

# NASA TECH BRIEF

## *Lewis Research Center*



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### Safety Management of a Complex R&D Ground Operating System

A report has been published which discusses from a management perspective the safety program implementation for a large complex R&D operating system, such as the NASA Lewis Research Center. Using a systems approach, many diverse hazardous operations (approximately 700) are subject to third-party reviews by designated area safety committees and are maintained under safety "permit" controls. To assure real program effectiveness, it is essential that there be top management support and visibility of residual risks.

The cornerstone for risk management decisions must be sound engineering judgment. System safety analytic techniques are defined and suggested as tools for identifying potential hazards and determining means to effectively control or eliminate the hazards. Management visibility of assumed risks is derived through documentation of safety analyses, drawings of critical hardware/systems, operational procedures and prescribed precautions.

In order to achieve a fast, efficient response to emergency situations, project STEEP (Safety Training in the Execution of Emergency Procedures) has been developed at the Lewis Research Center. To insure personnel alertness, emergency reaction and containment forces are trained in dry-run emergency simulation exercises. Employee teams are trained in the use of the emergency call system, area evacuation procedures, first-aid and heart resuscitation techniques, firefighting, explosion protection and containment, use of environmental sensing and protective gear, etc.

In practice, everyone shares in the responsibility for overall safety; however, the level of responsibility increases with each echelon of supervision and management. In truth, the safety program can only be as effective as top management wants it to be. A safety attitude must permeate the entire organization.

#### Notes:

1. This safety program is described in the following report:

NASA TM-X-71697 (N75-22183), Safety Management of a Complex R&D Ground Operating System

Copies may be obtained at cost from:  
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2. Specific technical questions may be directed to:  
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