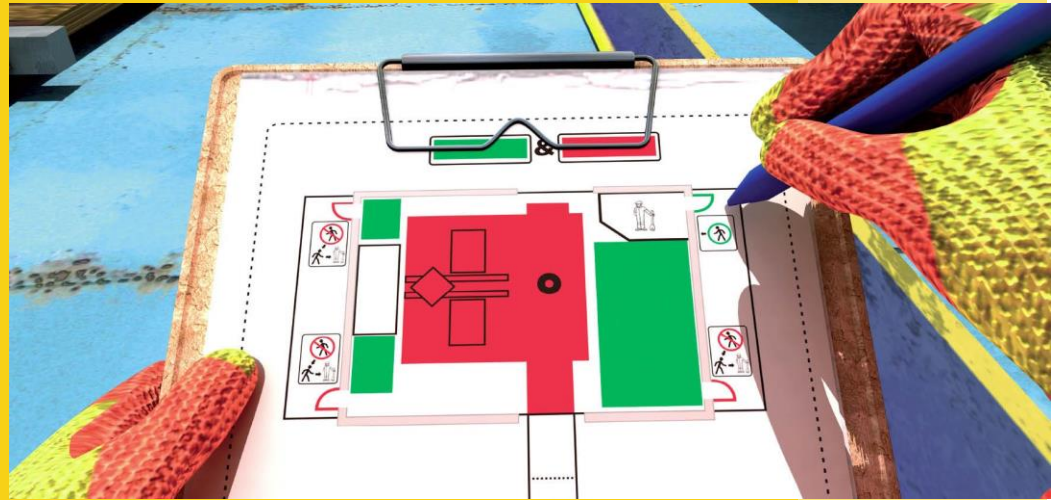




RED ZONE MANAGEMENT

Best Practice for Stand Alone Operations

Richard Conway
December 2015



SUMMARY

1. DROPS Focus in Shell culture
2. Red Zone Management Through The Rig
3. Red Zone Management – Stand Alone
4. Schlumberger
5. Expro
6. Recap
7. Questions / Comments

DROPS IN SHELL CULTURE

- High focus at the most senior levels
- DROPS Focal Points – every OU / LoB
- Training – CBT and Face-to-Face
- DROPS Manual – right
- Part of Global Wells Manuals suite
- Prevention, mitigation & controls from:
 - International Association of Oil & Gas Producers (IOGP)
 - DROPS Online Global Expertise Centre
 - Step Change In Safety
- Shell and Contractors accountable/responsible to keep all staff safe
- Shell wellsite supervisors verify that all key controls are in place

