



ISSUE

13

Task Intervals

NR/SIG/10661

Signalling Maintenance Task Intervals

Publication Date: 6 September 2014



Documents
Document Sharing Hub

User information

This Network Rail standard contains colour-coding according to the following Red–Amber–Green classification.

Red requirements – *No variations, could stop the railway*

- **Red requirements shall** always be complied with and achieved.
- Red requirements shall be presented in a red box **with the word “shall” or expressed as a direct instruction**.
- Accountability for the efficacy of red requirements lies with the Professional Head/Standard Owner.
- Red requirements are monitored for compliance.
- Corrective actions shall be enforced if variations are discovered through functional checks (e.g. engineering verification visits, audit or Operations Self-Assurance).

Amber requirements – *Controlled variations, approved risk analysis and mitigation*

- **Amber requirements shall** be complied with unless variation has been approved in advance.
- Amber requirements shall be presented with an amber sidebar **and with the word “shall” or expressed as a direct instruction**.
- Accountability for the efficacy of these requirements lies with the Professional Head/Standard Owner, or their nominated Delegated Authority.
- Amber requirements are monitored for compliance.
- Variations **may** be permitted. Variations are approved by the Standard Owner or through existing Delegated Authority arrangements.
- Corrective actions shall be enforced if **non-approved** variations are discovered through functional checks (e.g. engineering verification visits, audit or Operations Self-Assurance).

Green – *Guidance*

- Guidance is based on good practice. Guidance represents supporting information to help achieve **Red** and **Amber** requirements.
- Guidance shall be presented with a dotted green sidebar **and with the word “should” (usually in notes) or as a direct instruction**.
- Guidance is **not mandatory** and is not monitored for compliance.
- Alternative solutions may be used. Alternative solutions do not need to be formally approved.
- Decisions made by a competent person to use alternative solutions should be backed up by appropriate evidence or documentation.

Contents

1. Job roles	3
2. Risk mitigation	3
3. Reference documentation	3
4. Definitions	3
5. Signal Maintenance Specification Application	4
6. Signal Maintenance Specification Task Intervals	7
7 Risk Based Maintenance Application	18
8 Risk Based Maintenance Intervals	20
9 General Requirements	22

Copyright Network Rail

1. Job roles

This module applies to Signalling Technicians.

2. Risk mitigation

This manual provides controls to mitigate the high level risk on 'breakdown of safe separation of trains.'

3. Reference documentation

NR/L2/SIG/10660	Implementation of Signalling Maintenance Specifications
NR/L2/SIG/10662	Signalling Maintenance Task Interval Change Process
NR/SIG/10663	Signal Maintenance Specifications
NR/SIG/10665	Reliability Centred Maintenance of Signalling Equipment (RoSE)
NR/GN/SIG/10099	Risk Based Maintenance – Implementation

4. Definitions

Interval

The time between applications of a maintenance task.

Maintenance Task

The individual task which is carried out in order to achieve the required level of safety and reliability whilst optimising the useful working life of an item of infrastructure.

Maximum Interval between services

The maximum interval between services that Network Rail can currently justify. This figure may not be appropriate for heavily used or critical infrastructure

Minimum Interval between services

An "average" interval between services that meets most requirements for Signalling Infrastructure maintenance. This 'minimum' is not an absolute, in that some assets may repay more maintenance. Nothing in this standard should imply maintenance may not be undertaken more often.

Normal Interval between services

An "average" interval between services, that meets most requirements for Signalling Infrastructure maintenance, provided for the use of AKBS in Ellipse.

5. Signal Maintenance Specification Application

The intervals currently being applied shall continue until an application to change is made and approved using the process in [NR/L2/SIG/10662](#).

However if, due to local variation or historical reasons, an existing maintenance task interval is being applied which exceeds the maximum interval documented below, the interval shall be reduced to comply with the documented maximum interval.

The change process shall be applied to justify and approve any interval proposed which extends the current / existing task interval. Approval for the change will ultimately be granted by the Professional Head (S&T). Should the proposal require the stated maximum to be exceeded, the Professional Head (S&T) shall arrange for a 'Non Compliance' to be issued, pending the incorporation of the information into this standard.

Any existing maintenance task interval which is currently applied at less than the normal task interval documented below shall be advised to the Professional Head (S&T) for possible inclusion in this standard. Intervals at less than the normal interval are not prohibited or discouraged by this specification, and are entirely appropriate for Signalling Infrastructure in heavy traffic and for critical installations.

Maintenance task intervals, particularly when refined to best suit the particular operating use and environment, shall be adhered to. Maintenance staff shall arrange that the maintenance management system (Ellipse) is adequately controlled to record the required maintenance at the agreed intervals.

No **scheduled maintenance** interval may exceed the stated maximum interval. Maintenance may be undertaken 'early', provided this is within one week of the scheduled maintenance for 'weekly', 'monthly', '6 weekly' and '3 monthly' services. Longer interval services may be undertaken 'early' within one month of scheduled service.

Scheduled maintenance services that are not completed fully or are only partly completed by the scheduled day to be classed as '**late maintenance**'. 'Late maintenance' to be reprogrammed within 100% of the scheduled maintenance interval for 'daily' or 'weekly' tasks, within 50% of the scheduled maintenance interval for 'monthly' or '6 weekly' tasks and within 25% of the scheduled maintenance interval for all other maintenance intervals. 'Late maintenance' need not be reported for the purposes of this standard – unless (in the cases of the shorter scheduled intervals) the service is completely cancelled.

