

# **Gulf of Mexico Business Unit**

Verification and Validation (V&V)

November 9th, 2017



## **VERIFICATION AND VALIDATION (V&V)**

Preventing Serious Incidents and **Fatalities** by moving from "I think" to "I know." Important tools along this journey are Verifications and Validations (V&V).



## **OPERATIONS EXCELLENCE MANAGEMENT SYSTEM**

Risk Management

Assess

Manage and protect safeguards

Verify

Assurance

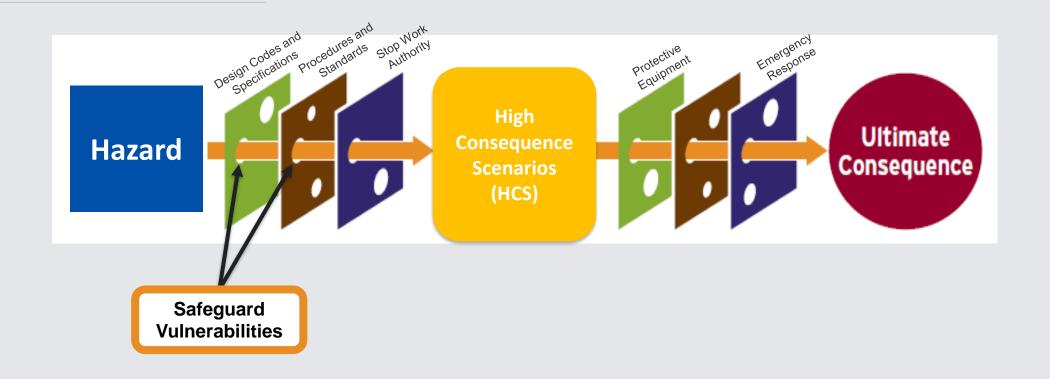
Support and Strengthen

#### **Enablers:**

Competency, Learning, Technology and Human Performance



## **VERIFICATION AND VALIDATION**



#### **VERIFICATION**:

Assures the effectiveness of safeguards.



#### **VERIFICATIONS**

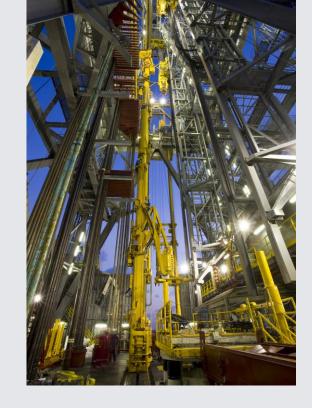
 Verifications are actions to confirm that safeguards are functioning as expected

Verifications may be conducted by different levels in

the organization

Types of verifications include:

- Observations
- Inspections
- Audits
- Record reviews
- Confirmation that work tasks are complete
- Operator routine duties
- Maintenance checks





#### **UNDERSTANDING V&V CONNECTIONS**

Identify High Risks and/or High Consequence Scenario (HCS)

- → Topsides/Drill Ship Dropped object
  - Rigged Crane loads
  - Drill pipe or casing
  - Tools being used at heights

This is an example of a high consequence scenario for Operations, Drilling and Completions and Major Capital Projects Understand critical safeguards

- Facility layout/Crane location
- ✓ Safe Handling Zone
- ✓ Restricted Access Areas
- ✓ Crane safety devices
- ✓ Crane Preventative Maintenance Program
- Emergency Shutdown Device(s)

Understand the vulnerabilities (how the safeguard(s) can fail?)

- No or lack of procedures in place
- No or lack of specific training
- No or lack of adequate inspections

Develop or enhance the verifications accordingly

- Various assurance activities on location by personnel and external inspection teams
- ✓ Lifting Authority
- Field Competency Verifications
- Leadership Engagements

