UGL REGIONAL LINX

FACILITIES TECHNICAL MAINTENANCE PLAN

CRN-STD-CVL-713026361-574

CRN CS 101

LINKING COMMUNITIES. CONNECTING CUSTOMERS.

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Document Control

Function	Position	Name	Date
Approver	Principal Track & Civil Engineer	Muhammad Haque	01.08.2023
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Revision	Issue Date	Revision Description
1.1	11.11.2021	UGLRL Operational Standards Template applied
2.0	27.01.2022	Issued for publish to intranet and webpage
3.0	01.08.2023	Include Bathurst DRF & Orange NCC

Summary of changes from previous version

Section	Summary of change
All	This document is based on the previous rail infrastructure maintainer (RIM). Full revision history is available on request from UGLRL
9.2	Various inspections for building & electrical systems
9.3	Inspections for fire systems
9.5	Inspections for mechanical system

1 Scope and Application

The Technical Maintenance Plan (TMP) specifies maintenance policy for assets within the Facilities application. This document is provided for the use of personnel responsible for implementing these policies and programming preventive maintenance work.

The TMP lists items when:

- they are repairable, or
- they have a defined maintenance policy (i.e., the item has a scheduled maintenance activity at a defined interval), or
- they require some special maintenance management input and thus will need certain information to be recorded.

The TMP specifies:

- which items are to be maintained;
- what maintenance is carried out;
- when maintenance is required.

The maintenance tasks and minimum frequencies defined in this document are mandatory for all CRN facilities.

Any proposed reduction in task scope or change of frequency (lengthening time between tasks) must be authorised, as appropriate, by the Principal Track and Civil Engineer.

Maintainers shall also review any atypical situations and consider if more stringent requirements are appropriate and ensure appropriate defect management is carried out.

2 References

2.1 Australian and International Standards

Nil

2.2 CRN Documents

CRN CM 102 – Facilities Service Schedules

3 Definitions and Abbreviations

Nil

4 Maintenance concept

4.1 General

The maintenance concept provides for preventive maintenance schedules to minimise or avoid disruption to services, commensurate with CRN's safety and reliability objectives. There are two types of maintenance to support the system:

- Preventive maintenance
- Corrective maintenance

4.2 Preventive maintenance

Preventive maintenance is undertaken to keep an item in a specified operating condition through regular maintenance tasks and through systematic examination to detect and prevent potential failures. The former of these includes routine servicing and regular scheduled maintenance based on time. The latter comprises surveillance examinations, condition monitoring and functional

checks. The Technical Maintenance Plan details periods at which preventive maintenance is performed.

4.3 Corrective maintenance

Corrective maintenance is undertaken to restore items to a specified condition by repairing or replacing items. Corrective maintenance is carried out as a result of failures or unsatisfactory conditions detected during preventive maintenance examinations and checks. Corrective maintenance tasks are not detailed in the TMP.

5 Safety importance

Not all safety related tasks are of equal importance and hence necessitate differing compliance regimes for cost-effective management. UGLRL CRN has divided its assessed safety tasks into two categories, safety critical and safety significant. There are other tasks that are not directly safety related.

The difference in importance between safety critical tasks and safety significant tasks is the failure characteristic of the condition being assessed by the examination task.

The failure characteristics of safety critical tasks are generally rapidly developing and adverse following the breach of defined conditional criteria. There is a significant increase in risk associated with safety critical tasks being extended beyond the specified task period without defined and approved risk mitigation measures in place.

The failure characteristics of safety significant tasks are slower to manifest themselves and less likely to be adverse following the breach of defined conditional criteria.

6 Competency

All maintenance inspection, assessment, monitoring and review functions must only be carried out by authorised persons with relevant competencies.

7 Management and reporting

The Civil maintenance Engineer shall establish and maintain systems to ensure that the following requirements for the completion of Safety related tasks are met:

1. Safety Critical Tasks shall be completed within the defined planning latitude. An Engineering Waiver shall be sought for those tasks exceeding the planning latitude.
2. Safety Significant Tasks should be completed within the defined planning latitude unless a District Waiver is sought.

The Civil Maintenance Engineer shall:

3. Arrange for immediate notification by inspection staff in the event that any Safety Critical inspections become overdue. Such inspections need to be specially managed. Monthly review is insufficient.
4. Review the compliance of Safety Significant, and other, tasks at the end of each month.
5. Review any task that becomes overdue beyond its planning latitude during the month but has been completed before the end of the month. The review should establish if management action is required to ensure that future inspections will comply with scheduled task requirements.
6. Where inspection requirements listed in chapter 10 are to be determined or varied by the Civil Maintenance Engineer, a risk assessment shall be carried out considering current asset condition, configuration, location, degradation rates between subsequent inspections and potential impacts on the public when setting inspection frequencies. The records, including risk assessment, shall be maintained for audit purposes.

8 Technical Maintenance Plan User Information

The TMP table has the following elements:

- Asset class
- Brief description of the preventive maintenance/service to be performed
- Safety Importance
- Applicability of the Service to specified asset configurations or operating environments
- Service Schedule reference
- Minimum task frequencies or periods (including latitudes)
- Explanatory comments

8.1 Asset

This element details relevant asset class within the Facilities application that share similar maintenance requirements e.g., Buildings.

8.2 Service Description

This column provides a brief description of preventive maintenance tasks or sets of tasks defined in the Service Schedule.

