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ExxonMobil's Approach to Human Factors

Tom Theriot

ExxonMobil Production Company

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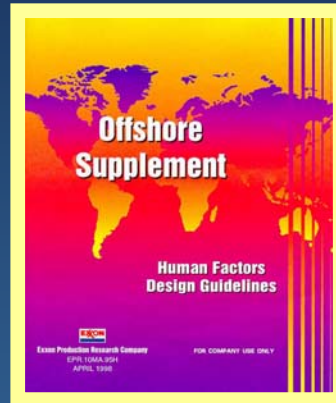
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ExxonMobil's Approach to Human Factors



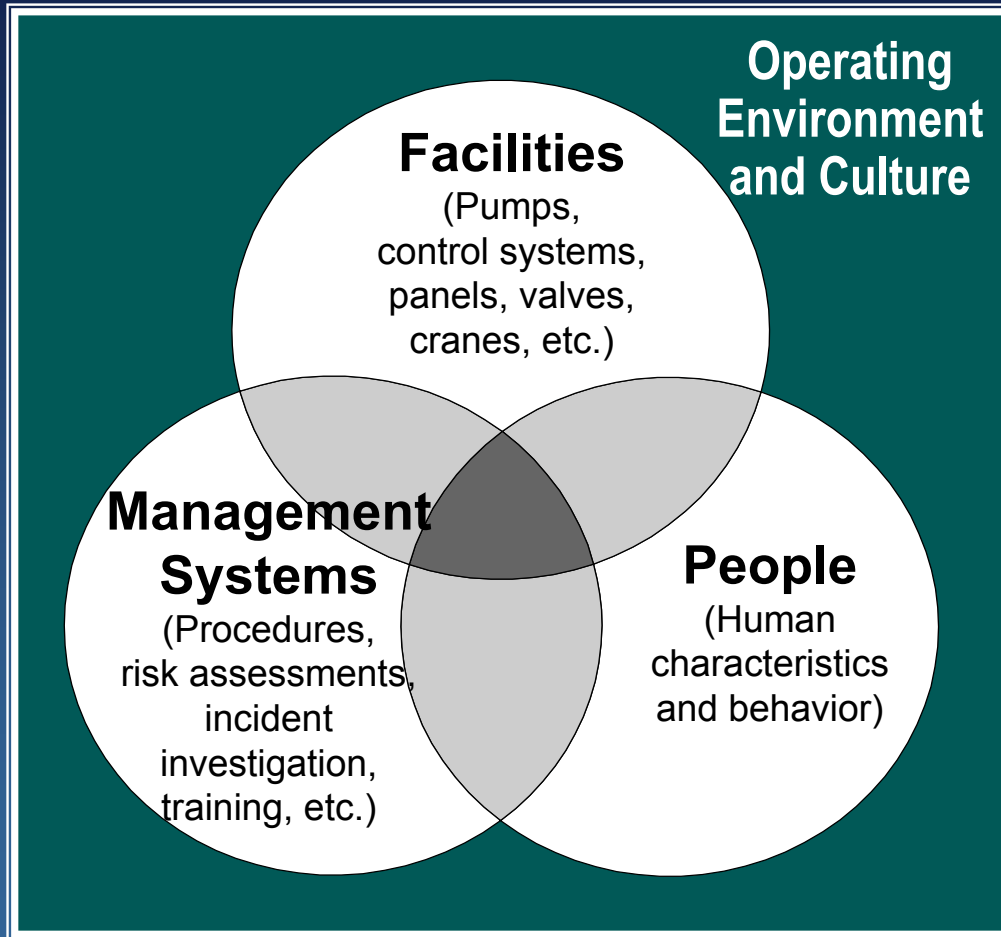
**Second International Workshop on
Human Factors in Offshore Operations
April 8-10, 2002**

**Tom Theriot, Manager Safety, Health & Environment
ExxonMobil Production Company**

Presentation Outline

- **Definition**
- **Objectives of Human Factors Efforts**
- **Background - Why Human Factors?**
- **Human Factors Spectrum**
- **Corporate Human Factors Strategy**
- **Human Factors Focus Areas**
- **New Human Factors Technology**

Human Factors - Definition



Human Factors are:

the integration and application of scientific knowledge about

- people
- facilities
- management systems

to improve their interaction in the workplace.

