

High potential incident – Foot trapped under ram cylinder

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A person almost had his foot crushed by a ram cylinder on a pipeline coating machine.

What happened?

The incident occurred at a spoolbase, during the application of pipe joint coating, using an Injection Moulded Polypropylene (IMPS) unit. This task is conducted by two persons, the IMPS operator, assisted by a helper – the injured person. This person stepped up onto the IMPS unit platform, and his foot became trapped underneath the lowering ram cylinder. He called STOP to the operator who raised the unit to release the trapped foot. The injured person received first aid, but no further treatment was required.



What went wrong?

- Safety by design:
 - The process is semi-automated, but at the end it requires the helper to step up on to the IMPS platform to access the pipe: the design of the IMPS system is such that it allows access to a hazardous area without adequate controls being in place.
 - There was no physical guarding in place to prevent foot placement under cylinder ram.
- Instructions, procedures and risk assessments were not adequate:
 - The hazard of moving equipment (the lowering of the moulding unit) was not identified in the operating procedures.
 - There was no instruction in the operating procedures regarding access to the IMPS during the operation.
 - While generic risks were covered in the relevant Task Risk Assessments, access issues and pinch points had not been considered.

IOGP Life Saving Rules:

 Energy isolation

 Line of fire

Lessons to learn

This incident highlights the risk of potential entrapment with moving equipment.

- Identify any moving equipment components that pose a risk of entrapment at your worksite and apply suitable controls e.g., guarding, access restrictions or automatic cut-off.
- Ensure personnel are suitably trained and fully familiarised with the safe operation of the equipment before use. This includes a review of safe operating procedures and risk assessments.
- Have a focus on risk perception and consider regular “cold eyes” reviews of work tasks and equipment use.

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