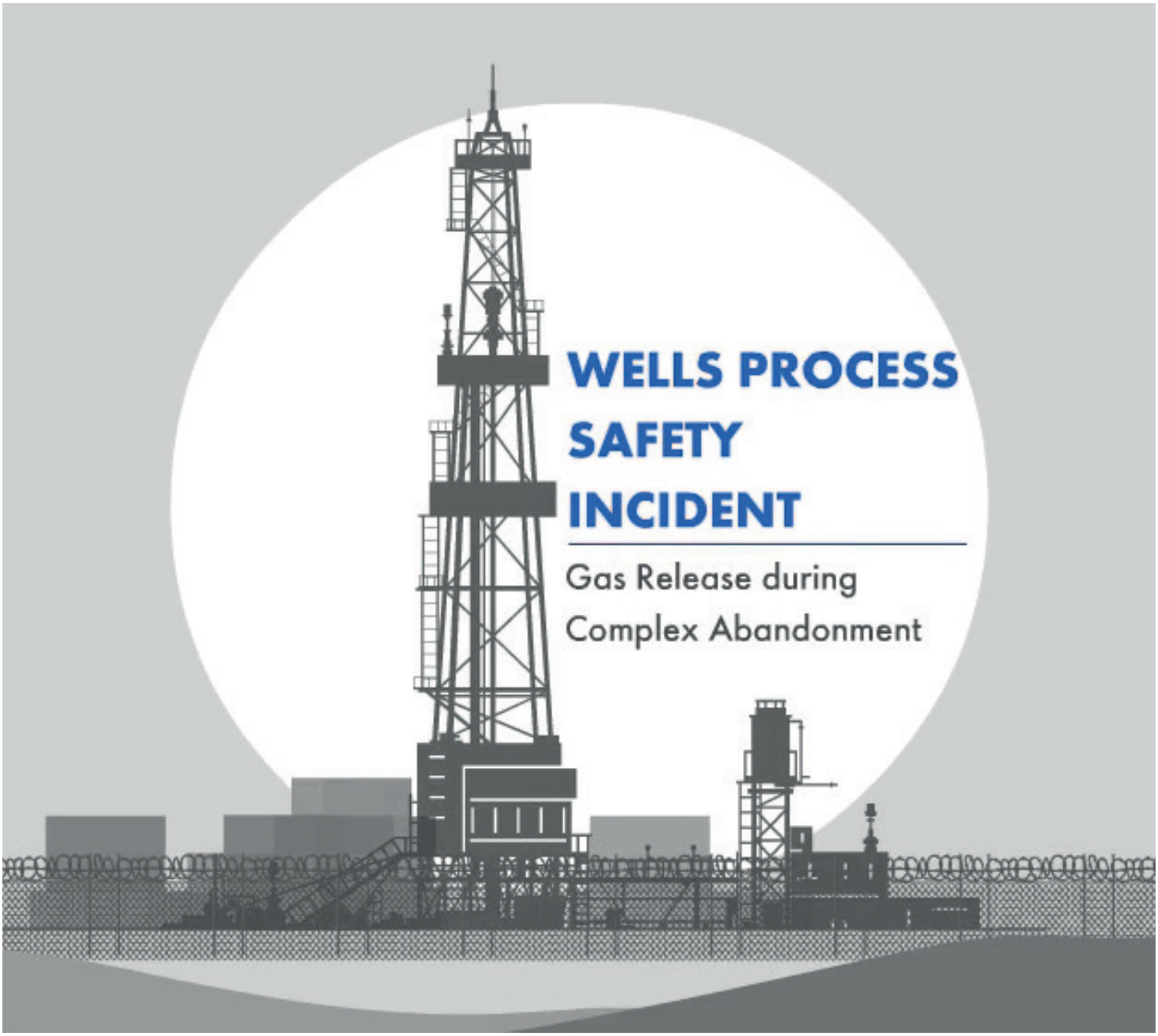
International Association of Oil & Gas Producers

WCI ALERT
21-4

Gas Influx during Abandonment Operations

Learning from Experience

Facilitator Pack and Pre-Read



Pre-Read and Facilitation Guidelines

In October 2019, there was a serious well control incident during the abandonment of a complex land well.

