



# EFCOG Safety Culture Working Group

ISM and Conduct of Operations Assessment

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Bill Roege

Director, Corporate Safety Analysis (HS-30)



# Overview



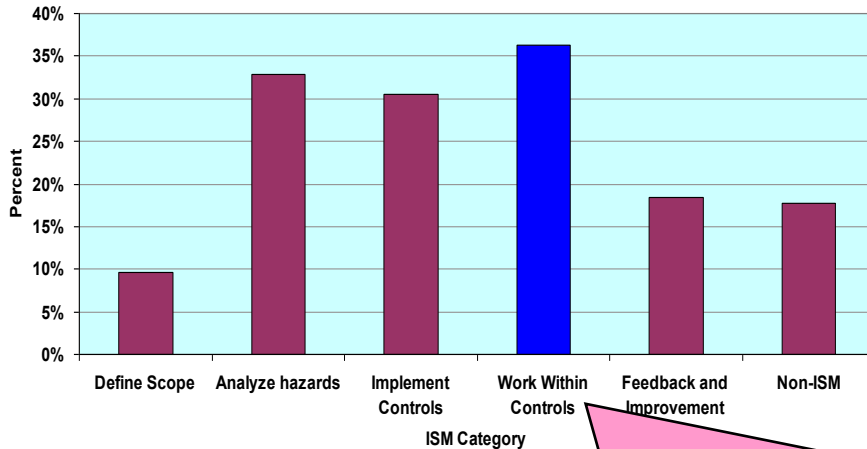
- Motivation for the analysis
- ISM phases in ORPS
- Conduct of Operations Categories
- CATS Analysis
- Summary



# ISM Work Planning Errors in Occurrence Reports

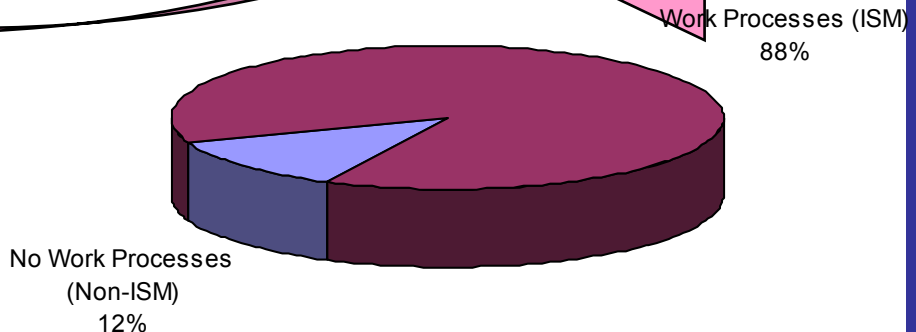


ISM Experience 2004-1Q2008



**Decrease the total number of occurrences (below) by identifying and fixing individual problems (left)**

- Performing the work within controls is the ISM phase we have the most control over
- Need to drill down and understand the nature of the errors to form improvement strategies
- Once complete, move to another phase and repeat



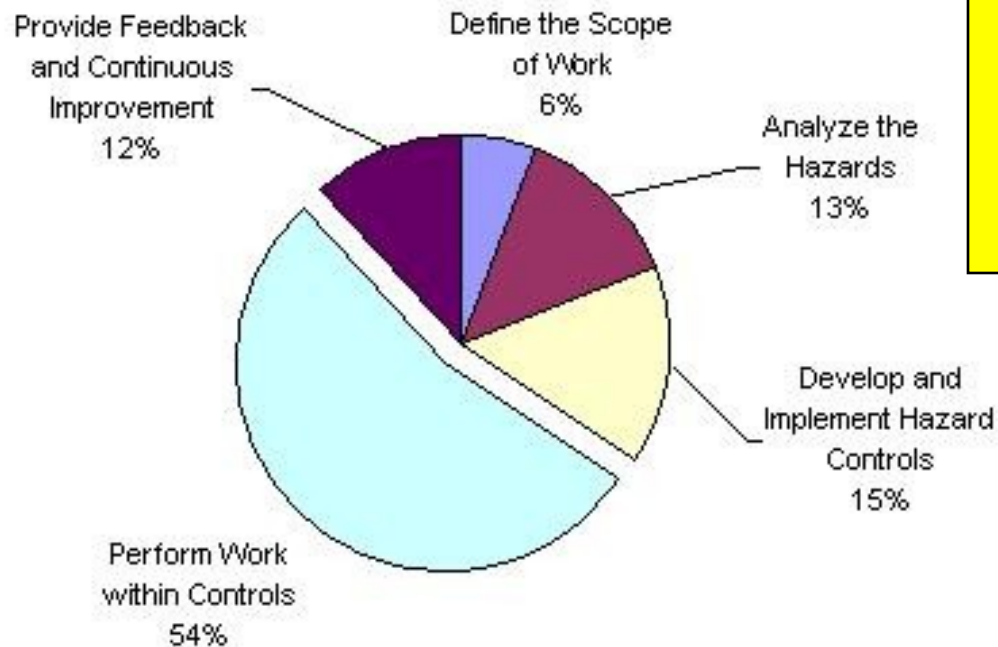
**ISM-work planning errors were cited in 88% of occurrence reports where an ISM determination is required (total of 6608 reports)**