8.3 Safety Importance

Some scheduled examination tasks have been categorised as Safety Critical (C) or Safety Significant (S). Tasks that are unscheduled (ON EVENT tasks) or have no safety implications are shown as NA.

8.4 Applicability

This column provides information about how preventive maintenance tasks are to be applied across various asset configurations and/or within specific operating environments.

8.5 Service Schedule Reference

This column provides the alpha-numeric reference code of the Service Schedule applicable for the maintenance tasks.

8.6 Period

The “Period” column defines the minimum frequency at which relevant maintenance should be carried out for each asset under the specified asset class. Period references include:

ON EVENT:	Maintenance or examination is to be carried out when the relevant event occurs.
ATI	Maintenance or examination is to be carried out At the Time of Installation.

Any reduction in the minimum recommended frequencies (lengthening time between tasks) must be authorised, as appropriate, by the Principal Track and Civil Engineer.

Where criteria overlap the most stringent is to apply.

8.7 Latitude

This column specifies any latitude that may be allowed for scheduling purposes. Inspection schedules shall be based on planned inspection dates, not “last performed” date. Latitudes are generally expressed in days. That is, a task with a period of 4 months and scheduling latitude of 12 days should be completed within a period of 120 + or - 12 days.

9 Technical Maintenance Plan

Technical Maintenance Plan

Service Description	Safety Importance	Applicability	Service Schedule	Period	Latitude	Comments
9.1 Building Premises						
General Visual Examination	S	All Buildings including those with heritage status	CSS 601	1 year	± 36 days	-
Structural Examination	S	All Buildings	CSS 602	variable	-	Ad Hoc Event: Any incident that may potentially cause damage to the facilities e.g., bush fire, storm, floor or fire high wind, (depending on structure susceptibility) or a "call out" based on reports from facility operators, train drivers or the public.
Hazardous Materials Examination	S	All Buildings	CSS 603	3 years	±110 days	Applies to buildings only where hazardous materials are discovered.
Examination for Termites	S	All Buildings	CSS 604	1 year	± 36 days	Frequency may be increased by Civil Maintenance Engineer where the building is located in an area of high termite activity.
Heritage Roadside Inspection	NA	All facilities assets that are listed or within a precinct that is listed on the State Heritage Register	CSS 605	1 year	NA	May be completed in conjunction with General Visual Examination
Examination of Temporary Risk Control Devices	S	All Buildings with exclusion fencing/barriers installed due to safety risks	CSS 606	Variable	NA	May be completed in conjunction with General Visual Examination Frequency to be determined by risk assessment.
9.2 Building Systems - Electrical						
General Examination of Distribution Boards and Lighting	S	All Buildings	CSS 610	6 months	± 18 days	Applies only to buildings with permanent electricity connections with major occupancy. Frequency can be increased by Civil Maintenance Engineer depending upon the environmental setting.
General Examination of Power Control Systems	S	All Buildings	CSS 611	1 year	± 36 days	-
General Examination of the Building Management Systems (BMS) for SIGVIEW	S	Orange NCC and Bathurst DRF (Equipment room and server room)	CSS 612	2 years	± 72 days	Applies to the equipment room and server room in the Orange NCC and the Bathurst DRF
General Examinations of Distribution Boards and Lightings	S	Orange NCC and Bathurst DRF (Equipment room and server room)	CSS 613	6 months	± 18 days	Applies to the equipment room and server room in the Orange NCC and the Bathurst DRF
General Examinations of Building Security Systems	S	Orange NCC and Bathurst DRF	CSS 615	6 months	± 18 days	Applies to Orange NCC and Bathurst DRF
Examination of Power Poles	S	Bathurst DRF	CSS 619	4 years	± 72 days	Private poles in Bathurst
9.3 Building Systems - Fire						
General Examination of Fire Systems	C	All Buildings	CSS 620	6 months	± 18 days	-
Detailed Examination of Fire Systems	C	All Buildings	CSS 621	1 year	± 36 days	Preferably, at the start of 'Bush Fire Danger Period' for facilities located in bush fire prone region.

Special General Examination of Fire Systems	C	Orange NCC and Bathurst DRF	CSS 622	1 month 6 months 1 year 5 years	± 6 days ± 18 days ± 36 days ± 72 days	Inspections should be completed as per Manufacturer manuals and AS1851- 2012 Section 6 Fire Detection & Alarm Systems
9.4 Building Systems – Hydraulic						
Examination of Safety Showers and Water Filters	S	All Buildings	CSS 630	1 month	± 5 days	Examination can be undertaken by an internal staff member.
General Examination of Hydraulic Services	S	All Buildings	CSS 631	6 months	± 18 days	-
Examination of Roofing Anchors and Backflow Prevention Valves	S	All Buildings	CSS 632	1 year	± 36 days	-
9.5 Building Systems – Mechanical						
General Examination of Air Conditioning Units	S	All Buildings	CSS 640	6 months	± 18 days	Preferably, before winter and before summer or at the request of Civil Maintenance Engineer.
General Examination of CRAC and Air Conditioning Units	S	Orange NCC and Bathurst DRF	CSS 641	3 months 6 months 1 year	± 9 days ± 18 days ± 36 days	Frequency – 3 months for air filter maintenance, 6 months for minor maintenance and 1 year for major maintenance