The aim of this learning session is to get the audience to reflect on the key issues that contributed to this incident and recognize that those issues could happen at their site, to their team. Making the connect between an incident and their operation, provides a catalyst to improve.

Success factors:

- The findings must be relatable to an individual irrespective of environment, company, role or operation. The incident occurred on a land rig during abandonment operations with key issues identified in the themes of Management of Change, operational control and human factors. These themes are critical to process safety in all Wells operations. The focus is to learn from the event so that action can be taken to improve. The intent is to learn about risks to barrier health, not just the facts of the incident itself.
- Understand that processes are not perfect, equipment can fail and humans make mistakes. We must acknowledge that a barrier is only a barrier if tested, that testing of the barrier relies on people, that some barriers rely on the intervention of people to press a button or pull a lever and people are only human. We need to think what if people or equipment fail, are we still safe?
- Stimulate thought around an individual's role in keeping a barrier healthy – who does what, when, how and how is compliance demonstrated?
- The Key Learnings from the incident are focused on the following:
  - Human Performance and Human Factors
  - Risk Management; Management of Change
  - Operational Control: well control equipment and barrier management
  - Emergency Response

All these common failings or key learnings can happen in every kind of operation.

Number of Participants	Discussion groups should ideally be 4-8 people, divide a large group up accordingly or manage a small group as a single discussion. The pause points can and should be adjusted as necessary to make the session as impactful as possible to your organization. The questions suggested are just examples to start discussion, adjust as required.
Time Requirement	~60-90 minutes **Note**: Do consider time management. A good session is unlikely to be less than an hour, a comfortable maximum should be 1½ hours.
Preparation	• Preparation is key to a quality discussion. Review the material & understand the incident. - With knowledge of your team's specific environment and operations review and amend, if appropriate, the prompt questions for each segment. • If facilitating a large group (face to face) consider the following: - Room set-up & arrangements for discussion groups (4-8 people). - You may need to recruit support from a colleague if working with a large group.
Facilitator Pre-read, Notes & Tips	This facilitator pack has support material for each segment of the video. Per segment, this supporting material is broken into three parts: 1. **Preface** – This should be read in advanced to prime the facilitator about the content coming and understand how to relate it to the discussion points. 2. **Video Instructions** – Guidance for the facilitator around start/stop of each segment and a summary of that video segment which reinforces the key points prior to the subsequent discussion. The facilitator should be familiar with the "Pause" points. 3. **Discussion** – The paused slides contain questions for the group. This section reiterates the questions and contains a short list of possible answers. The questions are suggested and can be tailored for the audience. **Facilitation Tips and Tricks:** **Note**: Suggestions for facilitator spoken words are in ***blue font***. It's always better to use your own words but use this script if you are more comfortable. Ask open questions – questions that require more than yes or no answers and make people think. Limit telling. Build on the ideas of the group by asking questions. **Keep in Mind:** During the discussion it may come up, "we'd never do that", "we have STOP the job", "we have a procedure", etc. It is important to stop that train of thought immediately. Think of incidents you can reference as examples from your organization – were those incidents planned? Of course, those incidents weren't planned but that demonstrates failures happen in all organisations.

PAUSE POINTS	
Pause Point 1 (00:03:30)	Discussion on risk perception, barriers, operational controls.
Pause Point 2 (00:08:00)	Discussion on MOC, change recognition and human factors
Pause Point 3 (00:11:50)	Discussion links to all the key learning points.
Pause Point 4 (00:12:30)	Summary of key learnings.

INTRODUCTION	
Welcome & Opening	1. Introduce the learning session to the group: *"We will be reviewing a well control incident that occurred in October 2019. We will be discussing the event as a group and relating the learnings to our own operations. We will be watching a video describing the incident and pausing for discussion when prompted. The intent of the session is not to perform a forensic examination of the incident in question however, the scenario will be used to show how we can all fall into some of the same pitfalls. Use the learnings from the incident and link it to our own operations and openly reflect on areas we could improve."* 2. Play the video. Be ready to pause the video when instructed to do so.

