Problem Statement Worksheet (Hypothesis Formation)

How can Monalco Mining streamline the maintenance expenditure by reducing the ore crusher maintenance cost by 20% over the year, in response to worsening market conditions?

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1 Context

Monalco Mining has invested heavily in operating technologies such as ore-crashers in order to meet the worldly increasing demands for iron ore. As a result, the cost of maintenance to maximize production of iron ore is very high. However, the prices for iron ore have now shifted downwards sharply from $100/ton to $55/ton. In order to limit the impact on the business profitability, Monalco Mining needs to reduce the ore-crusher maintenance cost by 20% over the year

2 Criteria for success

Cutting the maintenance cost for ore-crushers down by 20% over the year.

3 Scope of solution space

Do ore-crusher maintenance every three year instead of one year as long as it does not violate the recommended OEM limit of one maintenance event at every 50,000 tons of iron ore processed.

4 Constraints within solution space

Resistance from the reliability engineering team
Cannot cut more than the recommended OEM limit of one maintenance event at every 50,000 tons of iron ore processed.

5 Stakeholders to provide key insight

CEO – Decision Maker
Chanel Adams – Reliability Engineer
Jonas Richards – Asset Integrity Manager
Bruce Banner – Maintenance SME
Jane Steere – Principal Maitenance
Fargo Williams –Change Manager
Tara Starr – Maintenance SME

6 Key data sources

Data Historian - contains information on many tons of Iron Ore has been processed with the ore crusher
Ellips - contains information on the old working orders for our equipment before our upgrade to SAP
SAP – the most up-to-date information source on the equipment logs and work order requests for or crusher maintenance work and other piece of equipment.

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