# LEARNING FROM INCIDENTS
# ACTION ALERT



This LFI is based on a Group Action Alert

## Retrieval of Corrosion Coupons from Pressurised Lines

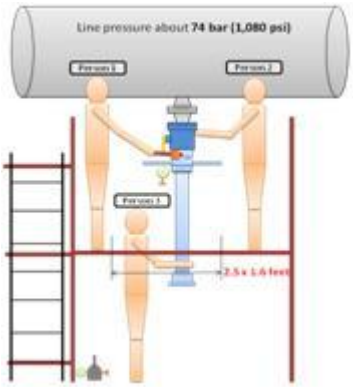
### Target audience for this alert

- Personnel responsible for and managing corrosion inspection work
- Maintenance and Inspection Managers
- Asset Managers

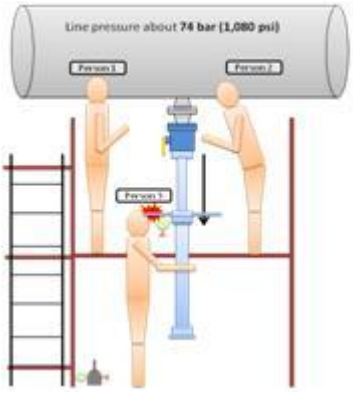
### What happened

On May 3rd 2012, in a non-Shell operated joint venture, a team was removing a corrosion monitoring instrument (corrosion coupon) installed at the bottom of a gas pipeline ("6 o'clock" position). At the time of this operation the line was pressurised and operating at 74 bar.

The corrosion coupon retrieval operation was nearing completion when a sudden unbalanced release of pressure resulted in an uncontrolled outward movement of the outer barrel (piston) with the rotation handles attached. Person 3 was hit on the helmet/head by one of handles and fatally injured.




**Picture 1:** Situation before the incident




**Picture 2:** Situation after the incident (sudden unbalanced release of pressure resulting in an uncontrolled outward movement of the outer barrel (piston))

### Why it happened

The investigation of this incident is not yet complete.

### Lessons learned

Insight gained to date: It is understood that for bottom-of-line applications ("6 o'clock"), the assembly can be vulnerable to fouling due to corrosion product settling in low points/ the bottom-of-line and can drop down into the corrosion coupon balancing path. This can lead to pressure imbalance within the retrieval tool resulting in an uncontrolled outward movement of the outer barrel (piston) upon disengagement of the coupon threads.

*For Information Only – Actions only apply to selected Shell Operated Facilities*

### Actions

While the incident investigation is ongoing, it is recommended that the following action be considered as precautionary measures:

1. Stop all corrosion coupon retrieval operations on pressurised lines. When the investigation of this incident is complete, a subsequent LFI Alert (expected end May) will communicate the learnings and advise if this type of work can recommence.

2. Prior to the start of work Contract Holders, with the support of Shell maintenance and inspection personnel, are to assess whether contractors who perform corrosion coupon retrieval operations on pressurised lines have a Competence Assurance process for their personnel and assure they are competent. This type of work is a specialist operation normally contracted out to Original Equipment Manufacturer (OEM) approved contractors with certified personnel.
   (Refer to Shell HSSE & SP Control Framework Contractor HSSE Management Manual (requirement 3.3))

## Further information

- GRP-AC-201203 Corrosion Coupon Retrieval Fatality
- Alfred Kruijer, Principal Mechanical Static Engineer, can be contacted for more information regarding the lessons learned and actions recommended.
- DSM LFI Coordinator