

# DOIRC

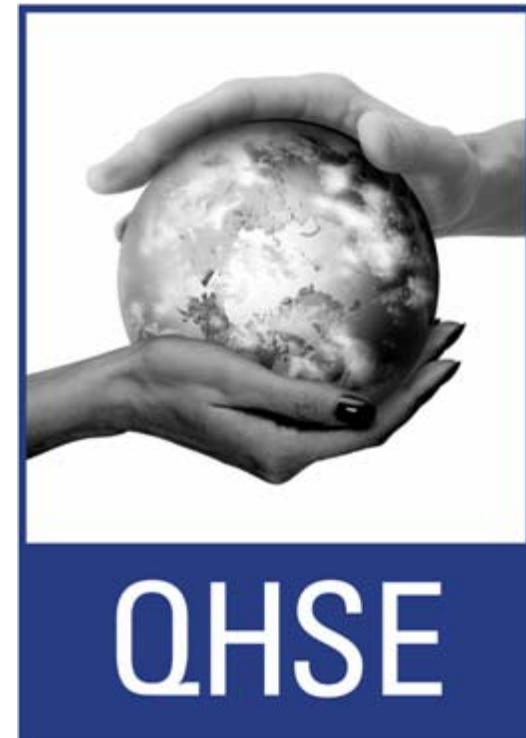
## Incident Investigation

### Restricted Work Incident

### Well Services - Cementing

July 7, 2007

Operating at RasGas NJP Rig



Presented by:

Sami Montasser

Well Services Manager –Schlumberger

**Schlumberger**

# Incident Description

## Operator's finger got between C-pump and bracket

After successful completion of the 13 5/8" casing (LiteCRETE) and while performing a routine maintenance on the CPS-361 located on NJP, the Electric driven C-pump close to the mixing tub required re-packing. While attempting to remove the C-pump the operator was pushing the pump from one side while the supervisor was supporting the weight of the C-pump using a rope from the other end (Due to restrictions around the area having the mixing tub from one side and the surge tank from the other side made it a bit difficult to position a chain block right on top of the pump). The operator started pushing the pump from its frame with his right hand while his left hand was placed on top of the supporting bracket. The pump swing and caught his left hand before it was released from its position and landed in the ground slowly. The operator middle finger was affected. The supervisor performed first aid and took the operator to the Rig medic. The medic inspected his injury and requested him to leave the rig and check his left hand in a hospital. The operator left the rig the same day at noon and was taken to Hamad Hospital where they performed X-ray and provided required medical treatment. The operator left the hospital the same day. The operator reported to work the following day.

# Task

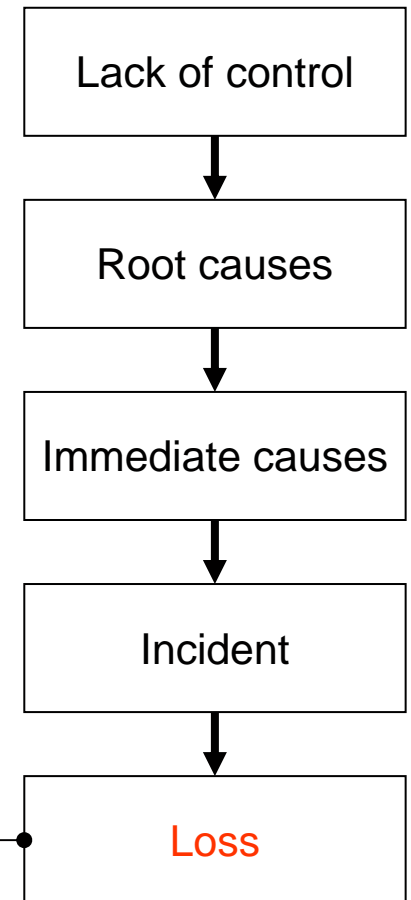
- To remove the Mixing Centrifugal pump
- Re-dress
- Install back in its position
- Test the pump



