

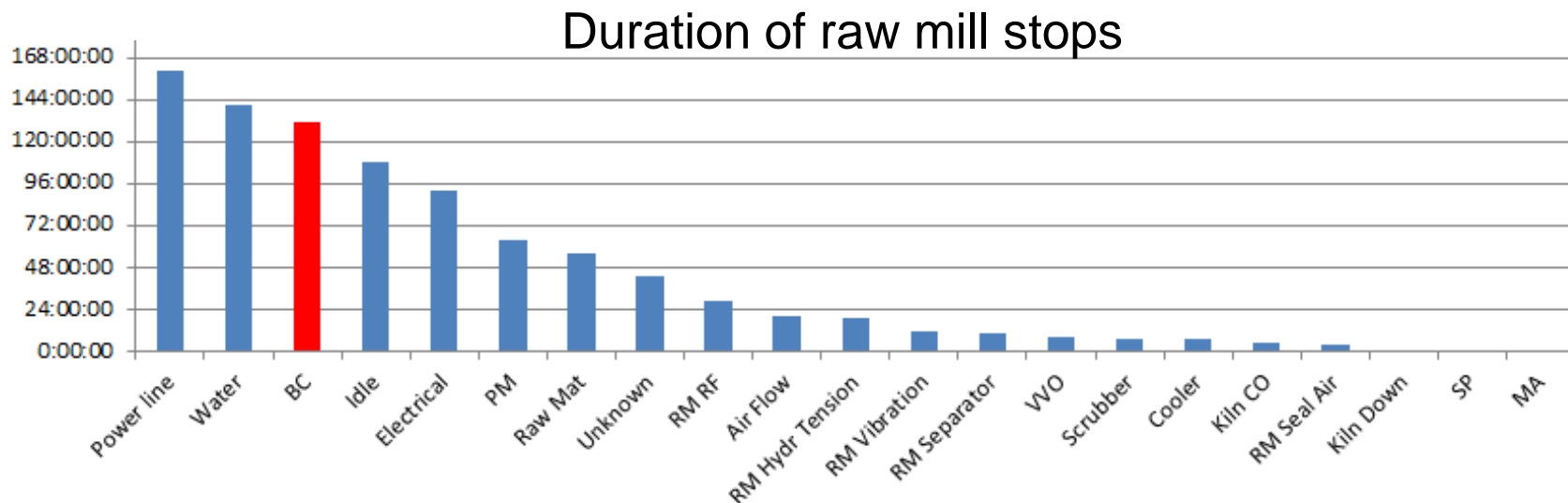
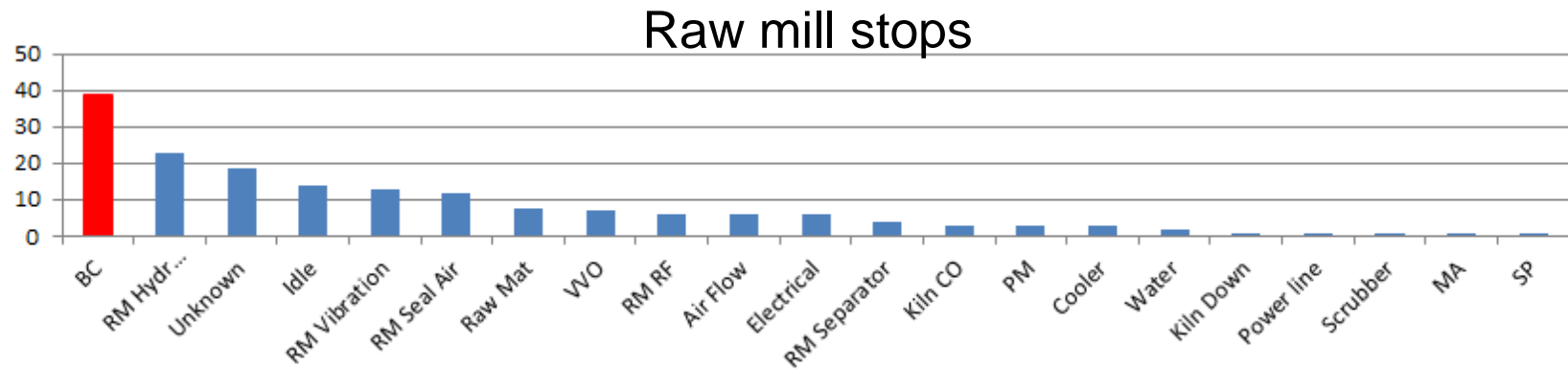
Downtime of main equipment due to due to auxiliary equipment

Robert Kuenzi Consulting
Sonnhaldenstrasse 2
6373 Ennetbuergen, Switzerland

Tel: +41 56 508 54 19
Email: robert.kuenzi@gmail.com
Website: www.rohne.ch

Are **transport systems** your challenge for steady operation of main equipment?