Any late maintenance not completed fully or are only partly completed within 100% of the scheduled maintenance interval for 'daily' or 'weekly' tasks, within 50% of the scheduled maintenance interval for 'monthly' and '6 weekly' tasks or within 25% of the scheduled maintenance interval for all other maintenance intervals, to be classed as **'missed maintenance'**. 'Missed maintenance' shall be reported to the Signal & Telecoms Maintenance Engineer.

Wherever possible, 'missed maintenance' shall be caught up. Should such catching up prove difficult, the Signal & Telecoms Maintenance Engineer shall assess the risk of the 'missed maintenance'. The risk assessment shall consider the maintenance history of that item, its failure rate, and any safety hazards that might be introduced by deferring the service.

Services scheduled between one and 6 weekly, where the risk assessment indicates it is safe to do so, may exceptionally be cancelled completely (i.e. service deferred until the next scheduled service) provided no more than 4 'weekly' services or 2 longer services are missed in any 52 week period. In no case shall 2 consecutive 'weekly' or longer interval services be 'missed'. Services scheduled '3 monthly' and longer may not be cancelled, but where the risk assessment indicates it is safe to do so, the longer services may be further deferred up to a total of 50% of the scheduled interval.

Where risk assessment at the end of the 'late maintenance' period (as defined above) indicates that safety is compromised, special arrangements shall be made to catch up the maintenance without further delay.

The Signal & Telecoms Maintenance Engineer shall keep records of the decisions to cancel and catch up 'missed services' for a period of two years. Missed and cancelled services shall be documented and reported to the Route Asset Manager (Signalling).

Interval	Daily	Weekly	Monthly	6 Weekly	3 Monthly	6 Monthly	Annual & Above
Early	N/A	Up to - 1 week	Up to - 1 week	Up to - 1 week	Up to - 1 week	Up to - 1 month	Up to - 1 month
Late	< +100% Sched Time ----- < = + 1 day	< +100% Sched Time ----- < = +1 week	< +50% Sched Time ----- < = + 2 weeks	< +50% Sched Time ----- < = + 3 weeks	< +25% Sched Time ----- < =+ 3 weeks	< +25% Sched TIME ----- < = + 6 weeks	< +25% Sched Time ----- < = + 3 months
Missed	> +100% Sched Time ----- > + 1 day	> +100% Sched Time ----- > + 1 week	> +50% Sched Time ----- > + 2 weeks	> +50% Sched Time ----- > + 3 weeks	> +25% Sched Time ----- > + 3 weeks	> +25% Sched TIME ----- > + 6 weeks	> +25% Sched Time ----- > + 3 months
Missed After Risk Assessment	Cancel Complete	Cancel Complete Maximum of 4 cancels in a 52 week period	Cancel Complete Maximum of 2 cancels in a 52 week period	Cancel Complete Maximum of 2 cancels in a 52 week period	< +50% Sched Time ----- < + 6 weeks	< +50% Sched TIME ----- < + 3 months	< +50% Sched Time ----- < + 6 months

The previous table is to be interpreted to the nearest day, i.e. a “monthly” is ‘late’ if undertaken 14 days after schedule but is ‘missed’ if undertaken 15 days after schedule.

Where an additional (between scheduled interval) visit to the equipment is necessary, e.g. maintenance tests as a result of faulting activity, any remedial action taken shall be recorded and taken into account in any subsequently proposed interval change. Such intervention shall not affect the scheduled intervals from continuing as agreed.

6. Signal Maintenance Specification Task Intervals

6.1 NR/SMS/Part/C

NR/SMS Ref	Issue	Service	Minimum Interval	Normal Interval	Maximum Interval
AP11	02	A	0364	0364	0364
AP12	01	A	0091	0091	0091
AP12	01	B	0364	0364	0364
AW15	01	B	0364	0364	0364
AW15	01	PT	1820	1820	1820
AX11	01	A	0091	0091	0091
AX11	01	B	0364	0364	0364
AX12	04	A	0091	0091	0091
AX12	04	B	0364	0364	0364
AX14	01	A	0091	0091	0091
AX14	01	B	0364	0364	0364
AX28	01	A	0091	0091	0091
AX28	01	B	0364	0364	0364
AX29	02	A	0091	0091	0091
AX29	02	B	0364	0364	0364
AX30	02	A	0091	0091	0091
AX30	02	B	0364	1Yearly	0364
AX31	01	B	0364	0364	0364
AX40	01	B	0364	0364	0364
AX41	01	B	0364	0364	0364
AX42	01	C	0728	0728	0728
AX51	01	B	0364	0364	0364
BA11	02	B	0364	0364	0364
BA13	01	DS	0001	0001	0001
BA13	01	B	0364	0364	0364
BR11	03	A	0091	0091	0091
BR11	03	B	0364	0364	0364
CA02	01	A	0091	0091	0091
DE11	02	A	0091 and see SG95/96	0091 and see SG95/96	0091 and see SG95/96
EL12	02	B	0364	0364	0364
EL21	06	A	0042	0091	0091