# ISM 4 in ORPS



**Chart 1 - Distribution of ISM Core Functions**  
(Occurrence Reports 01/01/2004 - 03/31/2008)



The data in this chart includes all ISM codes listed in ORPS reports that cite ISM 4 as at least one of the ISM Core Functions

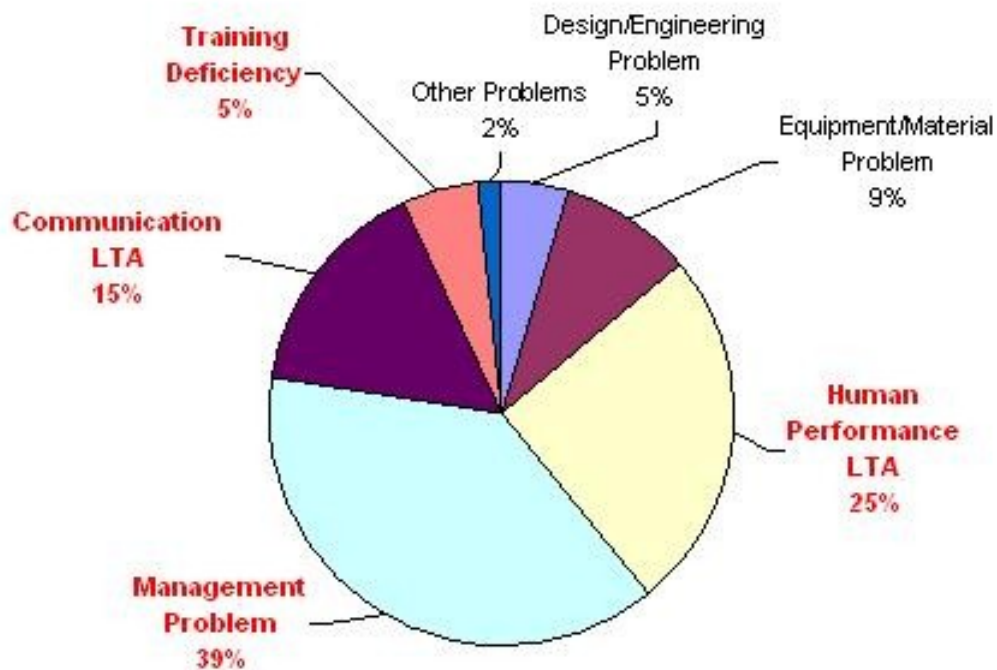
Other ISM codes were cited almost as much as ISM 4



# ORPS Cause Codes



Chart 2 - Distribution of ORPS Cause Codes for  
ISM 4 - Performing Work Within Controls  
(2004 - 2008 Q1)





# Cause Codes



- Management Problems (39%)
  - Overlap with planning functions: Poor job scoping, inadequately identifying new risks when developing new procedures, or procedure documentation out of date
  - Supervision: Workers unclear on policies, expectations, responsibilities, and accountability
- Human Performance (25%)
  - Making mistakes and failing to perform double checks
  - Workers underestimating the problem because of past experience and ignoring signs to stop
- Communication (15%)
  - Oral communications between work groups
  - All sorts of written communication inadequacies, including checklists
- Training (5%)
  - Identifying what training is needed, then poor training execution