Objectives of Human Factors Efforts

- Our goal is to reduce human errors, resulting in . . .
 - safer operations (fewer incidents),
 - fewer production upsets,
 - higher efficiencies, and
 - enhanced quality.

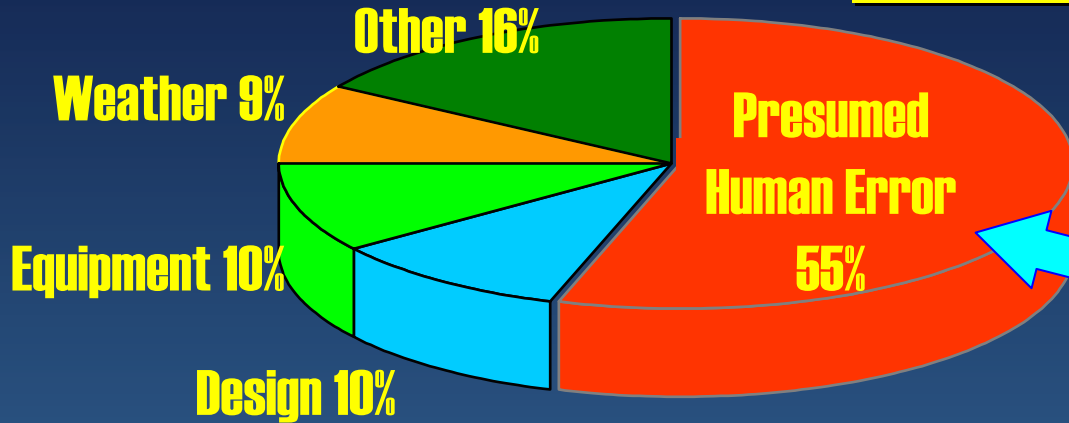


Incident Performance Improvement History



Why Are We Working on HUMAN FACTORS?

Incident Causal Factors



These are the incidents addressed by "human factors"

Implemented Hardware Solutions

- Protective Systems
- Added Safety Factors
- Reduced Operator Interventions

Pursued Traditional Approaches

- Training
- Motivation Campaigns
- Discipline for Violators

Implemented SHE Management Systems (OIMS)

- Management Leadership
- Risk Assessments
- Procedures
- Incident Investigations



BUT PEOPLE STILL MAKE ERRORS

WE MUST ADDRESS "WHY?"

The Human Factors “Spectrum”