WELLS PUBLICATION

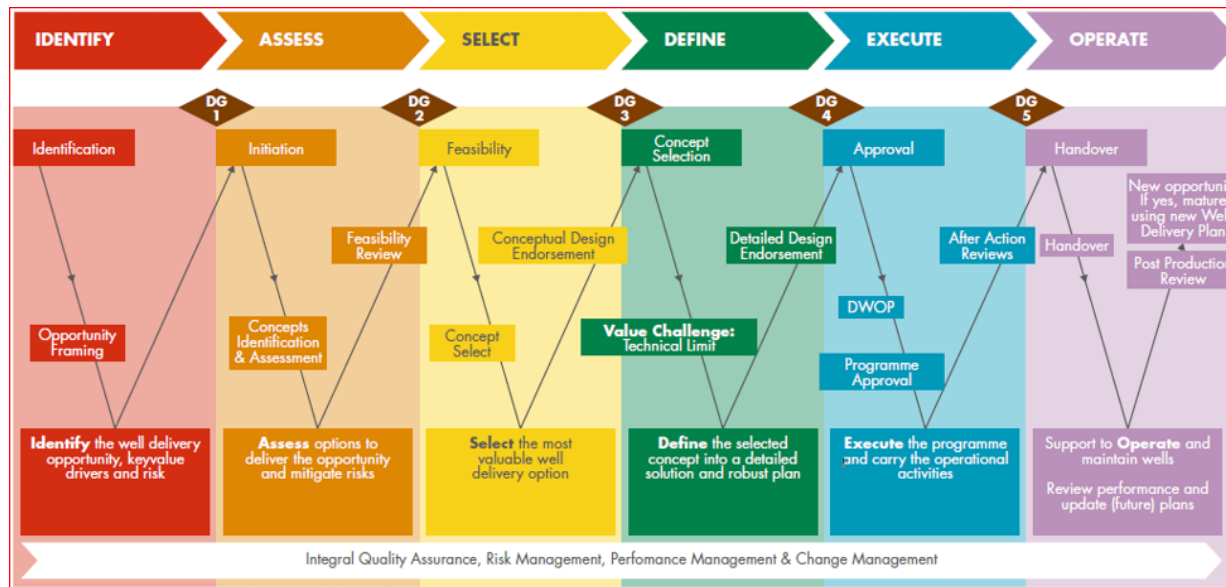
PREVENTION OF DROPPED OBJECTS MANUAL

WS.38.80.00.15-Gen.

Revision 0.0



DROPS IN SHELL WELLS



- All operations planned according to the Global Well Delivery Process
- This provides assurance at each stage of the design or ops planning
- ALARP must be proven at each Decision Gate
- DROPS focus during Define, Execute and Operate risk assessments

RED ZONE MANAGEMENT

- Major effort in Red Zone training in Shell world wide
- Definitions
 - No-Go Zones- **high potential risk** for drops. Controlled by PTW and be marked / barriered-off at all times
 - Red Zones - **medium potential risk** for drops. PIC accountable for permitting personnel to enter. Adjacent step back safety zones with fixed gated access points to Red Zones
- To date, most of focus has been on through the rig operations





DROPS SITE INDUCTION



ZONE MANAGEMENT



USE RED & NO-GO ZONES

**Do you know your
Worksite DROPS Focal Point?**

STATIC DROPS

[illegible]

COMPLETE DROPS INSPECTIONS



USE
SECONDARY
RETENTION



USE TETHERED TOOLS

OPERATIONAL DROPS

10 QUESTIONS FOR A SAFE LIFT

1. A questionnaire survey of 400 life safety engineers has confirmed the findings and findings questionnaire applicable to the 1997
2. A questionnaire survey of the findings table?
3. Has a great importance of the findings research been carried out and are the findings questionnaire (regard to technical safety)
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ASK THE 10 QUESTIONS



