



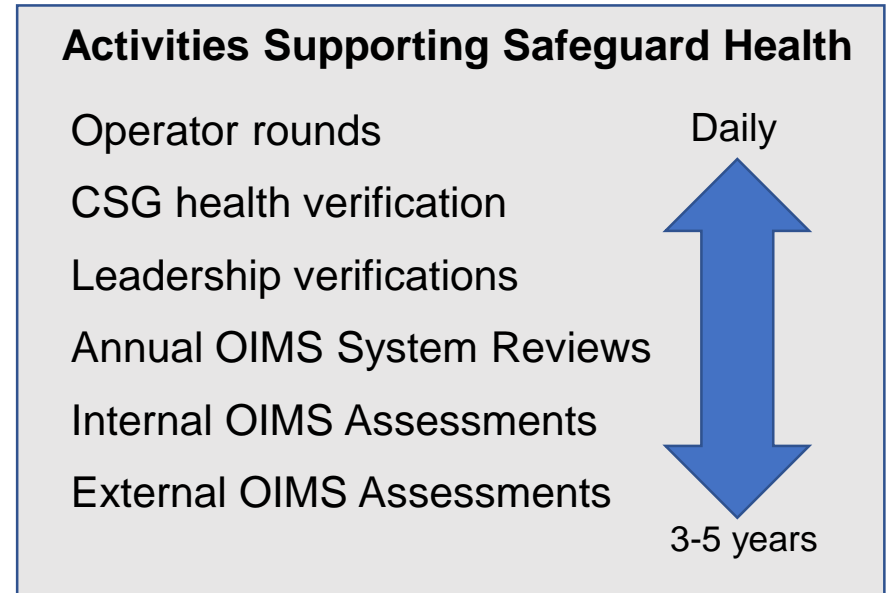
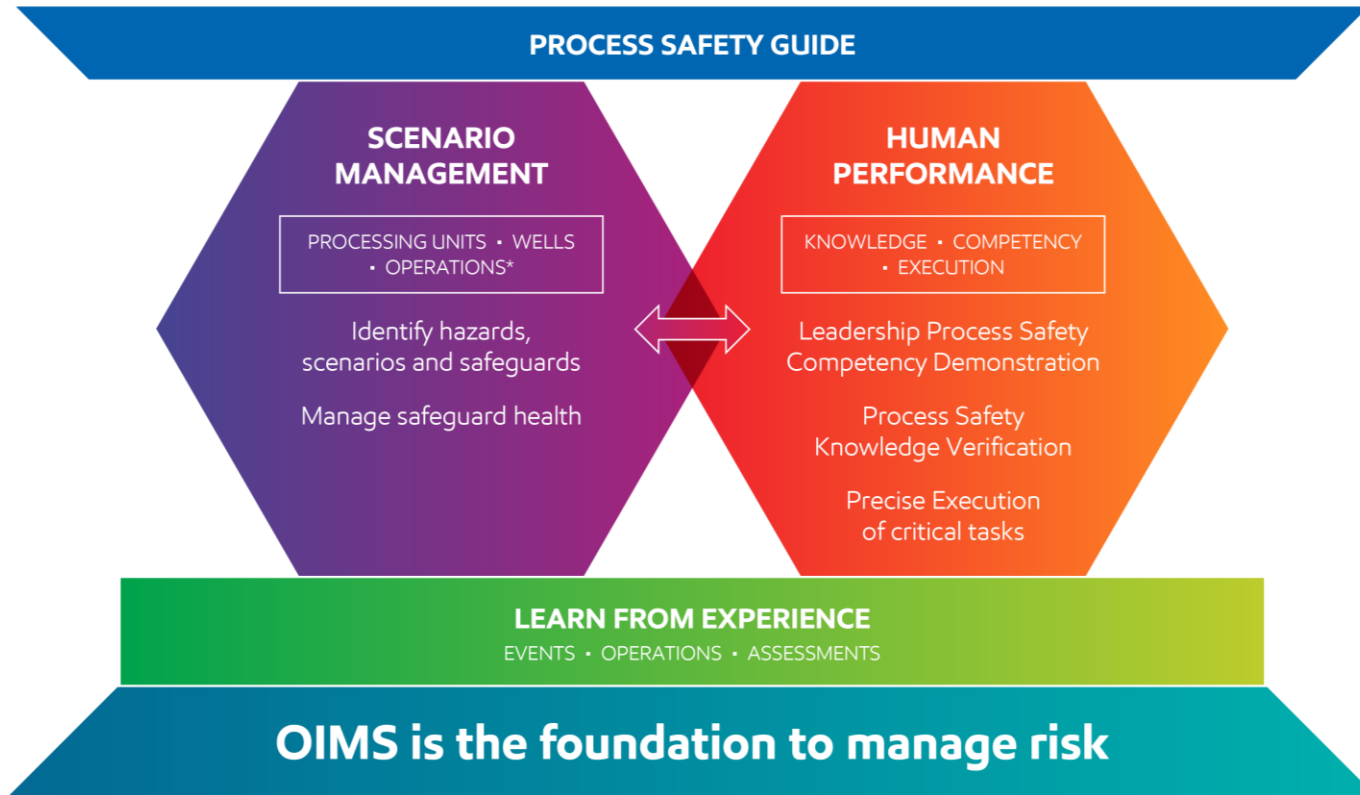
2022 COS FORUM

