Maintenance material stockholding and the control of working capital

– towards a leaner approach

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In matters concerning the control of maintenance stores stock and its value, the maintenance manager often ends up as the meat in the sandwich between equipment users and company accountants. The plight of this hard-pressed individual may be further exacerbated when the administration of the maintenance parts store is not under direct maintenance department control.

Equipment users expect the highest service level response from their maintenance manager and, implicitly, the highest availability of maintenance spare parts. Taking a contrary view, company accountants justifiably pressurise the maintenance manager to limit the maintenance spare parts stockholding to minimise the amount of working capital on the balance sheet. Is this an irreconcilable dilemma? Not really.

The fact is that a great deal of working capital is often tied up in parts and materials that will never be used. By implementing a system to control this excess, the expectations of all parties can be satisfied. This paper tells how working capital can be contained, without detriment to service, by categorising and controlling stock according to the way it actually 'moves' – that is, according to its true ***demand***. A win-win outcome is then possible for all parties.

However, a word of caution! The remedy is crucially dependent on the maintenance department reforming its traditional 'magpie' ways. The tendency to hang on to anything and everything that could conceivably be of use at some distant future moment must be abandoned. What's needed is a new 'lean' mindset that embraces 'pull-based' provision of maintenance material.

The many types of stock materials

The following broad types of maintenance spares and materials can usually be found in the maintenance stores:

- Common disposable spare parts
- Original manufacturer's spare parts (with OEM warranties conditional on their use)
- Alternative supplier's spare parts (including acceptable 'pirate' spares)
- Disposable spare parts manufactured in-house or commissioned (make or buy decision)
- Refurbishable spare parts (repairable parts that can be reconditioned and returned to stores inventory)
- Critical spare parts unique to particular items of plant/equipment (many requiring periodic testing and/or preservation measures to ensure their functional performance is assured at the time of issue).
- Running supplies (plant consumables)
- Insurance spares (often called capital spares and usually demanded by the insurance company as a condition of their insurance policy)
- Engineering items (metal sections, pipe, tubulars, etc)
- Maintenance consumables (welding rods, drill bits, etc)
- General supply items (clothing, cleaning materials, etc)
- Tools and test equipment (subject to safety/integrity checks)
- Parts and materials purchased directly for capital and other projects
- Surplus materials, parts and equipment

A further class of parts and material that overarches many of the above categories is the group of items at special risk of pilferage - as a result of their realisable value or domestic usefulness.

Provision needs to be made for administering each of these different types of stock according to its characteristics. This requires that a management policy be developed and applied for each type. For proper administration and control of the stock, it also has to classified multi-dimensionally, according to the particular needs of the maintenance staff, accountants, stores personnel and equipment users. But this, and the wider issues of what and how much to stock, are beyond the scope of this white paper. This paper deals basically with one aspect of the multifaceted challenge of maintenance material management – stock movement in relation to the control of working capital.

Gaining control

In a nutshell, the overall stock management intent is to minimise the total number of stock lines, the quantity of each stock line held, both at maximum and minimum levels, and the total value of inventory – whilst at the same time satisfying the plant availability needs of the business. A challenging balancing act. In practice, it demands strict discipline and hard decisions to contain the proliferation of stock lines and the mounting value of working capital tied up in stock.

Maintenance stores stock should be managed in at least six financial categories to permit proper financial control:

1. Fast moving
2. Slow moving
3. Insurance
4. Projects
5. Surplus
6. Obsolete

Working capital targets should be set for the value of materials in Categories 1, 2, and 5 and, in the case of Category 6, the maximum value of the write-off to the profit and loss account in a single financial period.

Category 4 designates the materials purchased against a cost centre, that is, for projects and other particular undertakings. These materials are held in custody in the stores on behalf of others. They are therefore not counted in stores stock working capital.

(The assumption being that project material is held in the custody of the general maintenance store. This is not the case in many organisations).

Category 1 – Fast Moving

This comprises consumable operating materials and common spares randomly drawn from stock – demand over a period is approximately constant.

The optimum turnover ratio is, say, 3 (turnover time = 4 months)

Materials with a turnover ratio of 1 or less (12 months) are incompatible with this classification. At least twice a year, non-moving items should be listed by the computerised stock system and the items transferred to Category 5.

Category 2 – Slow moving

Items in this category are specific spare parts for machines and equipment identified by engineering analysis. The turnover ratio should not be less than say 0.5 (not more than 24 months). Materials with a turnover ratio of less than, say, 0.3 should be considered as potentially surplus to actual needs. Such items should be transferred to material Category 5 and the list passed to maintenance staff for comment. Materials may not be transferred back to Category 2 without a fully reasoned motivation by the maintenance manager and the approval of a more senior manager.

Category 3 - Insurance

These are high value spare parts provided as insurance against business interruption in the case of failure of critical items of equipment. Items in this category are often agreed with the insurance company’s risk assessors and stocked as a condition of the company’s insurance policy. When statutory financial rules allow, the very high value spares may be capitalised on the balance sheet and depreciated in the operating accounts. Because the spares in this category are provided for highly

unusual events they have a zero usage expectation. There is no automatic re-ordering of spares in this category.

Category 4 - Projects

This is material purchased against a cost centre and held in the stores for safekeeping. This material does not 'belong' to the stores and so is not part of stores stock working capital. Review once or twice a year to detect the material that has not been used despite its 'project' having been completed. When materials are identified and declared surplus, transfer them to category 5 or 6.

Category 5 - Surplus

Potentially useful surplus material for 'using up' within the organisation is allocated to this category. This stockpile of surplus material should be the first investigated source of supply for maintenance or projects before any outside purchase is initiated. The stock in this category should be reviewed periodically and total value controlled at a nominally decided amount. Obsolete material identified by engineering analysis should be reallocated to Category 6.

Category 6 - Obsolete

Material in this category is of no use to the organisation and is therefore needlessly taking up storage space. Material transferred to this category is automatically written off. Stock is held in the financial records at a nominal value of approximately zero. Material is usually reallocated from Category 5 but may also originate from other categories. This material is disposed of periodically to clear space for new arrivals – it is 'cleared out' at the best achievable price obtainable, if any.

Very little time and effort should be given to the clearing out of obsolete material. The storage and attention this material has received up until this point time has already consumed valuable company resources and any further resource consumption arising from its continuing retention and final disposal should be absolutely minimised. The material is notionally scrap and it is highly likely that any income received from its sale won't even cover the cost of its sale.

Writing off obsolete stock

Some accountants may be reluctant to write off obsolete stock. They should be reminded that the stock earmarked as 'Category 6 – Obsolete' is effectively valueless and that it is their professional and fiduciary duty to reflect this fact in the company accounts!

However, after a 'biltz' on the stores, as part of a 5S or other management drive, it is possible that enormous amounts of parts and materials end up as candidates for Category 6 - and way above any reasonable annual budget for write-offs. In order not to blow a hole in the profit and loss account, it may be necessary to write these off over a number of financial periods, hopefully according to an agreed plan. In the interim, they can be temporarily categorised as Category 5, so allowing them to 'retain their value' in the accounts.

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