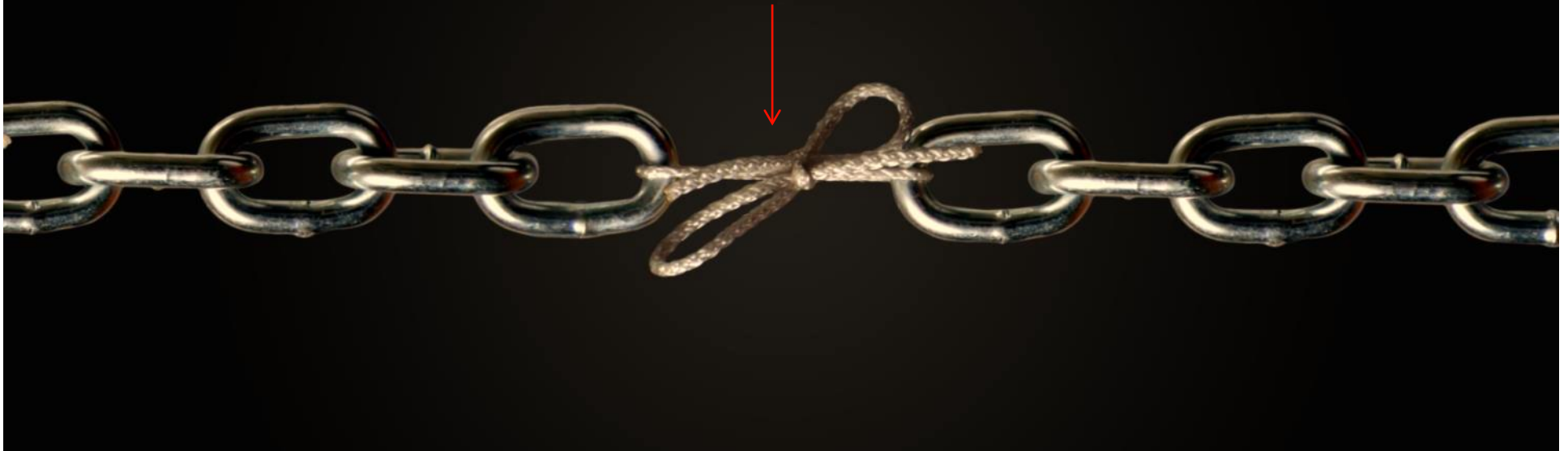
- Example of a raw mill driven by the reliability of auxiliary belt conveyors:



Consequences

- Production losses of main equipment (\$\$\$).
- Potential risk of stoppages or reduced capacity (\$\$\$) of the overall production facility (e.g. kiln stoppages).

Weakest element in the production chain



Basics: Downtime of main equipment

- A **Pareto analysis** will help to track frequency & downtime of main equipment as well as nature of problem with equipment.
 - ▶ The weakest elements should be targeted.
- Any main equipment should not be driven by auxiliary transport and dedusting equipment such as e.g. belt, apron, chain, screw conveyor, bucket elevator, pneumatic transport systems, bag filters etc.



Are such transport system reliable?

What do we offer?

Our competencies to strengthen main equipment

- Identification of root cause for weak material handling (& dedusting) equipment

Summary: Main identified weaknesses

- High metal contamination in the mill system, causing:
 - Short term issues (as already observed)
 - Long term issues (about to be explored).
- Design (and minor maintenance) deficiencies causing unexpected break downs, excess spillage and high cleaning costs.
- Design deficiencies which will cause (severe) material handling restrictions during wet & cold season.
- There are also some opportunities to increase lifetime of equipment with minor modifications which are included in the overall proposed solutions.

Part 1.1


Part 1.2

©Robert Kuenzi

4

- **Technical due diligence on site** with simple & hands-on visual reports with action list generation for follow-up and ease of tracking.

236 BC01: Feeding from BC4



- Problem
 - Unnecessary wear (and therewith spillage) at 236-BC4 feeding.
- Root cause
 - Design optimisations possible (for a dry material).
- Recommendation
 - Modify chute into a step chute design (horizontal step size ~180 mm)

©Robert Kuenzi

30