# Loss Causation Model

## The Loss:

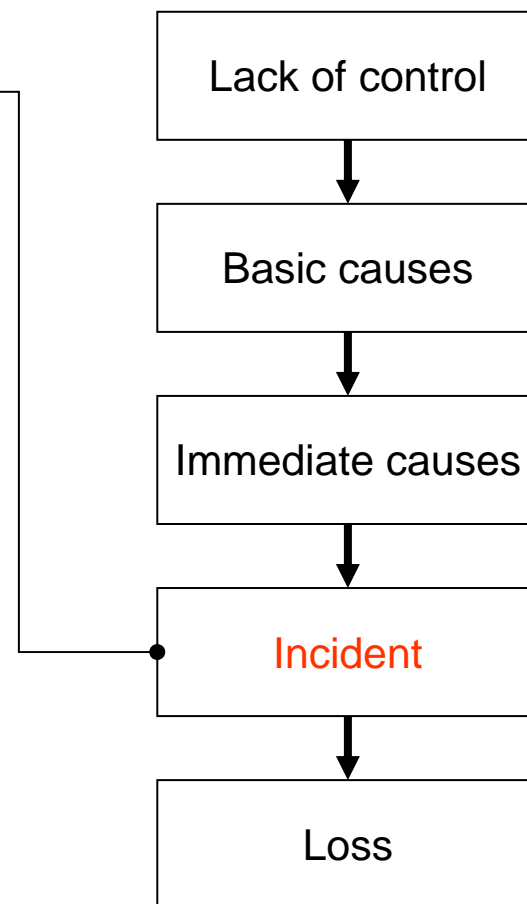
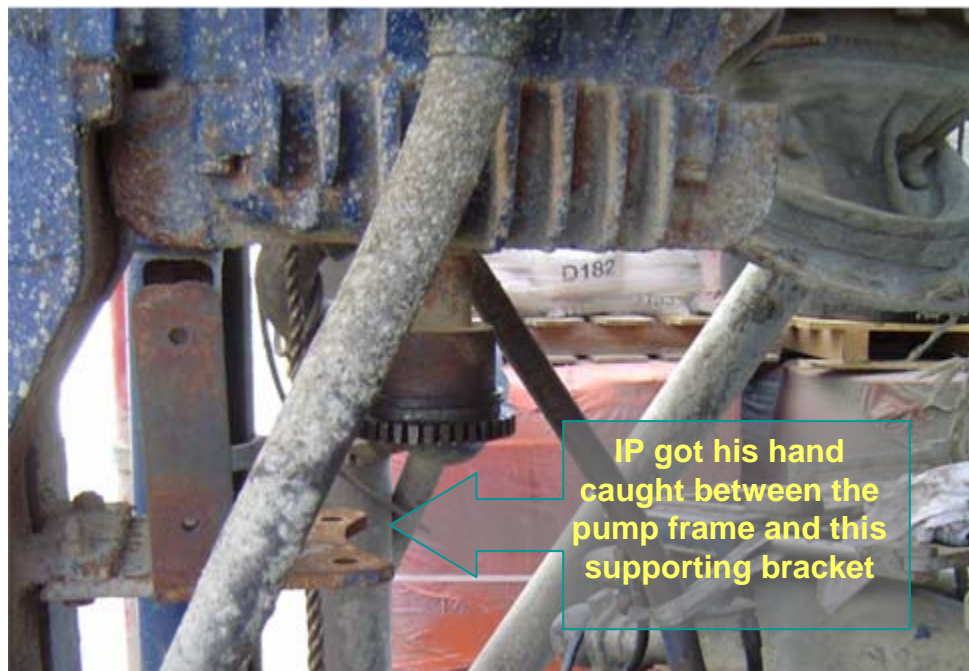
- Personnel Injury - cuts on index and middle fingers of left hand



# Loss Causation Model

## The Incident:

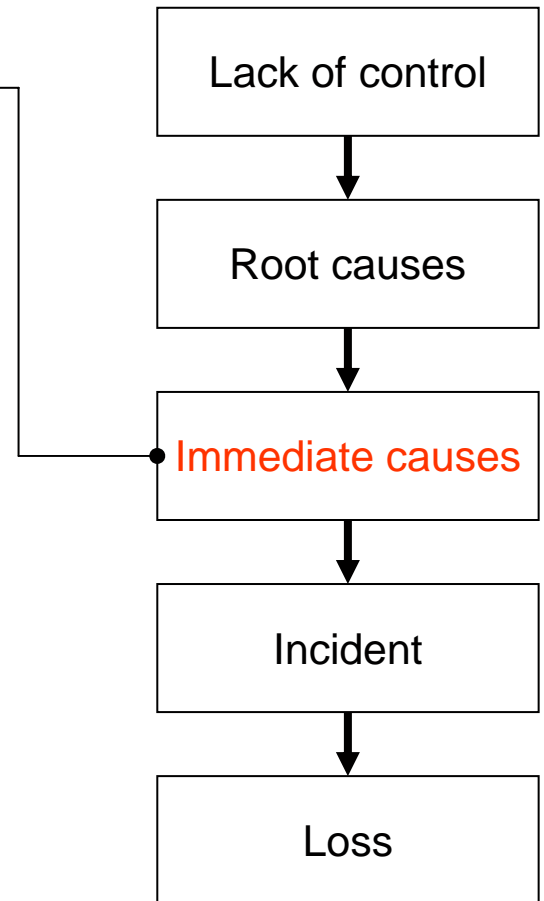
- Fingers caught between centrifugal pump assembly and pump frame



