

PRACTICAL GUIDE · MINING LOGISTICS

# How to manage a spare parts stock on a remote mine site in Guinea?

On a mine site far from Conakry, a missing part can keep a drill rig or a haul truck idle much longer than in town: it has to be ordered, shipped, cleared through customs and then trucked to site. Conversely, an oversized stock ties up money and deteriorates. Here is a simple method to find the balance.

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## 01 The method in brief

To manage a parts stock on a remote mine site, first classify each part according to the effect of its absence on production, then set for each part number a minimum stock (the threshold that triggers an order) and a maximum stock (the ceiling not to exceed), calculated from actual consumption and the actual supply lead time to the site. Then track every issue, store parts properly and secure your suppliers with framework agreements.

The principle is simple; the difficulty is keeping the data up to date. A well-managed stock relies on a clean parts list, a reliable history and one person in charge.

A clean parts list means a single record per part, with the manufacturer's part number, the description, the machines it fits and, where relevant, the accepted equivalent part numbers. Duplicates (the same part recorded under two names) distort quantities and trigger needless orders. Cleaning the list is often the first task, even before setting thresholds.

## 02 Classifying parts by criticality

Not all parts are equally important. Criticality measures the consequences of a stock-out: production stoppage, a single machine down, or a mere inconvenience.

- Critical parts: their absence stops a key machine or a production line, and they cannot be bought locally. Examples: transmission components, cylinders, hydraulic pumps, certain drill parts.
- Important parts: their absence stops a machine but a temporary solution exists (standby machine, temporary repair).
- Consumables and wear parts: filters, oils, bucket teeth, hoses, drill bits. Regular, predictable consumption.
- Common parts: available locally or quickly, with no direct effect on production.

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Cross criticality with price and supply lead time: a critical, expensive part that takes long to obtain often justifies a safety stock on site, even if it is rarely used.

## 03 Setting a minimum and a maximum per part number

Min/max logic is the most widely used on remote sites because it is easy to apply. The minimum is what you need in stock to last through the whole replenishment lead time, plus a safety margin. When the stock reaches this threshold, you order. The maximum sets the quantity above which you stop ordering, to avoid tying up too much capital.

- The longer the supply lead time to the site, the higher the minimum must be.
- The more irregular the consumption, the wider the safety margin must be.
- For a critical part that is rarely used, think in safety units rather than average consumption.
- Review the thresholds regularly, and whenever the fleet or the operating pace changes.

## 04 Relying on consumption history

Thresholds are only as good as the data behind them. Record every stock issue with the part number, quantity, date, machine concerned (fleet number) and reason: planned maintenance, breakdown, wear. This history shows parts used more than expected, machines consuming abnormally and dormant part numbers that can be reduced.

Also match the stock against the machines' maintenance plan: the services scheduled by the manufacturer announce in advance part of the need for filters, oils and kits. A grouped order before a round of services avoids emergencies.

## 05 Storing parts properly on site

In Guinea, heat, humidity, the rainy season and dust damage parts that are poorly stored. A corroded critical part or a dried-out seal is worthless on the day you need it.

- Covered, ventilated, dry store, with shelving and identified locations.
- Sensitive parts (seals, hoses, electronic components, bearings) in their original packaging, away from heat and light.
- Oils and greases in a dedicated area, on spill containment, in line with site safety rules.
- Stock rotation: the oldest parts go out first, and expiry dates are tracked.
- Controlled access and a signed issue slip for every withdrawal.

Run cycle counts: each week, count part of the part numbers, starting with the critical and most expensive parts, rather than a full stocktake once a year. Gaps between counted and recorded stock are spotted earlier and are easier to explain.

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## 06 Reducing lead-time risk and organising replenishment

The supply lead time to a remote site adds up several stages: availability at the supplier, international transport, customs clearance in Conakry, then road transport to the site. Each stage can slip. The transport mode is chosen according to criticality: air freight for a part that stops production, consolidated sea freight for planned replenishment.

1. The storekeeper reports the part numbers below the minimum, at regular intervals.
2. The maintenance manager validates the quantities and confirms the OEM part numbers.
3. Purchasing consults suppliers or orders under an existing agreement.
4. The order is tracked until receipt on site, with a check of quantities and part numbers.
5. Stock and history are updated on receipt.

Framework agreements with one or more suppliers set in advance a list of part numbers, price and delivery terms over a period. They avoid launching a new tender for each order and secure critical parts.

## 07 What we do for you

TransXpress buys your parts from suppliers, consolidates orders, ships them by sea or air, clears them through customs in Conakry and delivers them to your site, with a single point of contact. Customs and port charges are re-invoiced to you at actual cost, with their receipts. Send us your list of part numbers, with the machine models, the quantities and the delivery location.

## ? Frequently asked questions

**Which parts should be kept in stock on a mine site?**

First the critical parts that are hard to obtain, then consumables and wear parts with regular consumption. Common parts available quickly can be kept in small quantities.

**How do you calculate the minimum stock of a part?**

From consumption during the actual supply lead time to the site, plus a safety margin that reflects how irregular consumption is.

**Should parts be flown in?**

For a part that stops production, often yes. For planned replenishment, consolidated sea freight is generally more economical.

General information guide written by TransXpress. Customs rules and procedures change: every file is checked against the documents and the regulations in force. This guide is neither a quotation nor a commitment.

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