



## Department of Energy

Washington, DC 20585

March 19, 2001

MEMORANDUM FOR      Distribution

FROM:                    Steven V. Cary   
Chairman, 2000-2 Implementation Plan Executive Team

SUBJECT:                Clarification of the term "Vital Safety System" under  
Implementation Plan for Defense Nuclear Facilities Safety Board  
Recommendation 2000-2, *Configuration Management, Vital Safety  
Systems*

In response to a number of questions about the scope of the Implementation Plan for Defense Board Recommendation 2000-2, Federal and contractor staff from across the Department developed a clarification of the Implementation Plan's definition of "Vital Safety System." The attached discussion was developed at the recent 2000-2 Implementation Plan Workshop at Lawrence Livermore National Laboratory, coordinated with line management and Defense Nuclear Facilities Safety Board staff, and endorsed by the Executive Team consisting of senior management of the Offices of Environmental Management, Science, Defense Programs, Environment, Safety and Health, and the Idaho and Oakland Operations Offices representing the field. It will help line managers decide what systems at their defense nuclear facilities and sites are within the scope of the implementation plan.

Attachment

Distribution:  
Acting Assistant Secretary for Environmental Management  
Deputy Administrator for Defense Programs  
Acting Director, Office of Science  
Field Element Managers  
Departmental Representative to the DNFSB  
Recommendation 2000-2 Points of Contact



# Vital Safety Systems

## Background

As used within the Recommendation 2000-2 implementation plan, the term vital safety system was defined to mean *safety-class systems, safety-significant systems, and other systems that perform an important defense in depth safety function*. Questions regarding the scope of systems to be considered to perform “an important defense in depth safety function” have pointed out a need to provide additional clarification to amplify the intent of the definition.

## Important Defense in Depth Function Clarification

For the purposes of Recommendation 2000-2, vital safety systems that perform important defense in depth functions are active systems that protect the health and safety of the public, workers and the environment. Administrative programs and passive systems (e.g., structural walls) should not be reviewed as vital safety systems in the context of recommendation 2000-2 activities. (Note that safety-class and safety-significant systems in the context of recommendation 2000-2 also mean "active" systems.)

Safety-class and safety-significant systems are identified within Authorization Basis documents (e.g., Basis for Interim Operations, Safety Analysis Reports). These documents, as well as Authorization Agreement documents (where developed), should be reviewed to identify systems that are generally considered to perform defense in depth functions. Line management must then apply judgement in selecting systems as vital safety systems for the purpose of implementing the 2000-2 implementation plan. The following Guiding Principle was developed to assist line management in the identification of these systems:

“Vital safety systems that perform important defense in depth functions are those that fall below the threshold for classification as safety-class or safety-significant, but perform an active function that within the context of the Authorization Basis, and in the judgement of line management, performs an important role to protect the public, worker, or the environment.”

The following list was considered to be representative examples of systems in defense nuclear facilities that perform important defense in depth functions (below the level of safety class or safety significant). In identifying vital safety systems at defense nuclear facilities (2000-2 implementation plan commitment 2), line management is expected to expand or shorten the following list through the use of the Guiding Principle described above:

- Confinement ventilation systems
- Active portions of fire protection systems
- Glovebox systems
- Criticality monitoring systems
- Radiation monitoring systems
- Continuous air monitoring systems
- Back-up power or Uninterruptable Power Systems for vital safety systems considered to perform an important defense in depth function.