

**Application of
Integrated Safety Management to
Design Phases
of DOE Projects**

**DOE Project Management Order (413.3),
Manual (draft), and Practices (draft)**

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April 3, 2001

Functions

There is a need to apply the functions of Integrated Safety Management to ensure that the design addresses hazards

Functional Comparison

<u>ISM (Work)</u>			<u>ISM (Design)</u>
Define the Work	<-	-->	Define the Work (Design Baseline)
Analyze the Hazards	<	->	Design Basis/Analyze Hazards
Identify Controls	<----->		Develop Design Requirements
Perform the Work	<	->	Perform Design Work
Assessment and Feedback	<-----	->	Review and Validation

Continuous development and incorporation of safety analysis as an integral part of design is required.

Mechanism

DOE Project Management Order (413.3),
Manual (draft), and Practices (draft)

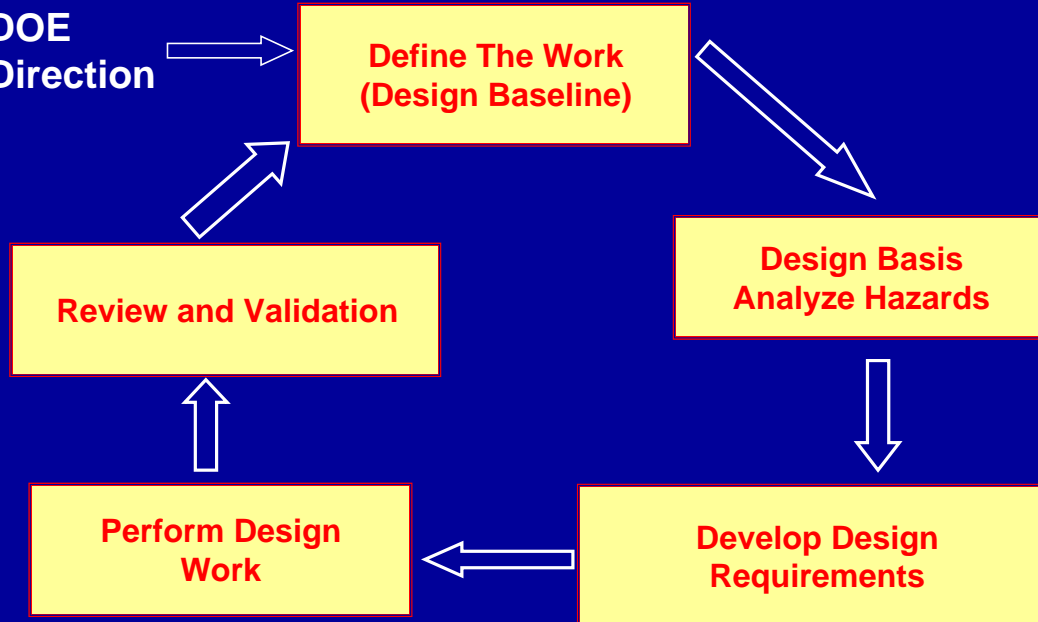
Highlights

- Hazard Controls are integrated into the design early in the project
 - Formal expectations to build and document the baseline for SSCs
 - Deliberate link to contractor's Work Smart Standards
 - Establish DOE expectations for review and validation at each CD
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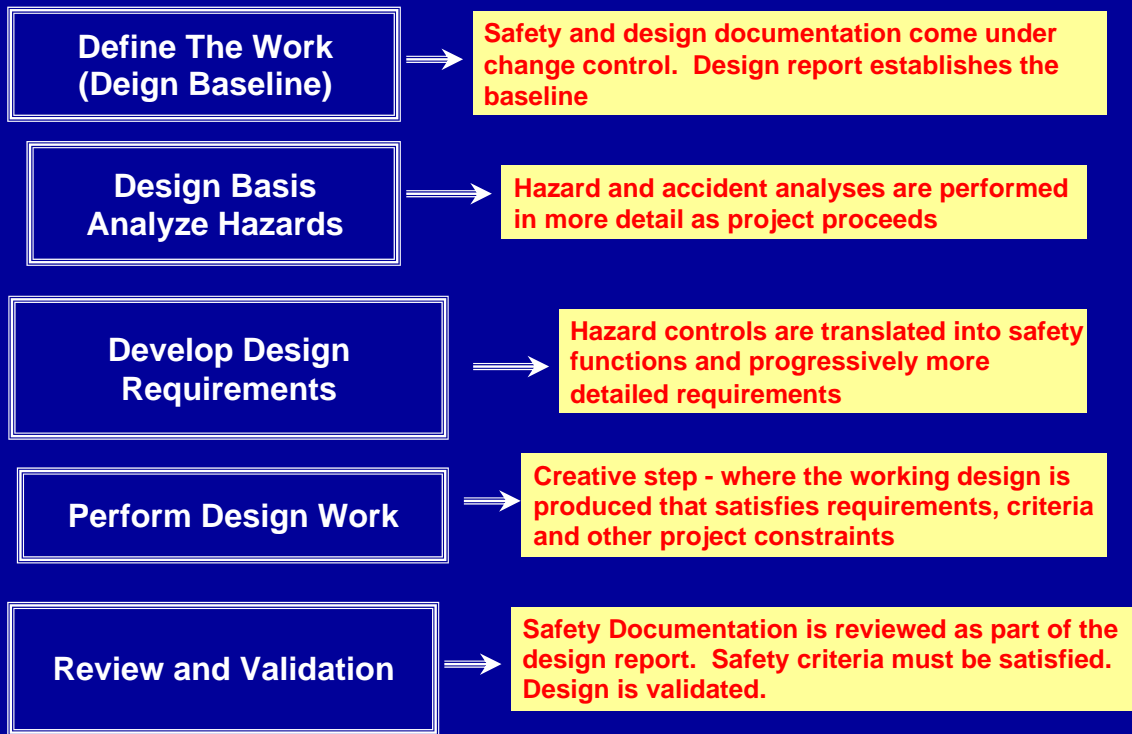
The fulfillment of safety functions by systems and structures becomes an integral element of mission functions.

SAFETY ASPECTS IN A TYPICAL DESIGN STAGE

DOE
Direction



SAFETY ASPECTS IN A TYPICAL DESIGN STAGE



CRITICAL ISM EXPECTATIONS BY DESIGN STAGE

CONCEPTUAL DESIGN

- Preliminary Hazards Analysis Documented
- Preliminary Identification of Safety SSCs and Safety Functions

PRELIMINARY DESIGN

- Draft Preliminary Safety Analysis Report Established
- Design Basis Accidents Identified
- Finalize Identification of Safety SSCs and Safety Functions

FINAL DESIGN

- Complete and Approved Preliminary Safety Analysis Report
- Accident Analysis Completed and Design Basis Accidents Fully Established