**INSPECT LOADS
BEFORE
TRANSPORT**



OBTAIN PTW FOR WORK AT HEIGHT

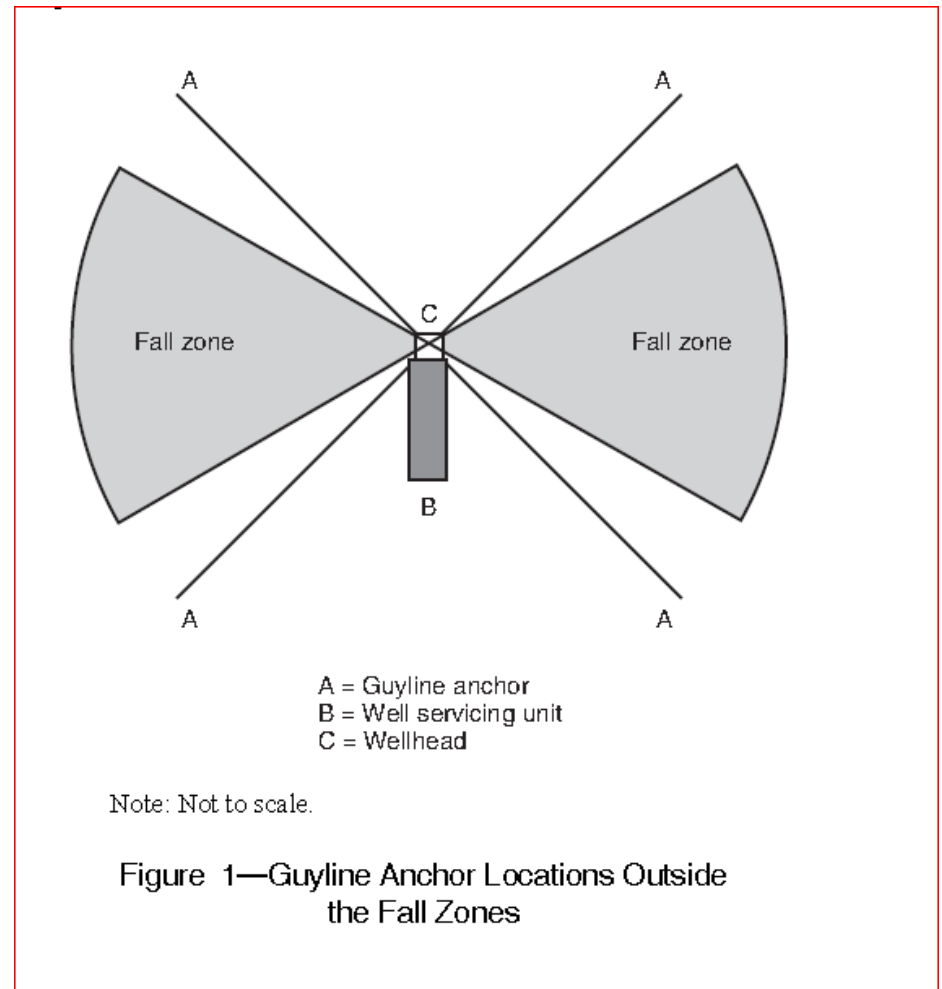
STAND ALONE OPERATIONS

- Different to rig operations in that each rig-up may be unique
- Temporary equipment, possibly unfamiliar surroundings
- No-Go and Red Zones also temporary and variable in area
- Zones may be on multiple levels rather than just a drill floor
- Wider range of objects being elevated to a height
- Multiple means of lifting, rather than just the drawworks



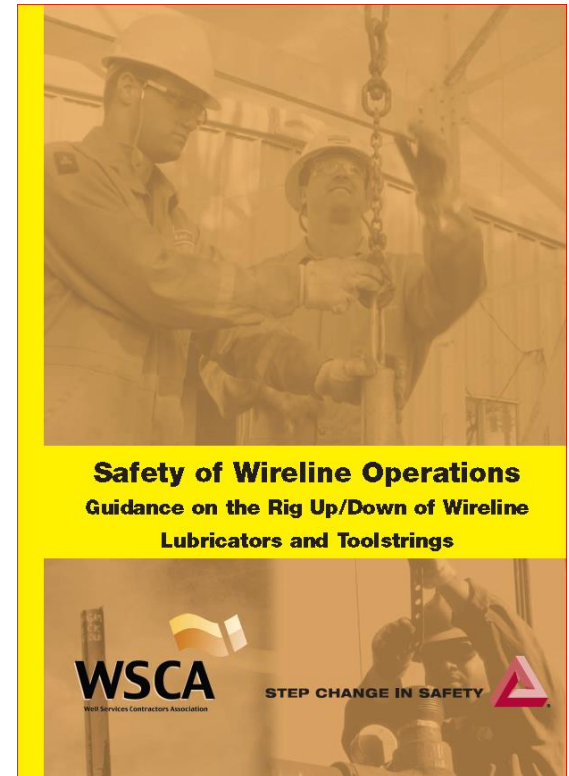
API RECOMMENDED PRACTICE 54

- Section 13 Wireline Operations
- Limited coverage. Discusses mast and gin pole operations
- DROPS focus is principally on the guy lines rather than the crew



WSCA – STEP CHANGE IN SAFETY

- “Safety Of Wireline Operations”: Detailed best practice for wireline operation but does not specifically address Red Zone Management.
- Also includes a Wireline Specific Lifting Plan which mentions barriered-off and safe areas but does not define the zones or give guidance on how to demarcate



RECOMMENDED GUIDELINES FOR.....RED ZONES

- Recommended Guidelines for the use of Restricted Access Areas (Red Zones)
- Defines Red, Yellow & Green Zones
- Guidelines for zone demarcation and management
- Good summary of best practice