Enhancing Process Safety through
Scenario Based Assessments

Ben Warner, ExxonMobil

Background

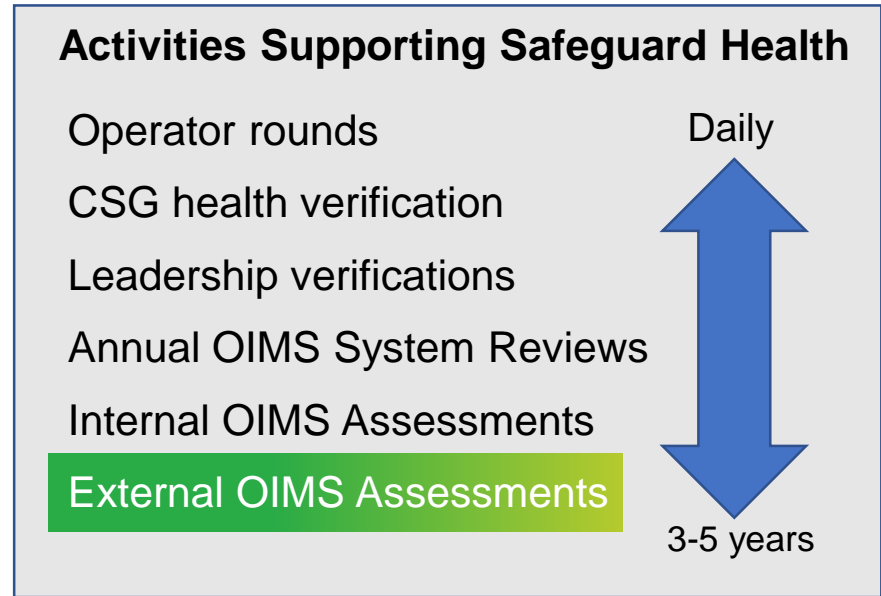
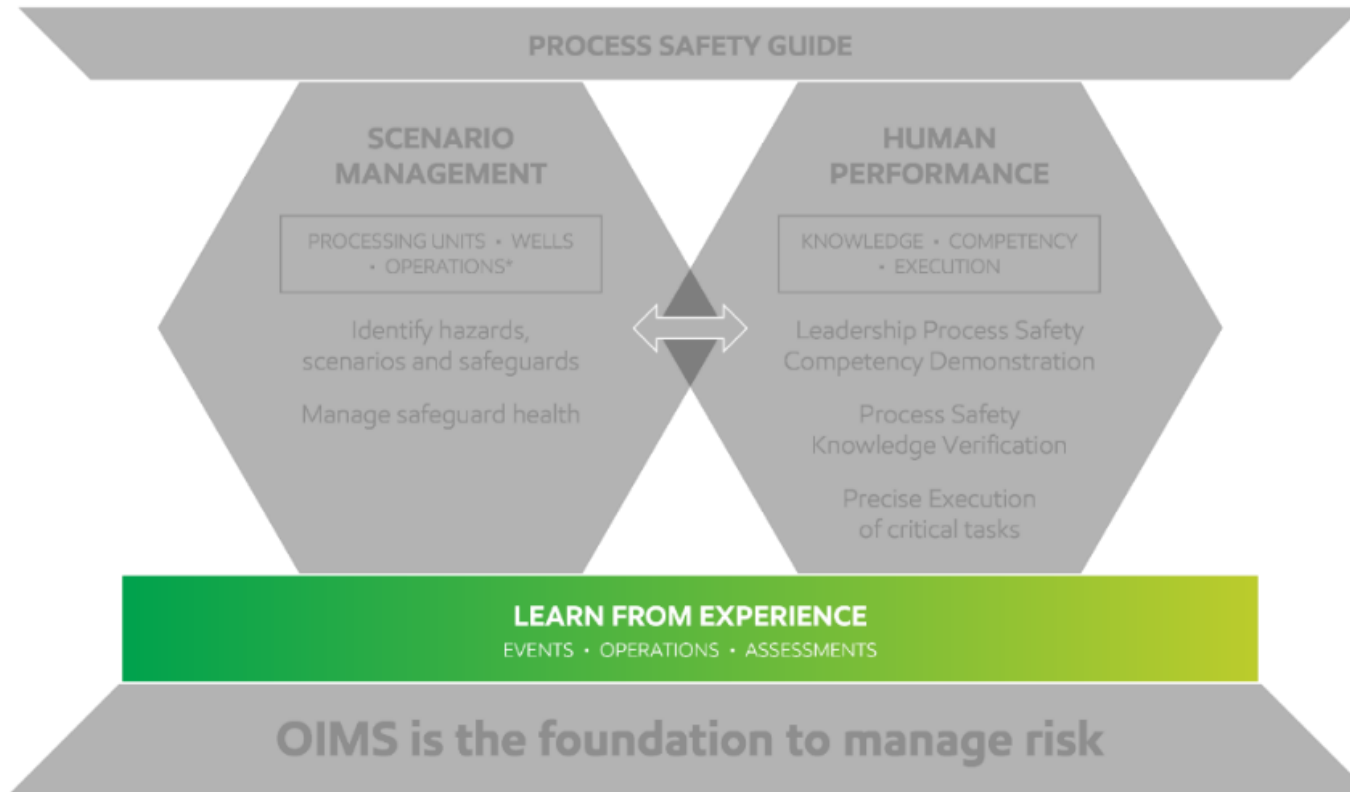
- Reflection on our process safety journey provided the case for change
- Launched Enhancing Process Safety to achieve a step change improvement



