

Blinding & De-Blinding Best Practices, Lessons from ADNOC Gas Processing

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Background

This presentation derived from my personal experience majorly at ADNOC Group and other producers I have been privileged to work for, the knowledge of others I interacted with and from a little research conducted.

Introduction

The hazardous chemical energy industry and particularly oil and gas sub-sector has many potential health and safety threats hence no one player can afford to have any sub-standard management system.

This underscores why there is an ongoing efforts by all the players to adopt the best practices in health and safety most especially.

In this industry, a small oversight and has many impacts

Introduction

Blinding and de-blinding formalities are some of the standard protocols observed by all players whenever a process plant, equipment or systems require to be taken out of service for major maintenance, repair or modification.

Purpose of Blinding & De-Blinding

Blinding and de-blinding is a part of positive mechanical isolations and the most important for that matter. Without the insertion of spade / blind even with a double block and bleed valve, mechanical isolation is not complete.

Purpose of Blinding & De-Blinding

Blinding is the insertion of a spade / blind in the line, or the removal of a spool when required, downstream of the isolation valve and closing the loop to physically isolate the potentially hazardous energy source.

Purpose of Blinding & De-Blinding

Blinding / de-blinding helps protect employees from unexpected release of hazardous energy in situations where workers are servicing, repairing, testing, adjusting, or inspecting pipe works, equipment or systems.

(sometime you de-blind to let process stream go into a draining system for systematic disposal.)

Purpose of Blinding & De-Blinding

Ensure the correct line or equipment is being opened

Minimize and can totally eliminate any environmental impacts due to the release of hazardous substances during initial opening.

Inevitability of Blinding/De-Blinding.....

- Plant / Equipment turnaround maintenance.
- Pump PM / change out
- Vessel / tank inspection
- Valve removal / replacement
- Spool removal / replacement

Hazards

Passing valve. Insertion of a spade / blind in the line, or when a spool is removed is usually downstream of the isolation valve.

Lack of supervision and human error leading to wrong equipment / line blinding and de-blinding.

Incompetence.

Poor planning leading to inadequate or incorrect material availability.

Best Practices & Mitigations

Preparation for Blinding

Complete the hazardous energy isolation form or blind list. Specify the equipment/line (mention the number) and activity for which the form is made, mark up the location on the isometric drawing for the line/equipment and attach to the form every step of the way.

Best Practices & Mitigations

Preparation for Blinding

Send this form or blind list, as some call it, for asset owner's approval. it is a good practice to first get a review done by the Process Control/Process Engineering Team before sending to the asset owner for approval.

Mention on this form, the blind size and rating against each blind.

Once signed off, any change will nullify the form or blind list and the process will have to be restarted.

Best Practices & Mitigations

Preparation for Blinding

Sort the blinds to be used and tag them. Some organisations have tags that can be used to identify blinds, serialize them and indicate the line/equipment number where it will be installed.

Best Practices & Mitigations

Preparation for Blinding

Complete the PTW/RA for pre-installation activities and the blinding/spading proper. This is where again we come in as Health & Safety Practitioners.

Best Practices & Mitigations

Preparation for Blinding

Before putting the blinds and spades, take the marked up piping and instrumentation drawing, approved HEI form or blind list and blind point tags in the company of the one who operates the equipment/line and physically tag off the spots where blinds or spades will be inserted.

On these tags, mention your name as the installer, P&ID number, equipment/line number, date, activity necessitating all these processes.

Blinding

Get a confirmation from equipment operator and verify by yourself that equipment/line has been shut off and there is zero energy before work begins.

This is where the competence of the blind and spade installer is tested. There are so many methods of cross checking that equipment is safe to work on and it varies from one equipment to another.

Blinding

Blinding or spading can then begin one at a time and for each one completed replace the blind point tag placed earlier with Blinded or spaded tag.

Different companies use different colour to distinguish them but largely the information contained are the same except for the heading.

One says blind/spade point tag and the other says Blinded/spaded tag.

Blinding

Once this is completed, the technician installing the blinds or the spades notifies the equipment operator and in some cases the Process Control Engineer.

They will visit the locations where blinds and spades have been installed carrying with them the P&ID and verify that the blinds and spades have been installed as indicated.

Blinding

The equipment operator and the process control engineer sign off the hazardous energy form or blind list and keep with the person who supervises the equipment operator for validation and safe keeping.

The person who supervises the equipment operator could be a shift supervisor or shift controller. Different companies use different job titles for this position but he finally authorizes the blinding.

De-blinding

Upon completion of the activity and the associated permits closed, de-blinding permit request will then be submitted by the person who will remove the blinds or spades.

Blinds and spades will be removed sequentially, closing it out on the same hazardous energy isolation form or blind list.