PAUSE POINT 1: Discussion on risk perception, barriers, operational controls.	
Preface	Focus the audience on the challenges the well presented, identify 2-3 top risks based on current well status. Key barriers / mitigations for identified risks. The well was identified as a high risk well, what could go wrong while trying to recover from the current situation, how would you ensure you have the right barriers in place, what would you do in planning when presented with a high risk well?
Video Instructions (Pause video at 4min 42sec)	In your groups discuss the following for the next 10min. The facilitator will then ask for high level feedback from each group. 1. What are the top 2-3 challenges you can see to provide access to achieve the final well plug and abandonment? 2. What barriers are in place to address the challenges? 3. How do you approach a high risk / challenging well in your company? *Got to be quite sharp with the pause!*

Discussion	Can they identify some of the risks and how would they manage them? What process would they undertake in their company to design the abandonment for this well?
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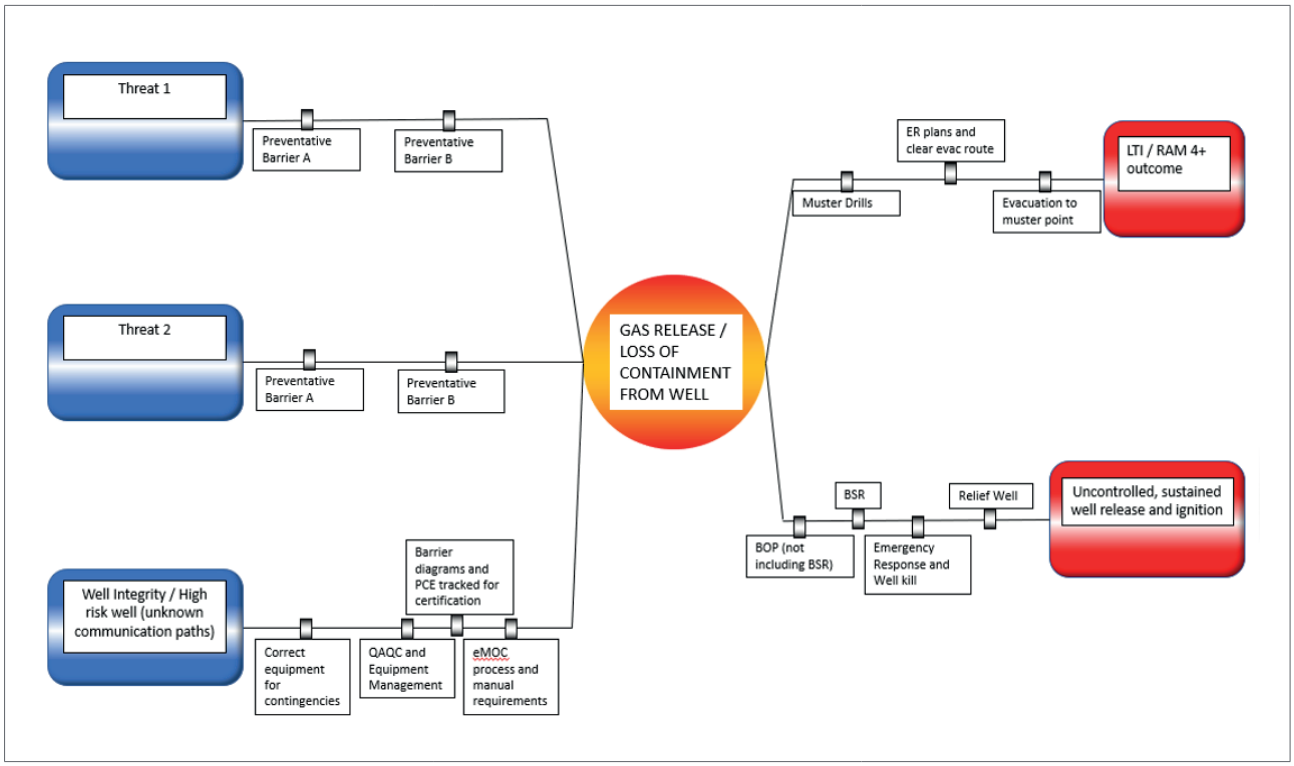

When dealing with rig teams they may not relate to Design.
Just ask what could go wrong, they'll perform a risk assessment without knowing it.