**Operations such as energy isolation, work permitting and opening equipment.*

Background

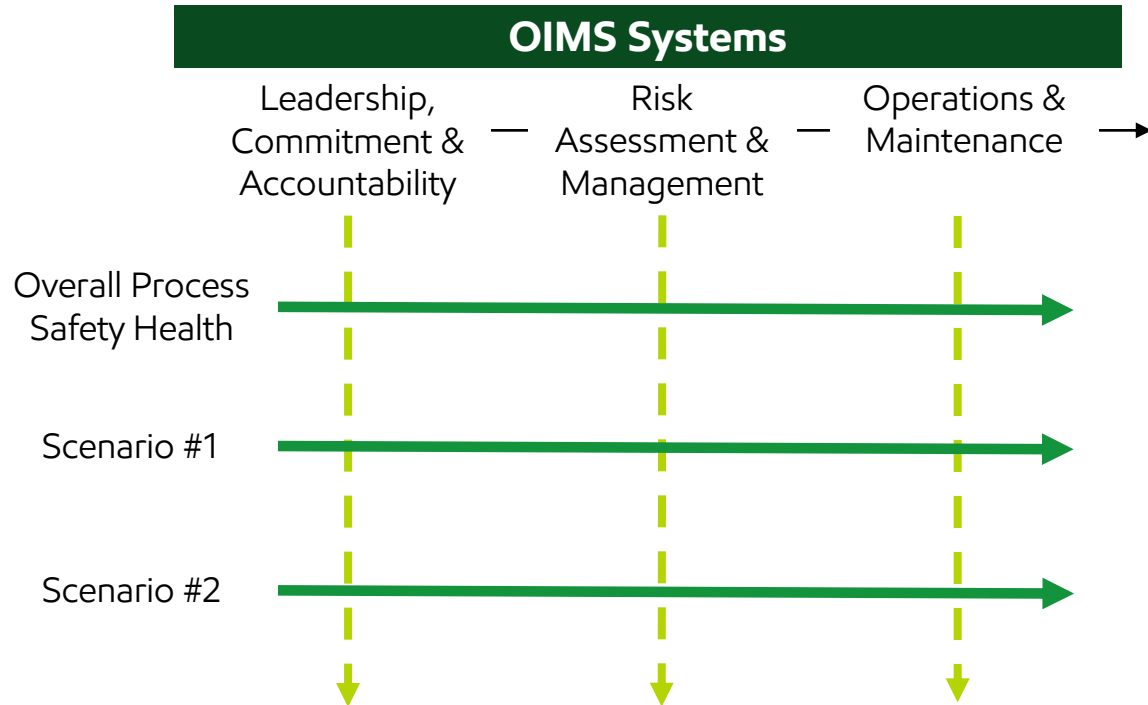
- OIMS assessments included process safety
- Enhanced assessment approach delivers deeper insights and added value



**Operations such as energy isolation, work permitting and opening equipment.*

Process Safety Assessments

Updated OIMS assessment structure



- Desired attributes
 - Focused on higher risk findings
 - Focused on effectiveness vs. compliance
 - Dedicated assessors
- Two components
 - Scenario-based assessment
 - Process safety protocols
- Validate field effectiveness of critical safeguards
- Provide recommendations and gap closure support

Process Safety Scenario Based Assessment Steps

Plan

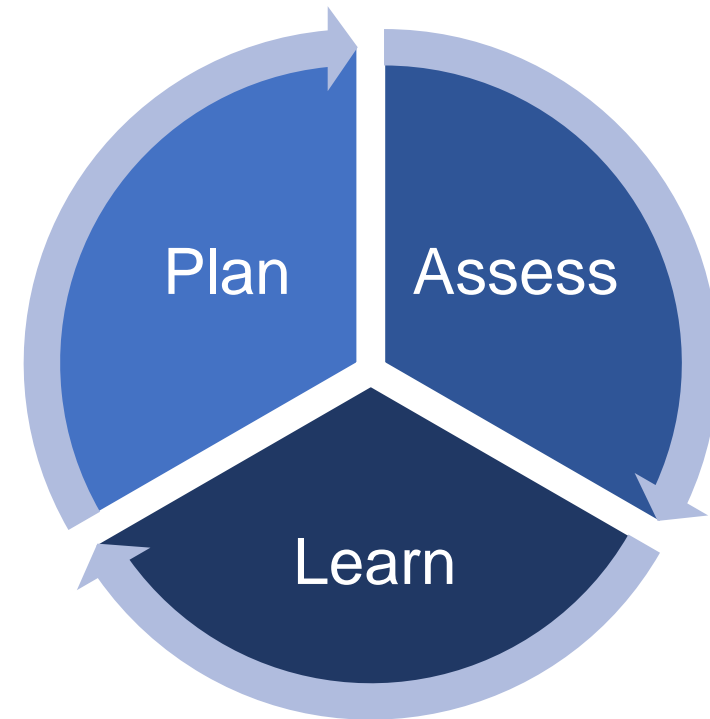
- Select scenarios for review, including focus areas
- Identify critical safeguards; develop testing protocol
- Request documentation; advise of required field testing

