CHIEF DIRECTORATE OCCUPATIONAL HEALTH AND SAFETY

DIRECTORATE: ELECTRICAL AND MECHANICAL ENGINEERING

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Introduction

- 3 incidents/cases investigated
  - Cable car
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  - Illegal connections

Case Study 1
Cable car

Case study 1 Background

- Driven Machinery Regulations 17
- Transportation plants must comply with a safety standard
- SANS 10148 Code of Practice-The installation and operation of cable cranes and aerial ropeway
- User must be authorised by an inspector
- Requirements for registration
  - set of design calculations
  - certificate issued by a professional
- Case study on Hartebeespoort cable Car,
  - Date:5 December 2005,Hartebeespoort, NW
  - Number of person injured-one

Case study 1 Description

- Two gondola carrying one person each travelled to the bottom station
- The third gondola was travelling to the top station
- As it approached the top station travelling-swung by strong wind and hit tower
- on its landing at top station it bumped the guide rails and the cable
- Wheels on the C clamp missed the rail
- The car fell down with side of the door on the floor
- The main cable also came off the two towers
- The plant stopped running

Case Study 1
Causes

- Strong wind swung the gondola and resulted in the gondola landing unsafely at the top station.
- Air monitoring devices on the plant were not adequate
- Competence of the operator at top station was not appropriate
- The competent person on site could not perform proper monitoring

Case Study 1 Results

- Prosecution was recommended
  - Section 9(1) read with GMR 4(1) in that the operator was not adequately trained on what to do in case of emergency in that the operator was not monitoring the line and also failed to stop the plant.
  - Operator was not aware of dangers attached and was not conversant with precautionary measures to be taken

Case Study 1
Outcome of the DPP

- Case was heard at Brits Magistrate Court
  - Owner did not appear
- Owner paid admission of guilt

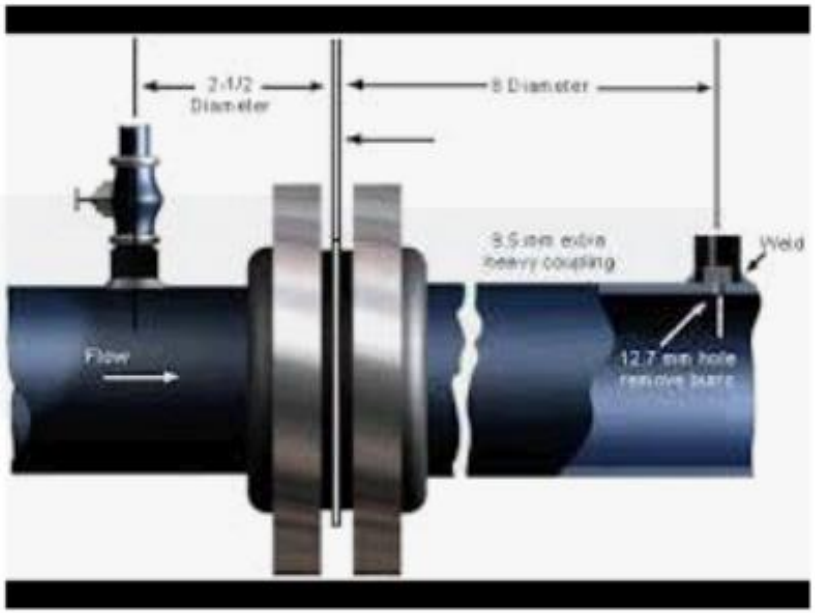
Case Study 1
Impact of the incident

- Owner sold the business
- Transportation plant upgraded to Canadian standard
- New installation approved by DEL

Case Study 2

Gas explosion

Orifice plate - Measuring of quantity of the medium that flow in the pipe line



Case Study 2
Gas explosion

Case Study 2
Gas explosion

- A sub-contractor was instructed to replace a orifice plate on a main gas line during a shutdown.
- Whilst un-bolting the flange, the gas in the pipeline started to escape.
- This was followed by a huge explosion that resulted in 10 fatalities and 64 injured persons.

Case Study 2 Investigation

- The investigation has started soon after the incident followed by a formal enquiry.
- The enquiry took 25 days over a period of 16 months.
- The health and safety management system, the shutdown procedures and the permit system were thoroughly investigated.

Case Study 2
Cause of incident

- The sub-contractor was allowed to replace the orifice plate without following proper procedures.
- No work permit was given to him, but has been given instruction to continue with the replacement of the orifice plate.
- Although this orifice plate was in the shutdown area, this pipe line could not be isolated for this shutdown. The pipeline was a T-off from the main pipeline without a valve. between the orifice plate and T-off.

Case Study 2 Outcome

- The person who initiated the replacement of the orifice plate and who instructed the sub-contractor to replace the orifice plate admitted guilt on ten charges of culpable homicide through a plea bargaining.
- Part of the plea bargaining was that he agreed to pay R200 000 to the families.

Case study 3
Illegal connections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Case Study 3
illegal connections

- Illegal connections and steeling of copper are a common occurrence.
- In most of the cases, the illegal connections are done in a unsafe manner that expose the public to dangerous situation.
- Where copper is stolen, the substations and miniature substation are left open with live exposed conductors.

Case Study 3
Illegal connections

- Various areas around Gauteng have been shutdown by issuing a prohibition notice on the electrical suppliers in terms of the Occupational Health and Safety Act.
- In some cases, it has lead to unrest and protesting where main roads were closed.
- Exposing innocent people to these illegal connections will not be tolerate.

Case Study 3
Copper theft

- Copper theft has also cause many incidents where the culprits and innocent people have been electrocuted.
- In some cases, when the power lines are cut, it causes the remaining lines hanging low that expose people and animals to these live conductors.

Case Study 3 Outcomes

- Last year in September, a person was found guilty for stealing overhead power line infrastructure who was sentence to 28 years impressment.
- Last week, another person was found guilty for stealing overhead power lines from the railway tracks.

Case Study 3
Actions

- The Department will continue, through its Regional Electrical Safety Forums, to stop these illegal activities by working with the electrical suppliers and South African Police Services.
- These power failures also cause lost of working hours where offices and factories are without electricity.

Thank you