Workplace Design

Equipment Design

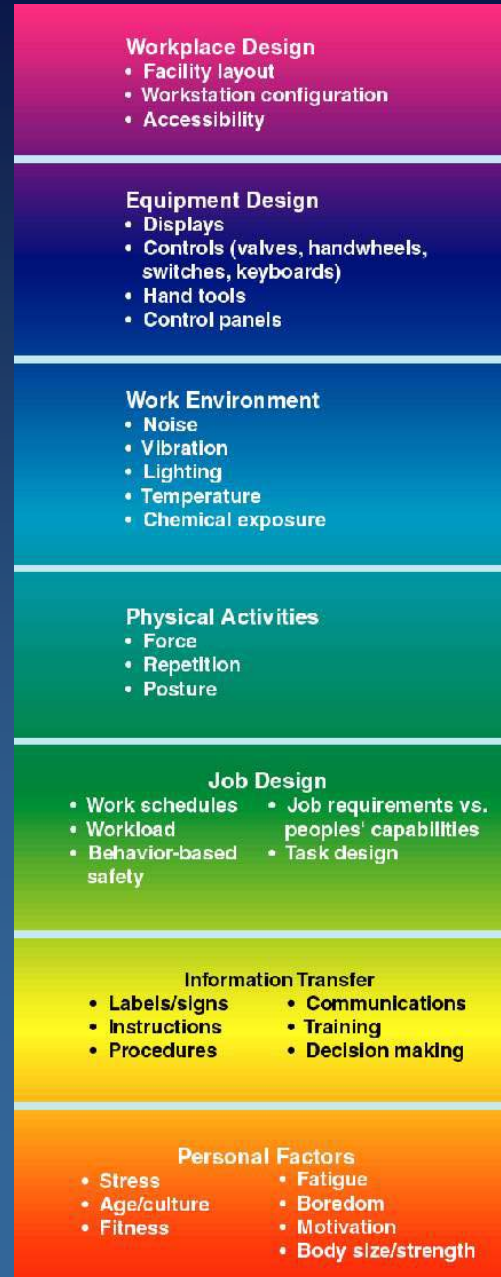
Work Environment

Physical Activities

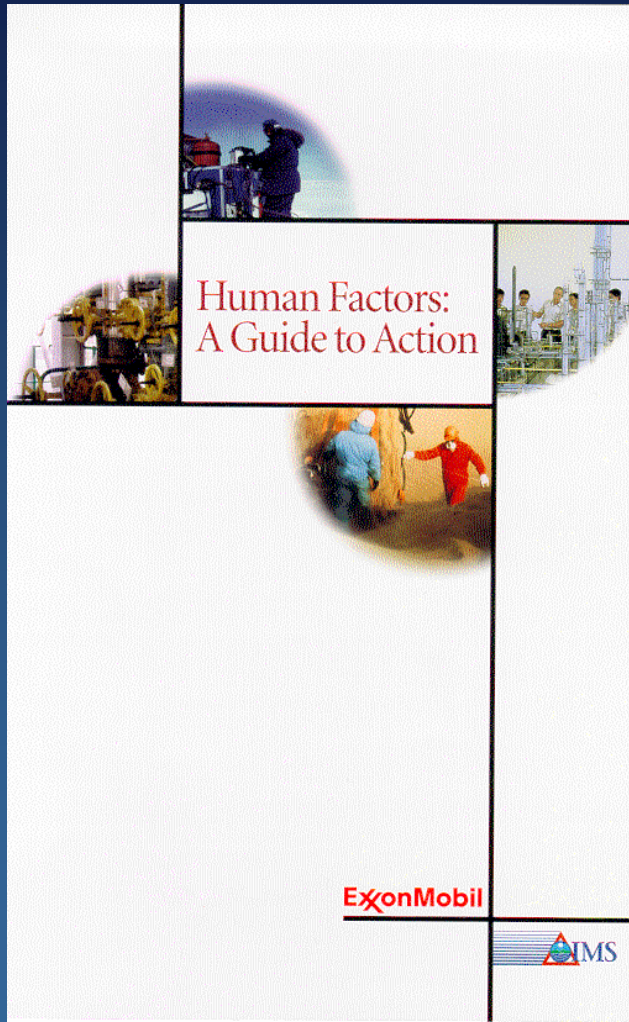
Job Design

Information Transfer

Personal Factors



ExxonMobil's Human Factors Strategy

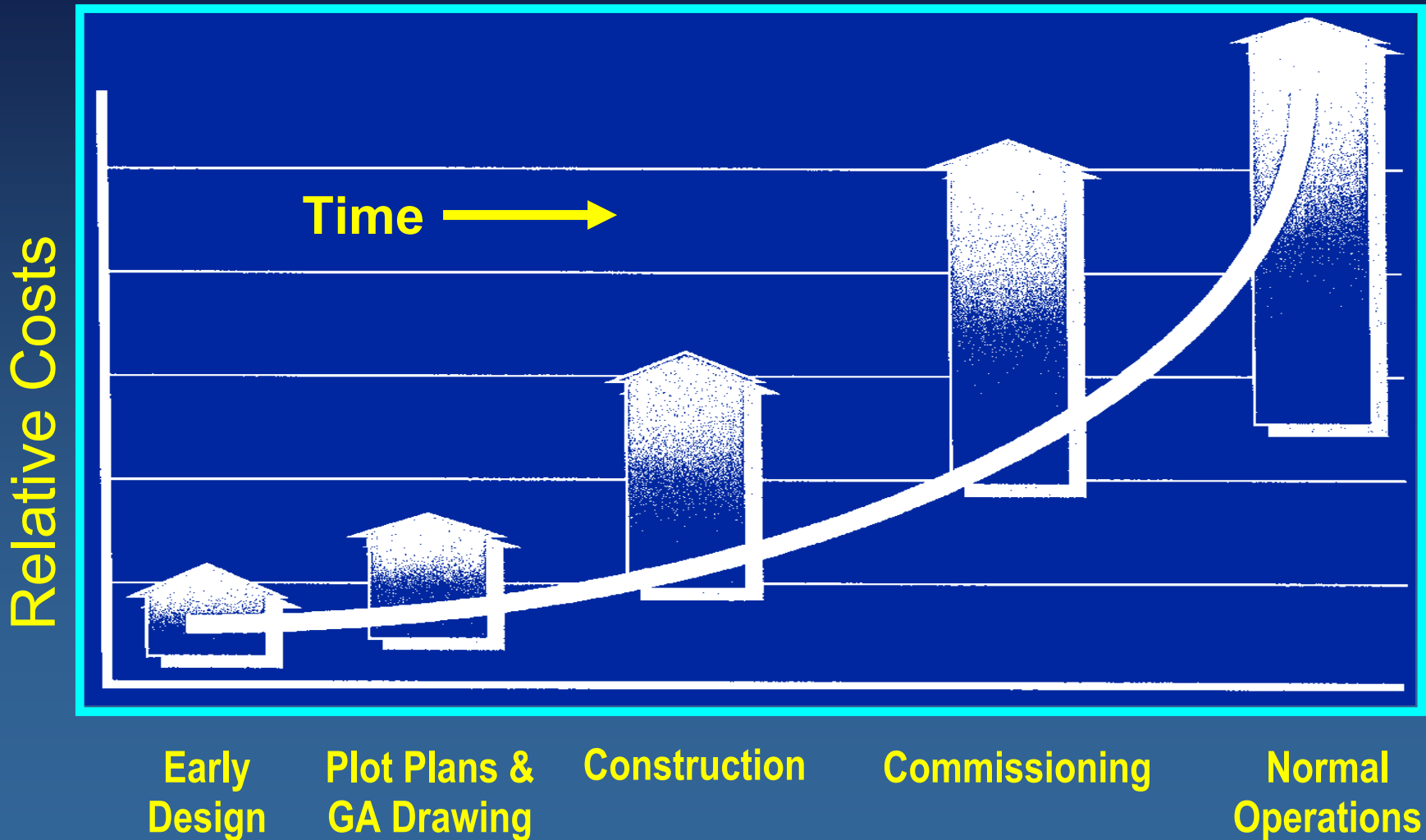


- **HF efforts are driven by specific needs/opportunities for improvement**
- Improvements are sustained by building HF into existing Management Systems, Engineering Standards, and Operating Practices
- **Effective HF resources and tools are provided to aid implementation**
- Roles and responsibilities for HF are clearly defined; management leadership key
- **Results are evaluated and shared to enhance benefits and effectiveness**

Human Factors Focus Areas

- **Design of New Facilities**
- **Risk Assessment**
- **Incident Investigation**
- **Training**
- **Drilling**
- **Application in Existing Operations**

The Cost of Using Human Factors in Design

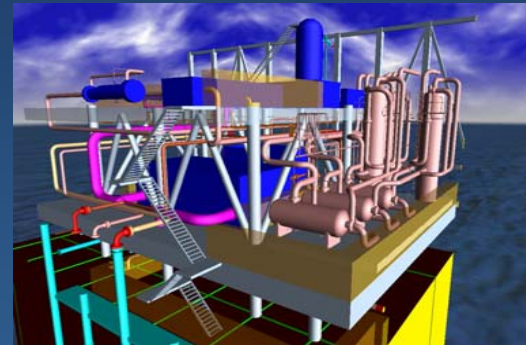


New HF Technology Applications

- **ExxonMobil research organizations identify new HF technology/tools through:**
 - leveraging off other industries (e.g., aviation, nuclear, aerospace)
 - obtaining input from operating/project organizations

3D CAD Projects

- Incorporate HF considerations (access, spacing, valve location) into 3D CAD models
- Create guidance document for designers



Automated Control Systems

- Develop standards for control system interfaces (screen design, alarms, displays, etc.)

