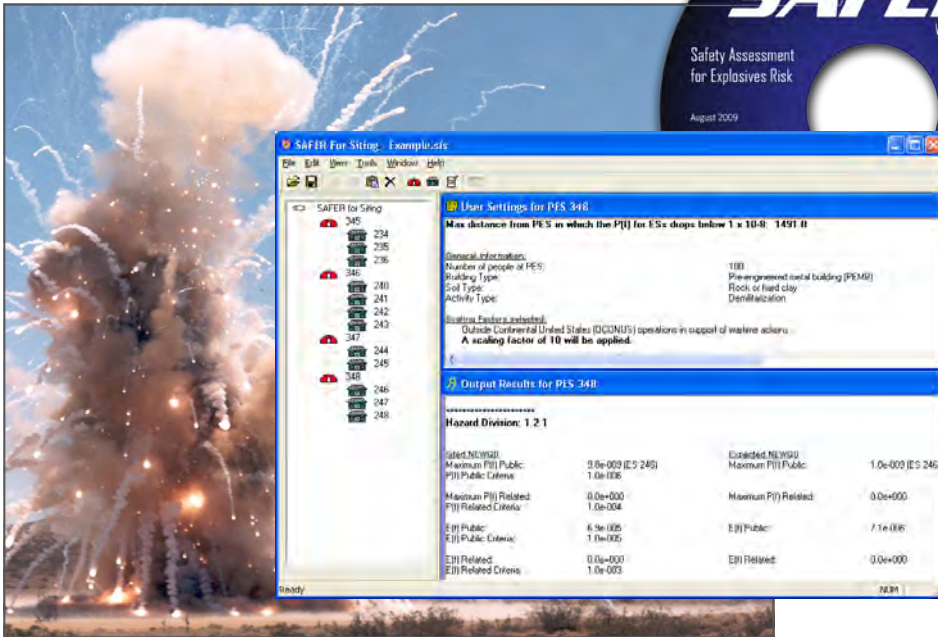


# SAFER SOFTWARE & TRAINING

*Safety Assessment For Explosives Risk*

## What is SAFER?

SAFER is a software model that was developed by a Joint Services and Department of Defense (DoD) Explosives Safety Board (DDESB) Working Group. SAFER performs quantitative risk analyses to determine risk to people from a potential explosion site (PES) by conducting a sequential calculation of probability of event, explosives effects, and personnel exposure. SAFER can be used to assess the risks to people in inhabited building distance (IBD), public traffic route (PTR), and intraline distance scenarios.



The SAFER model was designed for safety professionals. The user should have some knowledge of the application of QD principles, explosives hazard class/divisions, explosives quantity, and information concerning the facilities and personnel surrounding the PES and the ES.

Since the SAFER model is menu-driven, the user must make judgments as to which menu item best fits the situation under analysis. These judgments require knowledge of the explosives and the building construction for the PES and ES, and personnel demographics.

To obtain a copy of SAFER, interested DoD personnel should contact:

- Army – Paul Cummins, paul.cummins@us.army.mil
- Navy – Nestor Camerino, nestor.h.camerino@navy.mil
- Air Force – Al Webb, albert.webb@kirtland.af.mil
- Marines – Jim Taylor, james.t.taylor@usmc.mil
- DCMA – Scott Hall, scott.hall@dcma.mil
- DDESB – Dr. Josephine Covino, josephine.covino.civ@mail.mil

## Why was SAFER developed?

The US currently uses Quantity-Distance (QD) criteria as the basis for siting explosives facilities. The QD method considers explosives quantity, hazard division, and PES type to determine a safe separation distance. The SAFER model was developed to assess risks using additional considerations such as the type of activity at the PES, the number of people at the exposed site (ES), and the building construction of the ES.

The DDESB approved the trial use of the SAFER model and acceptance criteria for siting waived PESs in December 1999. The trial period ended in December 2004 and SAFER became part of the DDESB standard.

## System Requirements

- Intel Pentium processor 300 MHz (450 MHz recommended)
- Microsoft Windows® 98, Windows® NT 4.0, Windows® 2000, or Windows® XP
- 32 MB of RAM (64 MB recommended)
- 30 MB of available hard-disk space
- CD-ROM drive

# SAFER TRAINING COURSE

The course is presented over two days with eight hours of mixed lecture and discussion each day for a total of 16 classroom hours. Daily class hours are from 8am to 5pm with an hour for lunch and breaks mid-morning and mid-afternoon. Students will be provided with a copy of the SAFER software, software documentation, and a course notebook. Students will need a laptop computer with administrative rights to install the software and run reports. Laptop rentals are available for a fee of \$75. A competency test will be given at the end of the course.

Class Size: minimum of 6, maximum of 25.

## Location

The class is normally held at the APT Safety Engineering and Analysis Center (SEAC) in Huntsville, AL, conveniently located in Cummings' Research Park near Redstone Arsenal.

See [www.apr-research.com/contacts/contactUs.html](http://www.apr-research.com/contacts/contactUs.html) for detailed directions.

The class may also be offered at other locations. On-site training courses can be arranged, as well as courses that run in conjunction with conferences and meetings.

## Day One Agenda

- Overview
- Risk Management Concepts
- Risk Assessment
- Introduction to SAFER
- Input Decisions
- Exercises
- Protocols
- SAFER Features
- Traffic Route - Exercise

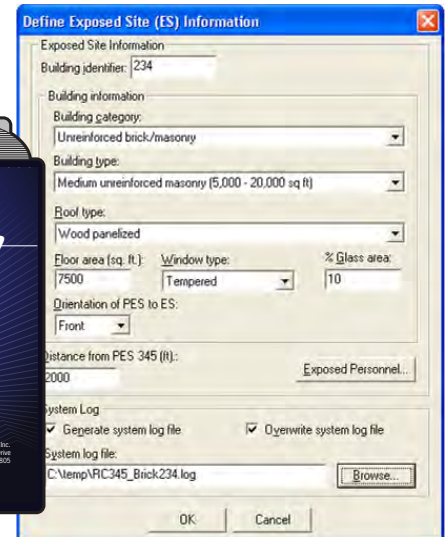
## Day Two Agenda

- Risk Reduction
- Risk Acceptance
- Science Algorithms
- Class Exercise
- Test

## Goals

The SAFER Training Course will guide the user through the overall user interface of the SAFER Software, as well as:

- Provide basic proficiency in SAFER and siting approval process.
- Provide background understanding of Risk Acceptance Criteria.
- Provide an overview understanding of the history and concepts of Quantitative Risk Assessment (QRA) and potential for other applications of SAFER.



**Cost:** \$1200 per student

**Schedule:** [apt-research.com/training](http://apt-research.com/training)

**Registration Information:** To register for a class in Huntsville or if you are interested in setting up a training course at a location other than Huntsville, please contact Mary Robinson, 256.327.3373, [safetraining@apt-research.com](mailto:safetraining@apt-research.com).

It is the policy of A-P-T Research, Inc. that those leading a learning event (instructors, guest lectures, etc.) disclose proprietary interest in any products, services, instruments, devices or materials discussed during a learning event. This includes any source of third-party compensation. Leaders of a learning event are required to disclose this information in the form of a verbal announcement at the beginning of the learning event.

## APT Point of Contact

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