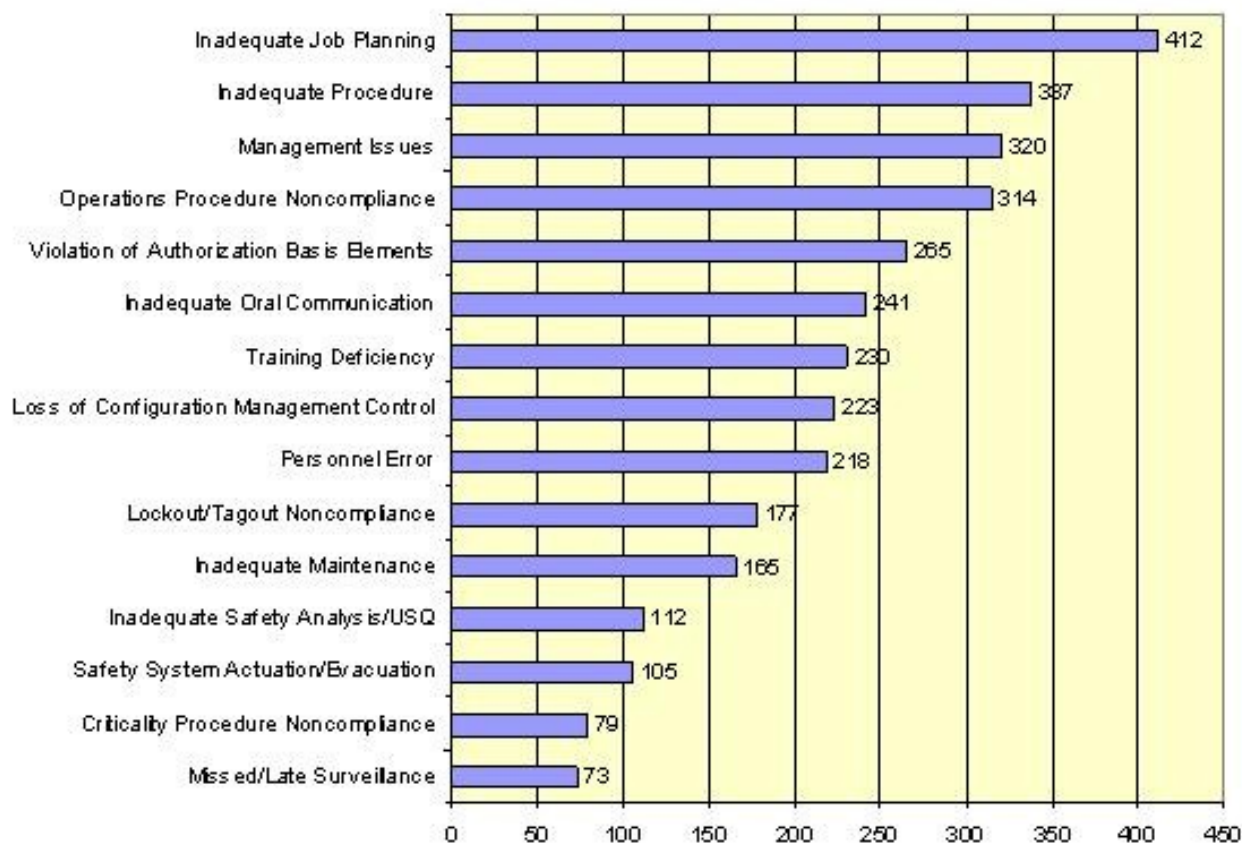


# Keywords in ORPS



Health, Safety and Security

**Chart 3 - HQ Keywords - Inadequate Conduct of Operations  
(by Report Count)**

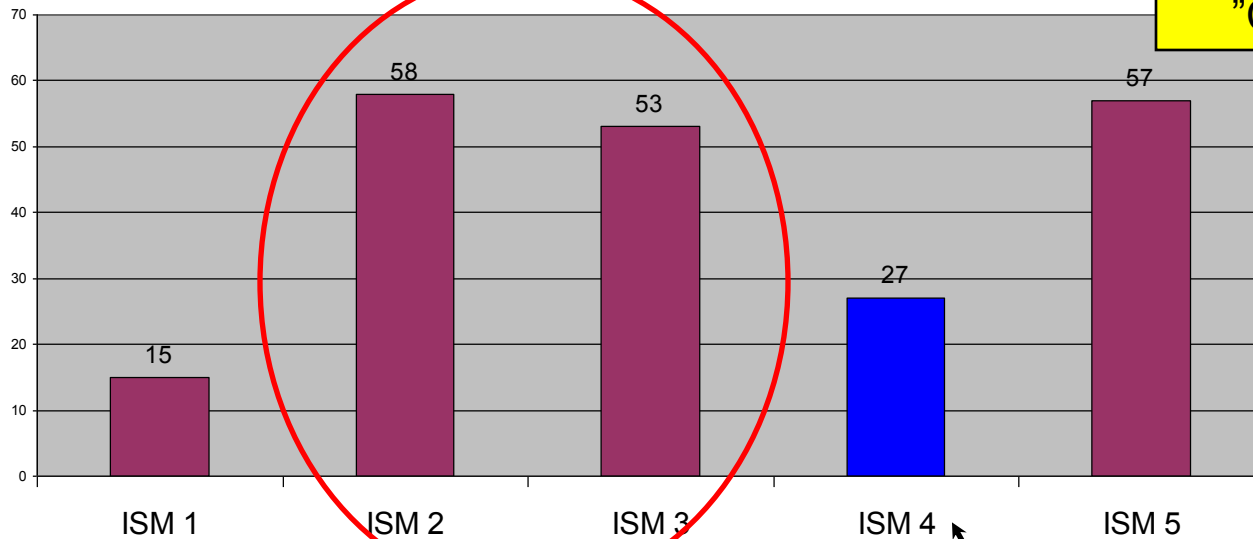




# CATS Data



Open Corrective Actions by ISM Category



Corrective Actions focus appears to be on ISM Phases 2 & 3—  
"Controlling hazards"

