Asset Management Services Unit

Guidelines for Backlog Maintenance
TABLE OF CONTENTS

1.0 BACKLOG MAINTENANCE - DEFINITION ............................................................ 3
  1.1 Backlog Maintenance exclusions........................................................................ 3
2.0 MAINTENANCE – DEFINITION ............................................................................ 3
  2.1 Maintenance exclusions................................................................................... 3
3.0 BACKLOG LIABILITY REVIEW............................................................................. 4
4.0 RESPONSIBILITY FOR BACKLOG MAINTENANCE FUNDING ......................... 4
5.0 BACKLOG MAINTENANCE FUNDING .................................................................. 4
  5.1 Backlog Maintenance Evaluation....................................................................... 4
6.0 IDENTIFICATION OF BACKLOG MAINTENANCE ITEMS................................. 4
7.0 BACKLOG MAINTENANCE RISK ....................................................................... 5
  7.1 Risk Calculation - Consequence + Likelihood = Risk........................................ 5
8.0 CMMS BACKLOG FUNCTIONALITY................................................................... 6
9.0 BACKLOG WORKFLOW DIAGRAM.................................................................. 7
1.0 Backlog Maintenance - Definition

Backlog or Deferred Maintenance is defined in Queensland Health as essential maintenance work that has not been carried out and is deemed necessary to bring the condition of a maintainable asset up to a standard or acceptable level of risk that will enable the required service delivery functions of the asset to continue.

1.1 Backlog Maintenance exclusions

- Planned or scheduled work that must and shall be undertaken to comply with the relevant statutory and legislative requirements
- Non-maintenance work eg. Minor capital acquisitions – (previously termed minor new works)

2.0 Maintenance – Definition

To fully comprehend backlog or deferred maintenance we must also have a sound understanding of the definition of Maintenance. Maintenance in the context of the Whole of Government (WOG) Maintenance Management Framework (MMF) is defined as all work on existing building assets that is undertaken:

- To prevent deterioration and failure
- To restore to correct operation within specified parameters
- To restore the physical condition to a specified standard
- To obtain accurate and objective knowledge of the physical and operating condition, including risk and financial impact for the purpose of maintenance eg. (an engineering report)
- The equivalent replacement of partial components of the asset eg. like for like

2.1 Maintenance exclusions

Work excluded from the definition of building maintenance includes:

- Improvements and upgrading of assets to meet new service capacity or function
- The refurbishment to a new condition to extend the capacity or useful life of an asset
- The capital replacement of major components to extend the capacity or useful life of the asset
- Upgrading the asset to meet new Statutory requirements
- Operational tasks to enable occupancy and use eg. cleaning, security & waste removal
- The new supply of utilities eg. energy, water & communications
- The construction of new assets
- Major asset reconstruction as a result of natural and other disasters.
3.0 Backlog liability review

Health Service Districts Backlog Maintenance Liability should be continually updated over time using the Consequence and Likelihood functionality in the Computerised Maintenance Management System (CMMS) to re-evaluate the associated risk. Any new or historical backlog items should also be entered into the (CMMS) to be considered for recurrent or one off funding should it become available. All backlog maintenance issues should be considered for inclusion into regular maintenance work programs as part of the ongoing maintenance planning process.

4.0 Responsibility for Backlog Maintenance Funding

The provision of funding for all backlog maintenance issues is the sole responsibility of the Health Service District or the Business Unit asset controller.

5.0 Backlog Maintenance Funding

The corporate allocation of funding from the Policy Planning and Asset Services (PPAS) is not a guaranteed stream of funding. Funding from corporate sources is distributed on a statewide basis to address and target high risk and high priority areas that have the potential or are already impacting on service delivery requirements. If corporate funding is made available for distribution to address backlog maintenance liabilities, the present process requires all statewide asset controllers to submit a consolidated list with all identified backlog maintenance priorities for funding consideration. From the 30 June 2005 this information will be extracted from the CMMS on an as needed basis. It is therefore critical that all Health Service Districts input their historical as well as any new backlog maintenance issues into the CMMS.

