



Learning Event



SERVICING A WELL

HAZARD

Physical
(Pressurised system)

**Person in
Line of Fire**

CONSEQUENCES

Actual: Restricted workday case (RWDC)

Potential: This could have caused a fatality

WHAT ARE YOU DOING TO MANAGE LINE OF FIRE RISK WHEN WORKING ON POTENTIALLY PRESSURISED EQUIPMENT?

What Happened?

A worker was removing a 40mm plug from a riser to install a reducer and temperature probe during construction activities. The plug ejected under pressure, striking the worker in the forehead. The worker sustained skull fractures, internal bleeding and a laceration.



Why did it Happen?

The likely cause was unplanned introduction of pressure (~300 kPa) to a test section following a pneumatic service test conducted five days earlier.

Hazard Recognition: During development and update of the Job Hazard Analysis (JHA) the testing crew did not identify:

- Potential pressure hazard within the gathering network after service test.
- Potential Line of Fire hazard during setup for the test (including removing and inserting plugs) – and related controls.
- The Line of Fire hazard was identified for the test and the JHA called for 'test for dead'. The service tested equipment was 'tested for dead' – the test section was not.

Organisational Factors:

- Inconsistent methodologies across test crews led the task being executed differently between work groups.
- The Test Management Plan did not include any requirement to confirm no pressure within the testing equipment.
- Test Management Plan did not include the methodology to be used following the service test and prior to completing the pneumatic test.
- The Test Pack Methodology did not include the process that would be used for depressurisation after the service test, or if there was a break between the service test and following pressure test.

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What did they Learn?

The incident highlighted the importance of thorough, documented processes for high-risk activities, confirming adequacy and compliance with the process through a robust audit / inspection process.

Hazard Identification and Risk Assessment:

- Use tools such as Assist and Assure, JHA and other risk assessments daily to help identify hazards:
 - Line of Fire hazard not identified as a hazard during the risk assessment for this task.
 - starting work is not Step 1.
 - every line, every time
 - document on JHA or hazard cards.

Documented Testing Methodology:

- Testing processes must be documented to:
 - ensure consistency and reliability across all operations.
 - reduce reliance on individual worker knowledge and experience, ensuring standardisation and minimising the risk of errors.
- Test Management Plans should include:
 - a requirement to ensure venting of test system and test equipment (e.g. check for stored pressure) after leaving and then returning to site. (This requirement should also be included in the SWMS).
 - a vent in the actual test system or conduct the service test against a blind flange (not allowing stored pressure in the test system).
- The Project Risk register should include test hazards and controls.
- Updates to processes, test plans, test packs and SWMS should be communicated to all testers via training / toolbox to verify understanding.

Quality and Safety Assurance Inspections/Audits:

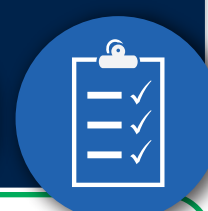
- Regular inspections and audits (at both project and corporate level) are essential to verify that document processes are:
 - accurate and comply with relevant standards/legislation.
 - being followed correctly.

The incident also highlighted the importance of ensuring emergency response preparedness:

- Emergency Response plans must be accurate and regularly reviewed.
- Workers must be trained and scenario-based drills should be conducted across all sites.
- Emergency equipment must be available.

IOGP Life-Saving Rules

- ✓ Understand and use safety critical equipment and procedures which apply to the task
- ✓ Identify all energy sources
- ✓ Check there is zero energy and test for residual or stored energy
- ✓ Be positioned to avoid pressure releases
- ✓ Confirm that hazards are controlled and it is safe to start



Ask yourself or your Crew:

Do you conduct pneumatic service testing? Do you understand and follow Test Management Plans and SWMS requirements? Do you vent the test system and test equipment (check for stored pressure) after leaving and then returning to the site? Do you have a vent in the test system or test against a blind flange?

Do you work on potentially pressurised systems? Do you always 'test for dead' prior to working on these systems? Does your JHA identify Line of Fire Risk and related controls?

Do your site Emergency Response Plans identify Line of Fire scenarios? Have you conducted drills at your site involving Line of Fire scenarios?

Further information:



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Safer Together
Assist & Assure



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Safer Together
Line of Fire
Mini-Portal



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