Assess

- Verify effectiveness of safeguard health
- Maintain engagement with relevant OIMS assessors

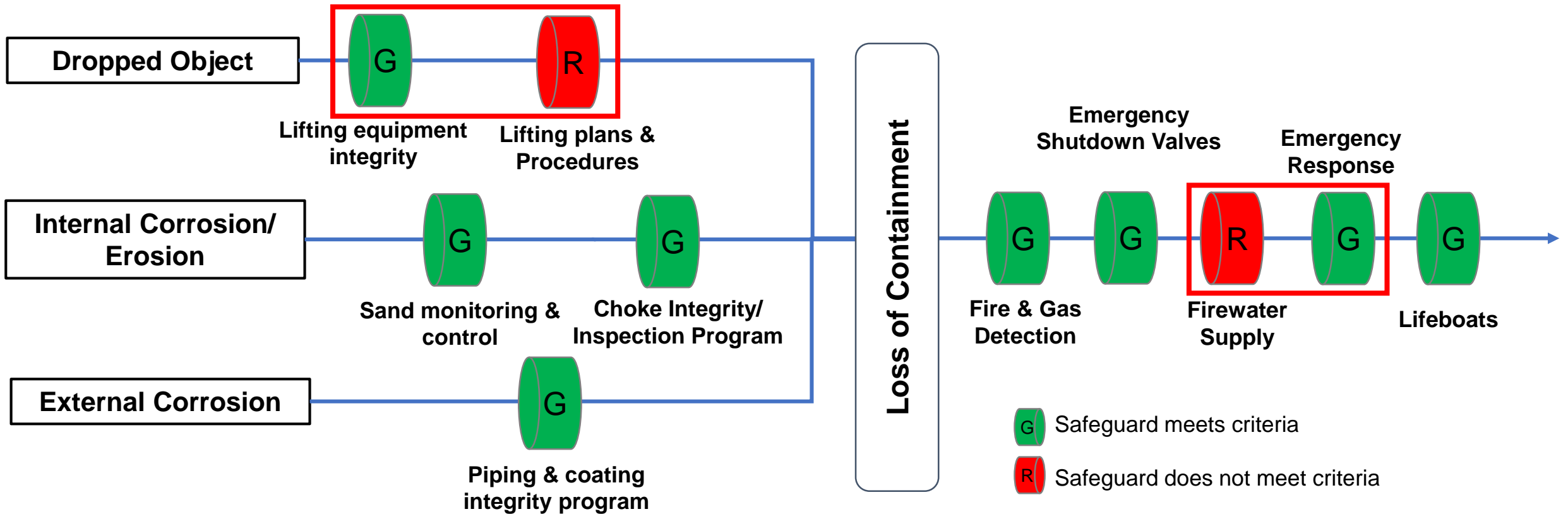
Learn

- Provide results to the operating unit; support implementation
- Share learnings globally; enhance future assessments



Assessment Example – Scenario Bow Tie

Offshore Gas Release



Assessment Example – Safeguard Verification

Offshore Gas Release

Verification Across Systems

Lifting Safeguards

Work Management

- Do work permits identify the hazards of lifting above process equipment?
- Are mitigations in place?

Competency

- What are the qualifications of the lifting team?
- Does the lifting team include all required positions?

Procedures

- What lifting plans are utilized?
- Are the lifting plans accurate?
- Are they applied in the field?

Facility Integrity

- Is the lifting equipment subject to an inspection program?
- Are pre-use inspections completed?
- Is the lifting equipment in acceptable condition?

Emergency Response

- Does the lifting team know how to respond in the event of a dropped object on process piping?
- Where is ESD push button, who will be notified, what actions are taken?

