Spares identification and optimisation

The spares you stock can be a crucial issue.

Spares can be a serious issue for companies: from stocking parts for equipment that never fails (an unnecessary cost), to failing to stock the right part when key equipment fails (resulting in vast financial and reputation losses). Neither extreme is a good option and there are a host of other factors which influence the correct approach to spares management:

- If the right spare isn’t available when it’s needed, plant downtime increases
- If operators don’t know what level of stock they should carry, they are wasting money through having too much of it in stock
- The need to justify stocking expensive ‘critical’ spares
- Manufacturers’ recommended spares lists are often excessive

What we offer
ABB can help with spares issues. We have developed two processes to address a number of them for our clients:

Spares list generation
In this process we use our vast experience with equipment to compare manufacturers’ recommended spares lists with our established equipment parts templates. By doing this, we identify an accurate and realistic bill of materials for each piece of equipment.

Critical spares optimisation
Here, we use a risk-based approach to decide whether expensive strategic spares need to be stocked. Our own in-house software identifies the required spares holding for strategic spares. This provides the client with quantified cost justification for spares, providing answers for those difficult ‘stock or no stock?’ decisions.

Our approach fully considers the reliability of equipment, repair time, spares lead time and the costs of outages.
Our spares identification and optimisation service follows ABB's pRIME philosophy. pRIME (process Reliability and Integrity Management Excellence) is about the asset and integrity management improvement journey and involves:

- Recognising the symptoms,
- Diagnosing the issues
- Implementing improvement or treatment

The pRIME approach is a consultancy programme supported by tried, tested, consistent and coherent methodologies and capability.

These two processes will optimise spares holding.

**Benefits**

- Minimise plant downtime caused by lack of critical spares
- Knowing you're carrying the right spares
- Knowing that every one of them has been justified by an experienced expert using a quantified method
- Knowing that manufacturers aren't taking advantage of you
- Save money by not holding unnecessary spares

**Why ABB?**

ABB have a long track record of extensive technical knowledge in both process and manufacturing industries.

Our engineers have operational backgrounds and make pragmatic technical judgements based on their experience. It’s an approach that ensures cost-effective, practical-to-implement solutions which work.

Following pRIME results in a beneficial, cost-effective sustainable solution. All processes are risk-based, which ensure that effort is concentrated on areas that will give the highest return. This approach is supported by a coherent set of IT tools (pRIME Toolkit), which provides a consistent and efficient approach.

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**Spares Stock**

<table>
<thead>
<tr>
<th>Stores Code</th>
<th>Ordering Description</th>
<th>Unit Item or Set Cost</th>
<th>Average Store Level</th>
<th>Average Annual Failure of the Plant Item</th>
<th>Average Additional Outage Impact Time</th>
<th>Average Impact Cost of No Stock (calculated)</th>
<th>Historical Probability of being out of stock</th>
<th>Life Cost of holding spare part for this plant item</th>
<th>Life Cost of stock of no stock</th>
<th>Ratio</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1 - spare case</td>
<td>Complete Pump</td>
<td>2000</td>
<td>1</td>
<td>0.1</td>
<td>100</td>
<td>0.1</td>
<td>0.75</td>
<td>0.0</td>
<td>5197.45</td>
<td>2500</td>
<td>4.2</td>
</tr>
<tr>
<td>Case 2 - spare and store</td>
<td>Complete Pump</td>
<td>6000</td>
<td>1</td>
<td>0.2</td>
<td>1000</td>
<td>2</td>
<td>5000</td>
<td>0.2</td>
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