PAUSE POINT 2: Discussion on MOC, change recognition and human factors

Preface	Focus on the human performance aspect that leads to the "can do" attitude and the assessment of both compliance of the rig up and the risk assessment of its use.
Video Instructions (pause video at 9min 11sec)	***"Operations have continued and now we can proceed with the next stage, what could go wrong?"*** In your groups discuss the following for the next 5-10min. The facilitator will then ask for high level feedback from each group. 1. How do you ensure that a change is recognised and any potential additional risks are managed? 2. What barriers do you have in place to continue the operations? 3. How can Human Factors influence our perception of risk? How do you recognise and "manage" these?
Discussion	There have been multiple changes to the plan, but none of it documented. Get the groups to discuss the tools and controls in place to manage change. Look at the bow tie (if used), how have the barriers changed? Focus on the proposed rig up with the shooting nipple. The key point is that the shooting nipple is not compliant, no pipe rams can be closed to secure it and it straddles the blind shear rams. What risks have the team not identified and how would the audience manage this? Try to get them to think of the mindset of the team, the well was challenging but they had a solution and considered it safe. What human factors could have contributed to the team's mindset? Focus on the 5 elements of Human Factors, Situational Awareness, Leadership, Communications, Decision Making and teamwork. Who can ask about management of change and who is responsible for managing change when it happens? What are the intended barriers and who is responsible for them? When, or where, in our operations do we talk about our barriers and who is responsible?

PAUSE POINT 3: Discussion links to all the key learning points.

Preface	Reflections on the incident, what do the audience think happened? Ensure there is discussion around the Emergency Response and what happened to the individual. Drills are held at all locations, or are they? How effective are they?
Video Instructions (Pause video at 13min 01sec)	*"Gas been released at the rotary, but the well has been secured on the BSR's."* In your groups discuss the following for next 5-10min. The facilitator will then ask for high level feedback from each group. 1. What could have caused the gas release i.e. what's the potential source? 2. How, in your operations, do you ensure you have the correct barriers in place for each stage of your operations? 3. How do you practice for a real emergency and do you ensure all personnel understand their roles in an emergency?
Discussion	The incident has occurred now, but can the audience identify what the source is? The intent here is to get the audience to see that the team made the best endeavors to progress operations, but some fundamental gaps were present in how they proceeded. Can we honestly say we haven't been involved in similar incidents in our careers? What do we need to put in place to ensure risks are properly controlled during changing operations? Luck played a part, had the shooting nipple not be partially ejected the blind shear rams might not have secured the well. Think beyond the mistake in the rig up, where have we progressed with operations and not fully appreciated the outcomes of our decisions? • You wouldn't have thought a pocket of trapped gas could have been so dramatic & last so long! • Any new staff on our location? Do they really know the escape routes & muster points? • Note that the Driller's attempt to close the BOP failed… Equipment does fail & people do make mistakes!

SUMMARY	
Instructions	Pause the video on the learning slide (12min 30sec). Ask the audience to take these questions away with them and use them in their own teams and discussions. These are intended to prompt reflection and allow teams to focus on areas they perhaps recognize as weaknesses in their own controls. Facilitator – Close the session with a summary of the key takeaways around: • Management of Change: – How does your team recognize change and consider the risks involved? – How do you consider cumulative risk in changes and deviations? – Does your Well Control Equipment meet the required standards and how do you verify? • Human Factors: – As humans, we all make mistakes… – How do you avoid or recognize confirmation bias and group thinking in your operations? – How do you consider human factors in well design, operations and barrier management? • Operational Control: – How do we communicate expectations to our on-site staff and confirm understanding? – How do we use and maintain barrier diagrams in our operations? – Do we involve all people on site in our emergency drills and does everyone really understand them? – How do we know when to stop? Ask the audience for some suggested actions they will take back to their teams to reflect on the incident.
Close	Wrap up session thanking all for their participation.