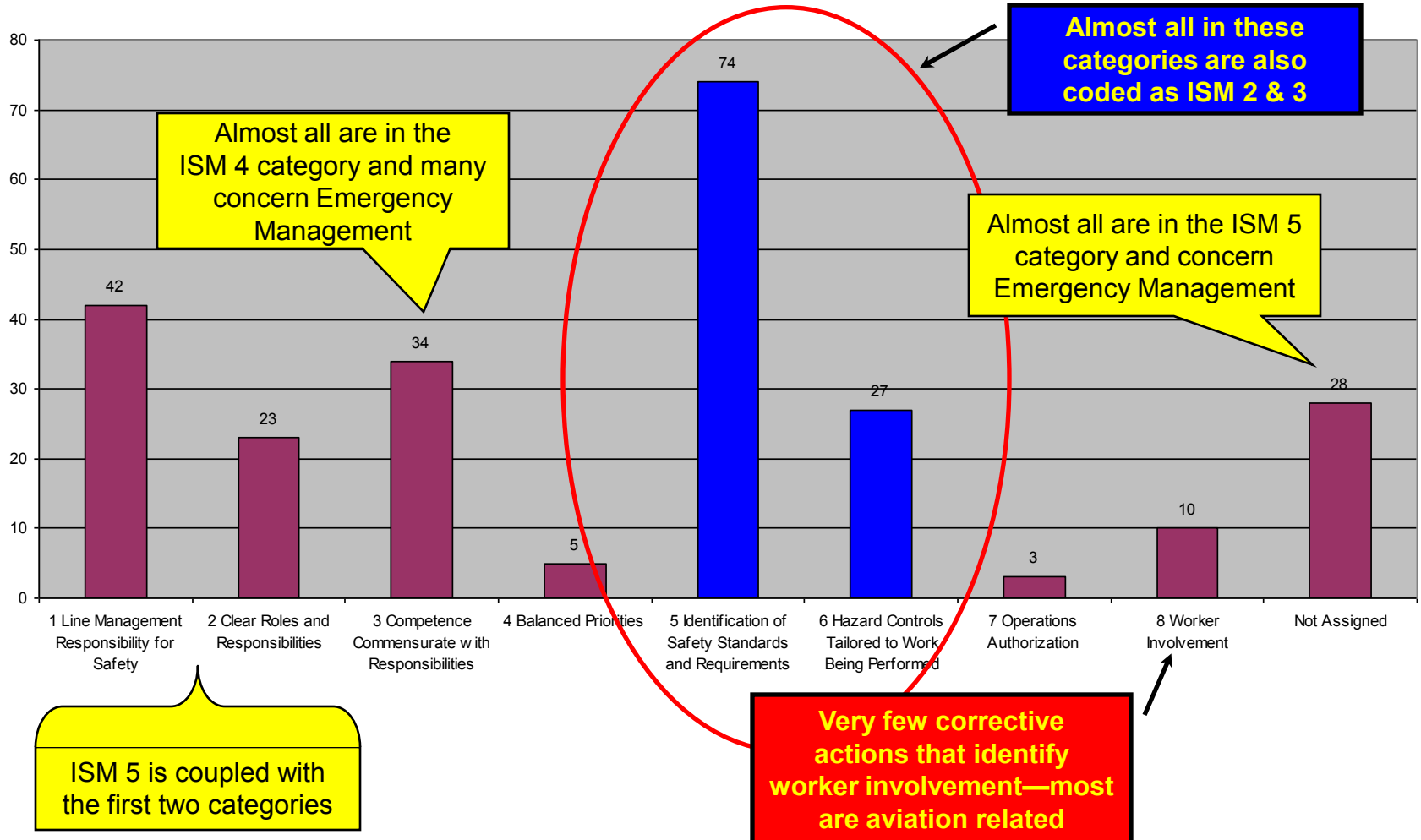
Compare the relatively small percentage of ISM 4 codes in CATS with the relatively high percentage in ORPS-reported events



# Guiding Principles



CATS Corrective Actions by Guiding Principles





# Summary



- After looking at the ORPS and CATS data...I wonder if ISM concepts are consistently understood and applied
- ISM disconnects between ORPS and CATS
  - Corrective actions seem to focus on engineering solutions and less on the human element
  - Undercurrent of “management is best postured to fix the problems,” less emphasis on worker involvement
  - If the workforce is becoming more “splintered” (i.e., more sub-contractors) how can we get workers involved?