

# Hazemag crusher incident

## WHAT HAPPENED

## Hazemag crusher at Clee Hill Quarry in the Central Region.

On the 17th June 2005, two employees were tasked to change the blow bars of the Hazemag impact crusher – the tertiary crushing operation at the Clee Hill Quarry site. The blow bars are positioned on four arms of a rotor shaft located at 90° to each other. There are two blow bars per arm, each weighing over 100 kg when new. To safely remove the blow bars, a locking pin is inserted into the rotor flange through the crusher casing, and this secures the rotor from movement. Employees can then remove blow bars safely, normally swapping them “old for new” before turning the shaft. On this occasion all blow bars were being removed so the shaft could be inspected. When the first set of bars were removed it was necessary to move the now out-of-balance rotor shaft, to its next position. This is normally undertaken manually by the operatives undertaking the task. As the rotor was moved over to its next position the weight of the out-of-balance rotor created an inertia effect, resulting in one of the employees trapping his finger between the rotor arm and the crusher casing. This resulted in the employee’s middle finger being badly lacerated, requiring several stitches at the local hospital.



This picture shows nip point where the employees finger became trapped against the casing of the crusher and the rotor arm

## LEARNING POINTS / ACTIONS TAKEN

This incident highlights several failings:

1. A risk assessment and safe working procedure was not produced.
2. Operator inexperience may have contributed to the incident.
3. Blow Bars had been changed 4 times in 6 days and this may have lead to less attention to detail.
4. The Hazemag maintenance booklet was not adequate to be considered a safe working procedure.
5. A hazardous nip point on the machine was not recognised.

Learning Points.

- 1) A risk assessment is required for all hazardous activities.
- 2) Employee experience of the task must be considered in risk assessments.
- 3) A safe working procedure for this operation is required to control the inertia of the machine.

## Actions Taken.

1. A panel of inquiry has been held to determine the factors in this incident.
  2. Alternate safe methods of replacing blow bars are being investigated.
  3. A risk assessment and safe working practice has been developed.
  4. Discussions are being held with Hazemag over the suitability of an indexing device to control the rotor movement.
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