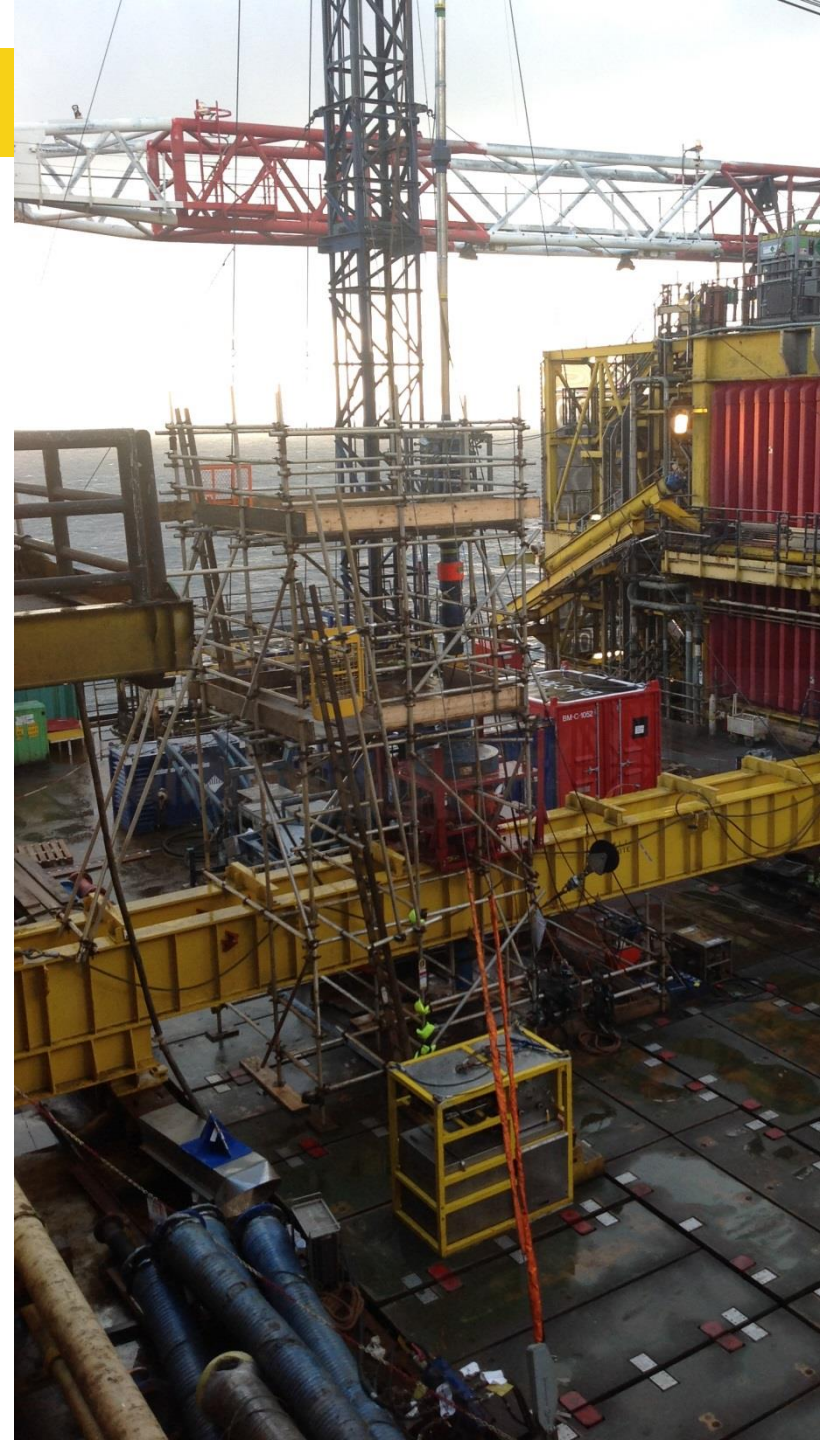
Figure 2 Example Warning Sign



Figure 3 Example Red Zone Marking Techniques

WIRELINE OPERATIONS

- Preliminary checks – Lifting equipment
- PTW, JHA & Lift Plan
- Communications
 - All parties- the wire line operator, crane driver and where applicable the tugger operator engaged
 - Agree who will provide the signals – wireline banksman
 - Agree “All stop” signal (part of lift plan).
 - Agree that the wire line operator is in charge of the lift
 - Carry out toolbox talk – everyone affected not just the wire line crew
- Red Zone must include ‘Bounce Zone’



COILED TUBING OPERATIONS

- In many cases, tower height is significant
- Bigger lifts, using a crane
- Men working at height when making up BHA and stabbing the injector



HWU OPERATIONS

- Often very tall structures
- Equipment hoisted to the workbasket using the gin pole
- Concurrent activities at more than one level on the tower



Location DROPS Risk

Schlumberger Segment DROPS Risk Register

DROPS Register SA-048-000

Project:

Site:

Segment:

Location:

Activity:

Equipment:

Personnel:

Material:

Environment:

Weather:

Lighting:

Sound:

Temperature:

Humidity:

Wind:

Visibility:

Ground Conditions:

Water Levels:

Vegetation:

Wildlife:

Other:

Notes:

Signature:

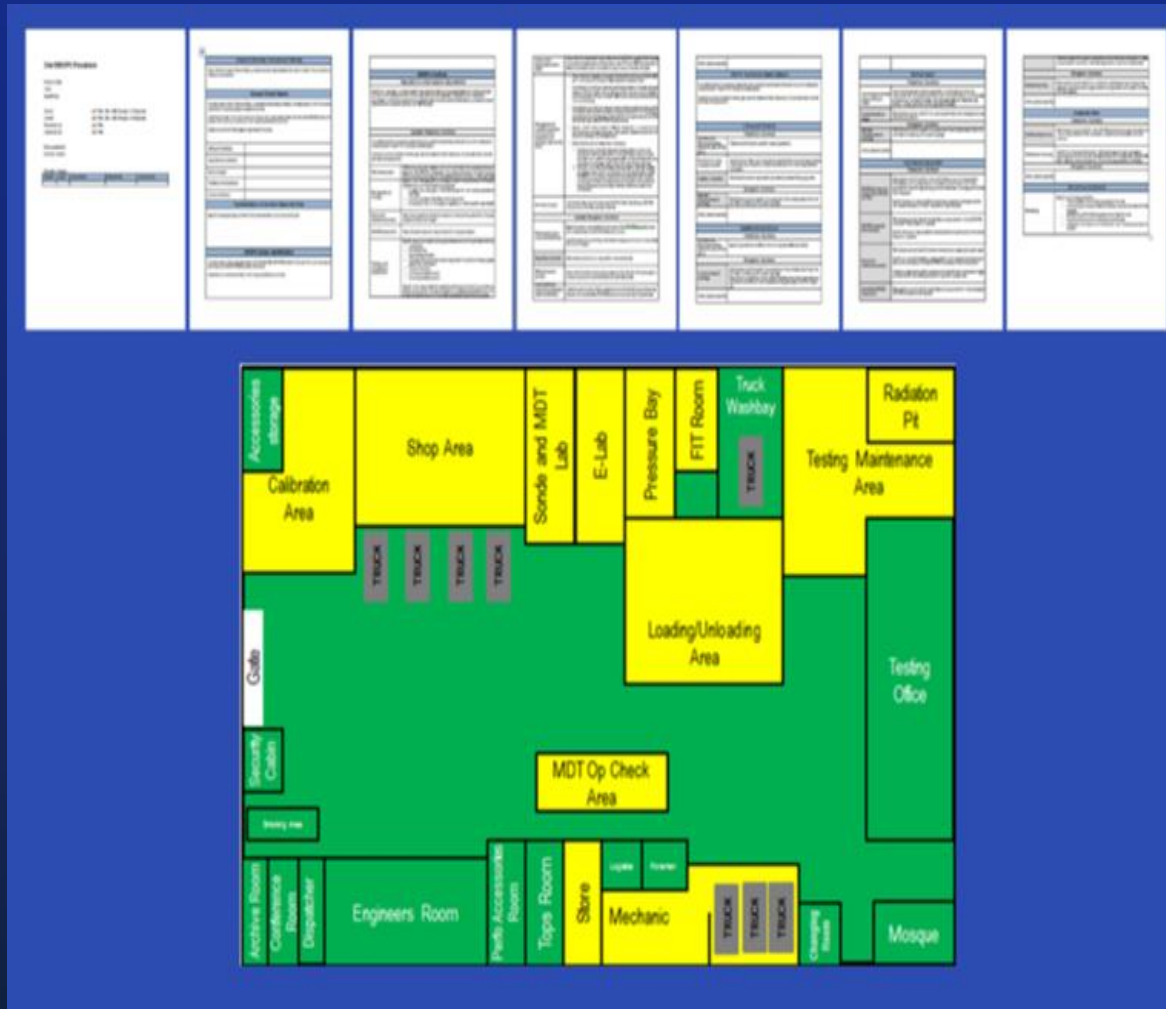
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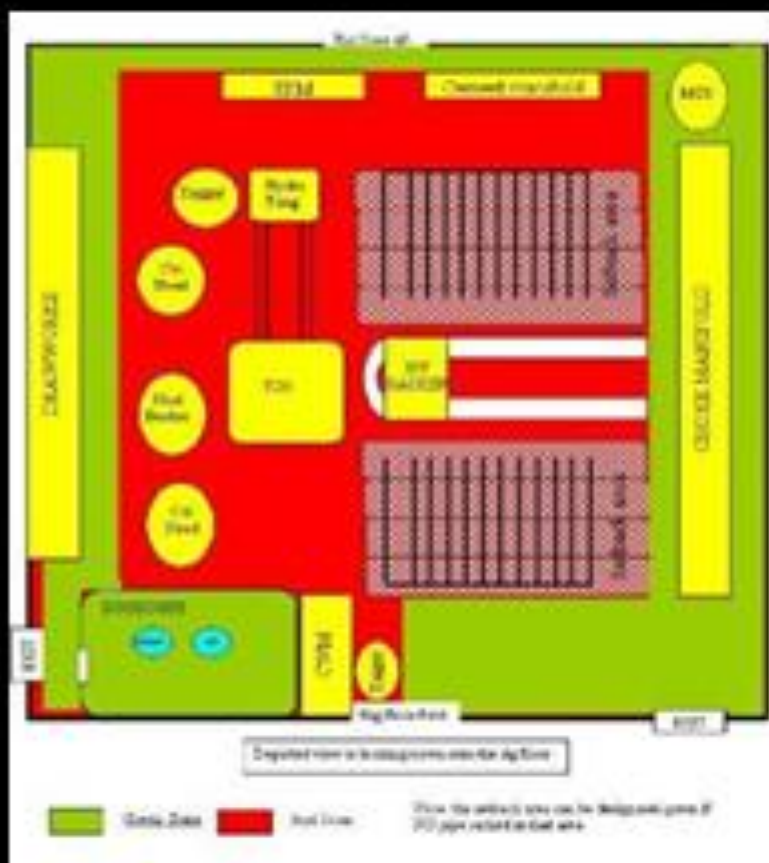
Facility, Rig, Vessel		Example Colored Tinting (04)		Site DROPS Register				Reported By		Typed Subsequent to Forward Build	
Registration Date		15 September 2018						Signature			
Location		Project 01-R						Facility, Rig Manager, Vessel Captain		Report Status	
Item	Photograph	Item Description	Item ID	Risk Level	Primary Mitigation	Secondary Mitigation	Regulatory Criteria	Condition Pass On Fall	Frequency	Revised Risk Level	Comments
Regulatory Area											
1		Concrete Formwork Block		Medium	Shackle	None	Visual	Pass	Daily	Low	
2		Tower Light		High	Hydraulic jacks	None	Visual	Pass	Daily/Weekly	Medium	Excess outriggers are always fully extended
3		Winches at Straight Ladder at Derrick Location		Medium	Winches jacks	None	Visual	Fail	Daily/Preoperational	Medium	Needs to ensure winches are released and always secured
4		Scaffolding at Wellhead		High	Erected on ground	None	Visual	Pass	Daily/Preoperational	Low	Excess safe scaffolding tag is one
5		Scaffolding at Wellhead		High	Erected on ground	None	Visual	Fail	Daily/Preoperational	Low	Remove loose items from scaffolding/Excess safe scaffolding tag is one
6		Hydraulic jacks at Scaffolding		High	Erected with ropes	None	Visual	Pass	Daily/Preoperational	Low	

Site DROPS Map





Red Zones / Restricted Access Areas



- Permission to enter
- Step Back Safety Zones
- Access diagrams posted



CURRENT SHELL FOCUS

Through the sharing and dissemination of Best Practice, we want to develop:

- A standardised approach to the assessment of risk in stand-alone operations
- Consistent methodology in the demarcation of Red and No-Go Zones
- Common philosophy for zonal management and control
- Uniform procedures for the control of lifts and tower erection

SUMMARY

- DROPS prevention is at the core of Shell well operations
- We currently employ Best Practice as seen from an internal perspective
- Stand-alone operations have not had the same attention to detail as through-the-rig
- The Well Service Community would benefit from the sharing of best practice and the standardisation of Red Zone Management

Questions / Comments ?

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