5.1 Backlog Maintenance Evaluation

CMMS Backlog maintenance lists will be used by PPAS as the primary evaluation tool to identify and fund statewide priorities. Due to the sheer volume of data and the high degree of analysis that must be undertaken during the evaluation process, there is very little scope for PPAS to consult with asset controllers or their representatives on their preferred funding priorities. The onus is (as previously stated) on the Health Service Districts to ensure their backlog data is kept within the CMMS and up to date to ensure that backlog maintenance liabilities are able to be evaluated and considered for possible funding.

6.0 Identification of Backlog Maintenance Items

The primary tool to identify backlog maintenance issues is by applying the Mandatory Condition Assessment methodology to the districts maintainable assets. Other means of backlog identification are made through normal District maintenance strategies and activities e.g. (planned and corrective maintenance). During these regular ongoing activities potential backlog issues can be raised and elevated to the appropriate levels of awareness for resolution management (Refer to QH Condition Assessment Guidelines).
7.0 Backlog Maintenance Risk

The development and implementation of a maintenance strategy for backlog maintenance needs to be carried out carefully and objectively. The selection of an inappropriate strategy can be significant in terms of the impact on asset value, the maintenance budget and the operations of the service. The risks associated with establishing an inappropriate backlog maintenance strategy includes:

- Assets being neglected to the stage where their rate of deterioration has escalated and the ability of the asset controller to implement cost effective repairs can no longer be justified or undertaken.
- Total asset failure and the subsequent disruption to health service delivery services and the potential impact on patient/visitor/staff safety.
- Unsustainable life cycle costs in relation to supportability, capability and criticality.

7.1 Risk Calculation - Consequence + Likelihood = Risk

Risk: The combination of the selected Consequence and Likelihood ratings will produce a Risk Rating. There are (25) possible combinations, each is mapped to one of the five risk ratings; this will be used to prioritise Backlog Maintenance.

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>Consequence</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 RARE</td>
<td>1 NEGLIGIBLE</td>
<td>LOW</td>
</tr>
<tr>
<td>1 RARE</td>
<td>2 MINOR</td>
<td>LOW</td>
</tr>
<tr>
<td>1 RARE</td>
<td>3 MODERATE</td>
<td>LOW</td>
</tr>
<tr>
<td>1 RARE</td>
<td>4 MAJOR</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>1 RARE</td>
<td>5 EXTREME</td>
<td>HIGH</td>
</tr>
<tr>
<td>2 UNLIKELY</td>
<td>1 NEGLIGIBLE</td>
<td>LOW</td>
</tr>
<tr>
<td>2 UNLIKELY</td>
<td>2 MINOR</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>2 UNLIKELY</td>
<td>3 MODERATE</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>2 UNLIKELY</td>
<td>4 MAJOR</td>
<td>HIGH</td>
</tr>
<tr>
<td>2 UNLIKELY</td>
<td>5 EXTREME</td>
<td>VERY HIGH</td>
</tr>
<tr>
<td>3 POSSIBLE</td>
<td>1 NEGLIGIBLE</td>
<td>LOW</td>
</tr>
<tr>
<td>3 POSSIBLE</td>
<td>2 MINOR</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>3 POSSIBLE</td>
<td>3 MODERATE</td>
<td>HIGH</td>
</tr>
<tr>
<td>3 POSSIBLE</td>
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<td>VERY HIGH</td>
</tr>
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<td>3 POSSIBLE</td>
<td>5 EXTREME</td>
<td>VERY HIGH</td>
</tr>
<tr>
<td>4 LIKELY</td>
<td>1 NEGLIGIBLE</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>4 LIKELY</td>
<td>2 MINOR</td>
<td>HIGH</td>
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<tr>
<td>4 LIKELY</td>
<td>3 MODERATE</td>
<td>VERY HIGH</td>
</tr>
<tr>
<td>4 LIKELY</td>
<td>4 MAJOR</td>
<td>VERY HIGH</td>
</tr>
<tr>
<td>4 LIKELY</td>
<td>5 EXTREME</td>
<td>EXTREME</td>
</tr>
<tr>
<td>5 ALMOST CERTAIN</td>
<td>1 NEGLIGIBLE</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>5 ALMOST CERTAIN</td>
<td>2 MINOR</td>
<td>VERY HIGH</td>
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<td>EXTREME</td>
</tr>
<tr>
<td>5 ALMOST CERTAIN</td>
<td>5 EXTREME</td>
<td>EXTREME</td>
</tr>
</tbody>
</table>
1/ **Consequence**: what is the level of consequence if the item is not maintained at a level or standard to meet its operational specification?