Blinding & De-blinding Integrity Assurance System

A process of independent verification by another body or team of persons not part of the Equipment Operating Team, not part of the Process Control Team or the Blind Installation & Removal Team

Simply another layer of control through the 'cold eye' review/lens of an outsider.

I have been in the position many times.

Blinding & De-blinding Integrity Assurance System

We, as Health and Safety Practitioner, often have been saddled with the role and that underscores why we need to take active interest in the processes and procedures driving our organisation's fiscal objectives so that the value we bring can be felt across the value chain.

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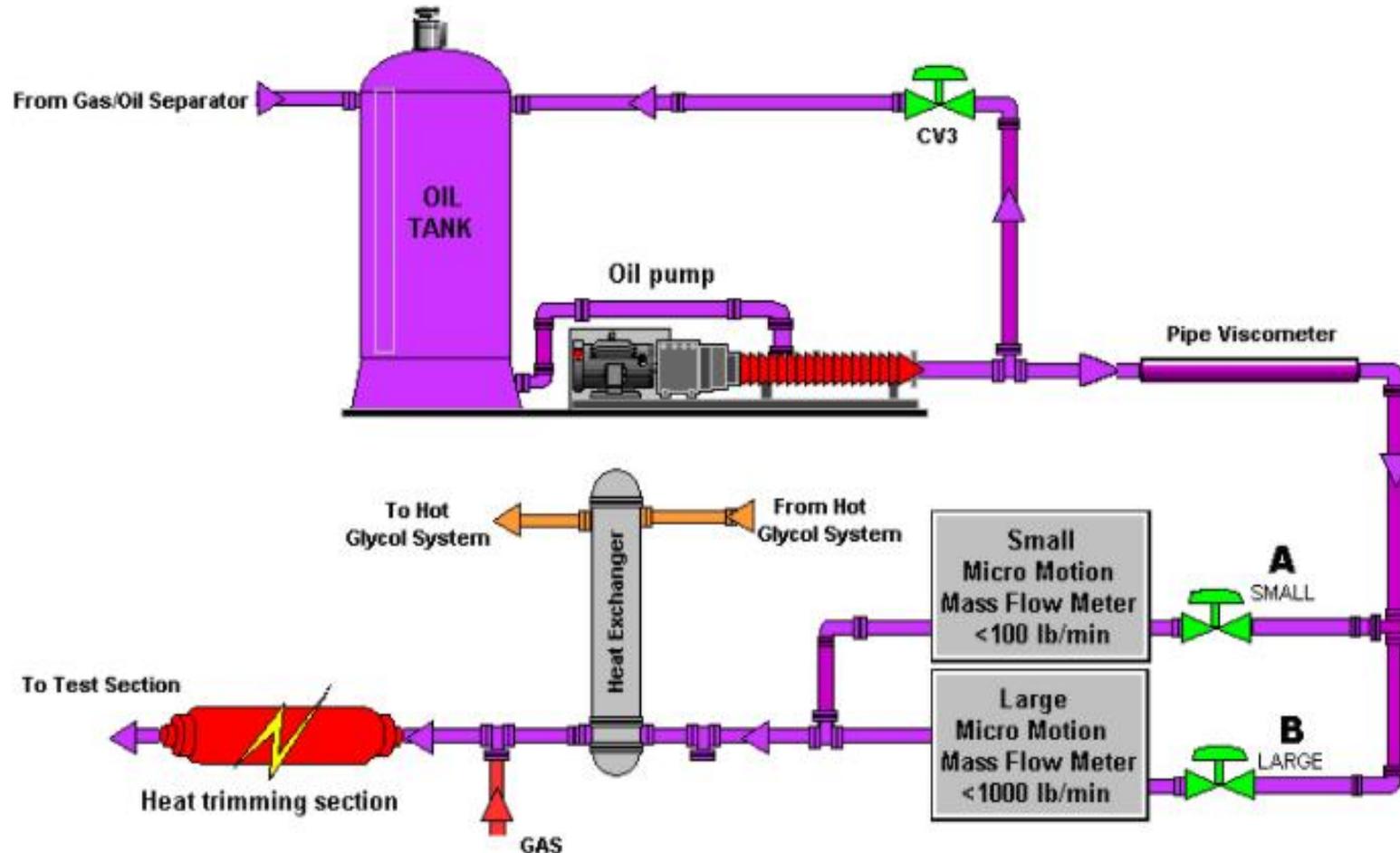
Common Mistakes or Failures & the Outcome.

Lack of supervision

This group was assigned to blind a spool for replacement. The supervisor instructed the technician to sort the blinds, gaskets and tools to be taken to the location of work while he completes the permit processes. Before the supervisor arrived the technician had started loosening flange joints to install blinds. In between, the gasket he brought did not fit into the flange and left to get the right gasket to support the blind. On arrival he saw huge oil spillage has occurred.

Common Mistakes or Failures & the Outcome.

Incompetence/Inexperience



Thank you
