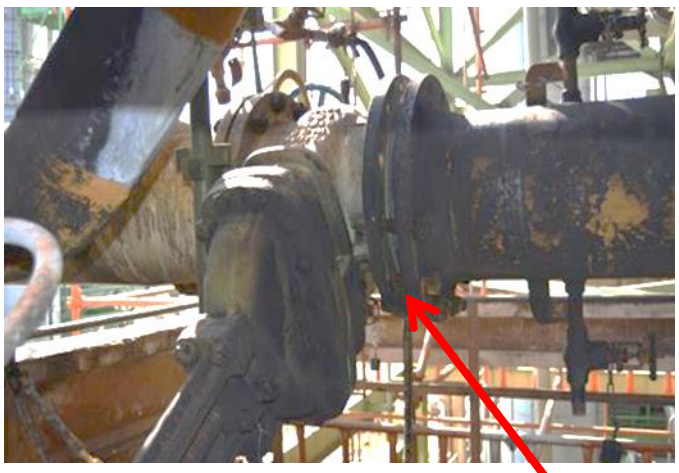
natref
(1967/012994/07)

# *FY17 – 04 Process Safety Incident -Significant*

**Description of the incident:**

At 03:55 on 14 October 2016, while attempting to swing closed the battery limit figure 8 on the non- acid flare header on Unit 20000, hydrocarbon product was released from the figure 8 flange which resulted in a pool fire on ground level and a secondary jet fire on the flare line flange. This subsequently resulted in three injuries: Natref Production standby (LWDC), Service Provider mechanical fitter (LWDC) due to burns and a Service Provider flange QC Inspector (FAC) due to smoke inhalation. There was also damage to the surrounding equipment and structure including electrical cabling, lighting and instrumentation.



Flange where product leaked while swinging the Fig 8

**Direct Causes:**

1. Release of hydrocarbons during the unbolting of the flange and removal of figure 8 on the non- acid flare header
2. Ignition from running generator below flare line on unit 20000
3. Fuel gas (flare purge) leaking through flare isolation valve causing a secondary jet fire at the figure 8 flange
4. Congestion of area allowing only one escape route

**Root Causes**

Management system failures:

1. Inadequate process monitoring and response
2. Inadequate Management of Change (MOC)
3. Inadequate T&I Management
4. Inadequate management of Service Providers in the T&I

Human factors:

1. Inadequate hazard recognition

**Learning and insights gained**

1. Late changes to plans must be adequately risk assessed. Same principle applies during execution of the plan.
2. Normal operation compared to T&I structures and roles and responsibilities has significant differences
3. Work in adjacent plants must be aligned and risk assessed together.
4. Any change to practices and processes must undergo a management of change process (MOC)
5. All work must be prioritised according to risk and mitigated accordingly e.g. working on flares
6. It is critical that all work, tasks and plans are clearly understood by all members of the team.

**Recommended actions (Among others)**

1. Revise unit and flare safe making procedure & train personnel
2. Review T&I structure and planning/control of work on adjacent areas during a T&I
3. Review Service Provider governance systems
4. Develop a systematic process for the managing of “downgraded” situations, i.e. risk analysis

***It is required that the above information is shared, discussed, understood and acted on by the relevant people in your organization.***

***Distributed on 13/10/2016***