# Loss Causation Model

## Immediate Causes:

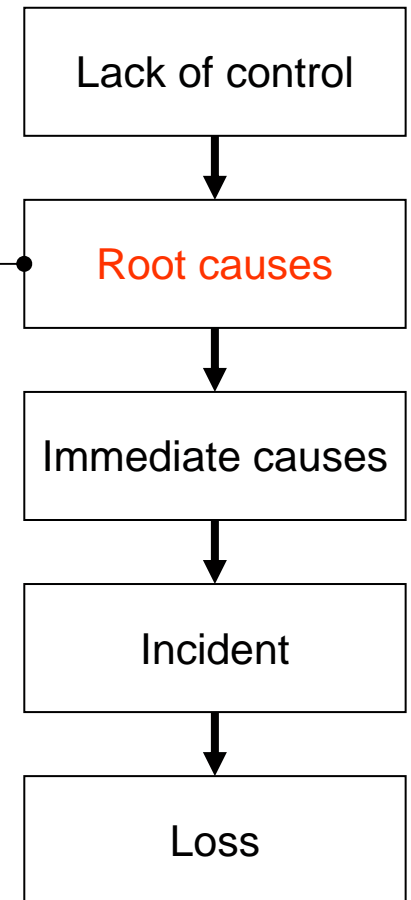
- Failure to warn/intervene
  - Low risk awareness level
- Improper lifting/handling
  - Not using mechanical aids
- Improper position for task
- Failure to identify hazards and risks
  - Pinch points and Lock out / Tag out
- Restricted action
- Inadequate work preparation/planning
  - No permit to work and JSA



# Loss Causation Model

## Root Causes:

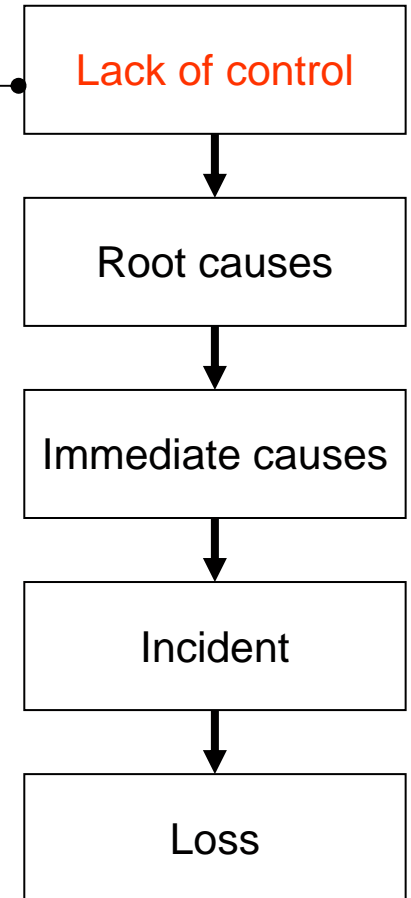
- Lack of knowledge
  - Lack of situational awareness
- Lack of skill
  - Infrequent performance
- Inadequate communication
  - Inadequate communication between peers
- Inadequate development of work instructions



# Loss Causation Model

## **Lack of Control:**

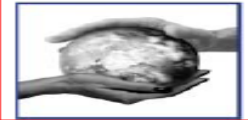
1. Commitment and Leadership
2. Training and competence
3. Risk Management Process
4. Processes



# Action Items

	Action Item	Who	When	Status
1.	Evacuate the IP and arrange to get him to Hamed Hospital	Syed Ubaidullah	07 July 2007	Done
2.	Perform assessment on all maintenance activities and develop HARC standards forms	Wa'el Tashkandi	30 July 2007	Done
3.	Confirm Commentary Task assessment is done to all Cementing personnel	Wa'el Tashkandi	30 July 2007	Done
4.	Circulate a HSE alert to all rig crews to review and highlight the importance of permit to work and JSA	Wa'el Tashkandi	30 July 2007	Done

# QHSE Alert



## Finger Injury

(QUEST Reference: 20070709154431)



Employee injured his finger from a pinch point

### Event description:

This incident took place while pulling out a centrifugal pump that is mounted in a very tight space on an off-shore cement pump unit (CPS-361). The electric driven centrifugal pump is connected vertically and very close to the tub in a very tight position to circulate the slurry around the mixing system, while attempting to remove the C-pump the operator was pushing the pump from one side while the supervisor was supporting the weight of the C-pump using a rope from the other end. The operator started pushing the pump from its frame with his right hand while his left hand was placed on top of the supporting bracket. The pump swung and caught his left hand before it was released from its position and landed in the ground slowly.

### Main Investigation Findings:

- **Lack of situational awareness:** Improper position for task (Improper hand placement).
- **Lack of skill:** Infrequent performance improper lifting and handling techniques.
- **Inadequate Communication:** Step Back 5X5 and HARC was not done.
- **Inadequate development of work instruction:** Work preparation and planning is not done properly, not PTW, JSA.

### Remedial Actions:

- Proper SIPP techniques must be implemented all times during job.
- All maintenance jobs must be followed with detailed JSA and HARC.
- Frequent rig audits must be done.
- All employees must go through commentary task assessments.
- Awareness for implementation of safety training for day to day work must be focused to avoid this kind of incidents in future.

ALERT No	Applicability						Prepared by	Approved by	Date	
	ALL	WS	WG	WCP	D&M	REW	RES	RMG	W. Tashkandi	