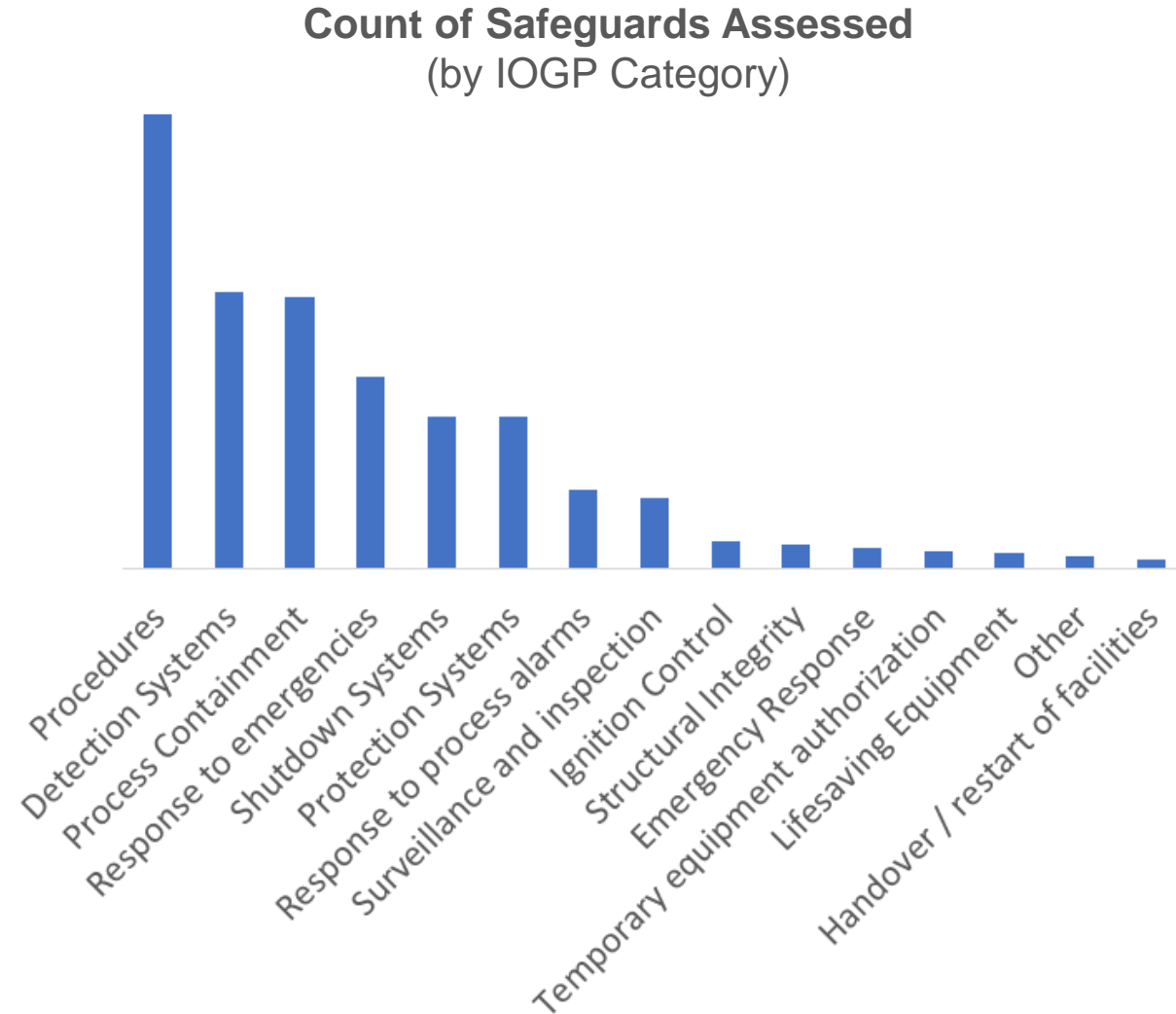
Physical Verification in the Field

Firewater and Emergency Response



Safeguard Health Insights

- Assessments effective at identifying degraded safeguards & developing improvement plans
- Procedural safeguards findings highlight the importance of Human Performance
- Maintenance improvements identified for some hardware safeguards
- Critical for field personnel to understand role in maintaining safeguard health



Thank You