**Example**: Stumps, if they are not replaced/ refurbished then the building will collapse and endanger lives. Therefore the rating should be set at 5 - **EXTREME**

2/ **Likelihood**: what is the likelihood of the item deteriorating further to a point that would create a dangerous situation?

**Example**: Stumps, if the problem occurred as a result of white ants and the stumps were found to be in an extremely poor condition then the likelihood would be 5 - **ALMOST CERTAIN**

**The example**; would produce a risk rating of **EXTREME**

### 8.0 **CMMS Backlog Functionality**

The backlog functionality in the Computerised Maintenance Management System (CMMS) although located in two separate parts of the system is exactly the same:

- Located in the first instance as part of the Condition Assessment functionality and located on the **Work Mgt – Work Management Tab**
- Located in the second instance as part of the standard Work Order functionality and located on the **Enhancemnt Tab** then click on the sub tab **Job Details**
- **Backlog Screen Layout**:

<table>
<thead>
<tr>
<th>Backlog Process</th>
<th>Consequence</th>
<th>Likelihood</th>
<th>Risk Comments</th>
<th>Status Set By</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Assessment</td>
<td>4 Major</td>
<td>3 Possible</td>
<td>Water damage into internal walls</td>
<td>WINTERBIE</td>
</tr>
<tr>
<td></td>
<td>Risk / Cost</td>
<td></td>
<td></td>
<td>Kelvin Winterburn on Date 04 04 2005</td>
</tr>
</tbody>
</table>

**Consequence** and **Likelihood** - (see previous section 7.1) for explanation on these.

**Risk**: this field is display only and is the end result of the Risk Matrix calculations resulting from the **Consequence** and **Likelihood** entries. The risk will be used to prioritise the backlog maintenance items.

**Cost**: this would be the actual cost of the backlog if known; otherwise an estimated value must or should be provided until an actual cost can be entered.

**Risk Comments**: This is used to explain the consequence i.e. (the building will collapse)

**Backlog Status**: BREQ – Backlog Requested
BREJ – Backlog Rejected
BACK – Unfunded Backlog Item
BFND – Backlog District Funded
BANA – Backlog Corporate Funded

**Status Set By**: This will populate with the UserID and Name of the person who applied the Backlog status along with the date it was done.
9.0 Backlog Workflow Diagram

- District Backlog Maintenance Items are identified through the various processes i.e. (Condition Assessments, Planned & Corrective maintenance strategies).

- Backlog Maintenance Items are entered into the CMMS originating from Maintenance Work Requests from Wards/Depts, as direct work orders from observations made during normal maintenance activities and as the result of Condition Assessment activities. These items can have the backlog status set to BREQ – Backlog Requested

- District Management review the Backlog items by discussing the available funding options and the associated risk for the backlog activities. The responsible district officer will then update the backlog items with the appropriate backlog status:
  - BREJ – Backlog rejected (process as normal work order)
  - BFND – Backlog District Funded
  - BACK – Unfunded Backlog (Unable to fund at a District Level)
  - BANA – Backlog Corporate Funded

- If corporate funding is available – the Asset Management Services Unit (AMSU) will run a report to extract all of the Backlog Maintenance Items from both Condition Assessments as well as Work Orders. The report parameters will be Backlog Status BACK – Unfunded Backlog and Risk: EXTREME & VERY HIGH. Once the data has been analysed and funding priorities are made the districts will be formally notified in writing of the funding decisions.

Summary

- Districts must regularly review their CMMS backlog items and update, where needed, the Risk rating through the Consequence and Likelihood values to reflect any changes over time.
- As funding is not infinite, not all backlogged items can and will be funded even if they are of a high risk rating. There will always be some rationalisation in analysing the backlog data and it will be up to the Districts to manage the risk associated to any of these unfunded backlogged items.