

Evaluation of Models Department of Defense

LTC Jerry A. Glasow, US Army
Assistant to the Deputy Assistant Secretary of Defense
for Chemical and Biological Defense

ABSTRACT

The Department of Defense (DOD) acquisition policies require verification, validation, and accreditation (VV&A) of models developed or procured by the department. However, because no model gives the “right” answer, it is important that models be evaluated based on their ability to fulfill their intended use. This concept is referred to as "fitness for use." In the past, fitness for use and VV&A were not linked. In order to encourage this aspect of evaluation, the DOD is attempting to link evaluation for fitness for use to VV&A. Developers are encouraged to use measures of effectiveness (MOEs) that are quantifiable and measurable. An example is consequence assessments. When modeling the consequences of a chemical or biological attack there is a need to reasonably represent the number and types of causalities.

Test and evaluation should address effectiveness, suitability, maintainability, and survivability. Independent T&E is mandated by Congress. Operational test and evaluation should address the following:

- Operational effectiveness – does the model do what it was designed to do?
- Operational suitability – can the model be used by the person who will use it?

Example Measures of Effectiveness (MOE):

- minimize false warning and false non-warning
- acceptable casualties
- quantity of agent

Accreditation is critically important. Upon completion of testing, the decision-maker must put the stamp of approval on a model.