



AUSTRALIAN RAIL TRACK CORPORATION LTD

Discipline: Engineering (Track & Civil)

Category: Standard

Infrastructure Inspections for Non-Operational Lines

ETE-00-04

Applicability

| | | | |
|-------------------|---|----------------|--|
| ARTC Network Wide | ✓ | CRIA (NSW CRN) | |
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Primary Source

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| ARTC NSW Standard TES 01 |
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Document Status

| Version | Date Reviewed | Prepared by | Reviewed by | Endorsed | Approved |
|---------|---------------|-------------|-------------------|---------------------------------|----------|
| 1.1 | 18 Jun 10 | Standards | Manager Standards | Exec Manager SS&P 21/06/2010 | CEO |

Amendment Record

| Version | Date Reviewed | Clause | Description of Amendment |
|---------|---------------|--------|---|
| 1.0 | 01 Dec 09 | | Implementation draft. Supersedes NSW Standard TES 01 v1.4 |
| 1.1 | 18 Jun 10 | | Banner added regarding mandatory requirements in other documents and alternative interpretations. |

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Mandatory requirements also exist in other documents.

Where alternative interpretations occur, the Manager Standards shall be informed so the ambiguity can be removed. Pending removal of the ambiguity the interpretation with the safest outcome shall be adopted.

1 Purpose

To establish requirements for the inspection and risk management of Track & Structures Infrastructure on non-operational lines to

- ensure that Australian Rail Track Corporation discharges its statutory obligations as a landholder and asset owner.
- ensure that major accelerated damage is not occurring on lines that are required to resume operation at relatively short notice.

2 Scope

This standard applies to all non-operational lines. A non-operational line is one where all rail traffic operations have been, or will be, suspended for periods of 6 months or more.

Non-operational lines have been divided into two (2) categories:

| | |
|---------------------------|---|
| Seasonal lines | <p>Lines that are non-operational on a seasonal basis due to drought conditions, or when grain is cleared from a line in a short period each year with the line not utilised for the remainder of the year and lines where re-opening is/or may be anticipated. This is to include any line that is non-operational for less than two (2) years.</p> <p>The inspection requirements have been specified to ensure that lines in this category can be readily reopened by controlling the accelerated degradation of infrastructure assets.</p> <p>Additionally, where risk to public or neighbours is involved, or where ARTC has statutory obligations, minimum inspection requirements have been established.</p> |
| Services withdrawn | <p>Lines that are no longer in use. These lines have been disused for many years and there is little likelihood that they will be re-opened. In any event it is recognised that they could not be re-opened without extensive inspection and upgrading.</p> <p>The risk management and inspection requirements have been specified to ensure that at locations on lines in this category where there is a public involvement, the infrastructure does not pose a risk to the safety.</p> <p>Additionally, where ARTC has statutory obligations, minimum inspection requirements have been established.</p> |

3 References

The following documents detail examinations on operational lines. They are overridden by this instruction where a line is non-operational.

- ETE-00-02 Track Patrol, Track Walking and Front of Train Inspections
- BEP 03 Examination of Bridges & Structures Handbook
- ETE-01-03 Non-Destructive Testing of Rail (for Internal & Surface Defects)

4 Detail

| Asset | Activity | Seasonal | Services |
|-------------------------------|--|---|---|
| Track and Right of Way | | | |
| Track | Examine to ensure that major accelerated damage is not occurring to an asset i.e. items such as rails or sleepers being stolen | Six Months | Nil |
| | Examine security of rails and rail fixings on underbridges spanning public areas | Six Months | Annual Note (1) |
| | Examine security of rails and rail fixings on other underbridges | Six Months | Nil Note (2) |
| Banks & Cuttings | Examine to ensure that no degradation such as slips and rockfalls are occurring that would be a hazard to public and neighbours (Note 3) | Six Months and after any major flooding or rainfall event | Annual or as determined by risk assessment, and during/after any major flooding or rainfall event Note (4) |
| | Examine to ensure that major accelerated damage is not occurring to asset | Annual | Nil |
| | Examine known geotechnical problem sites which may affect other persons or property. Inspection requirements must be determined by the ARTC Infrastructure Manager or nominated Geotechnical representative | frequency of inspection must be determined by the Infrastructure Manager or nominated rep Note (4) | frequency of inspection must be determined by the Infrastructure Manager or nominated rep Note (4) |
| Vegetation | Examine for noxious weeds, firebreaks and fire hazards especially along occupied/residential boundaries | Six Monthly | Annual or as determined by risk assessment Note (5) |
| | Examine for noxious weeds, firebreaks and fire hazards around timber bridges | Six Monthly | Nil |
| Fencing | Examine to ensure that major accelerated damage is not occurring, such as components being stolen. | Six Monthly | Nil Note (2) |
| Vermin | Examine to ensure no major accumulation of rubbish/litter which will attract vermin and that no serious damage has occurred to earthworks due to rabbit infestations | Six Monthly | Nil |
| Drainage | Examine to ensure culverts, top drains and track drains are free of debris | Annual and following any major flooding event | Annual or as determined by risk assessment Note (5) |
| Level Crossings | Examine to ensure visibility, condition of road surface and that appropriate signage is in place. | Not greater than six months Note (6) | Nil Note (7) |
| Structures | | | |
| Overbridges & Footbridges | To be examined in accordance with BES 01. | To be examined in accordance with BES 01. | To be examined in accordance with BES 01. |

| Asset | Activity | Seasonal | Services |
|---|--|--|---|
| Underbridges | Examine visually, however the inspections need to be sufficiently rigorous to identify serious degradation zones warranting arresting action, such as termites and advanced corrosion. | Annually | Frequency of inspection must be determined by the Infrastructure Manager or nominated rep Note (8) |
| | Examine the security of components that could fall such as transom bolts, transoms, bracing, handrails and fixings for bridges spanning public areas. | Annually | Annual Note (1) |
| | Examine waterway for debris | Annually and after any major flooding event | After any major flooding event if there is potential to damage to other people's property Note (4) |
| Tunnels, Retaining Walls & Other Miscellaneous Structures | Examine in accordance with BES 01 | Inspect in accordance with BES 01 | Nil, unless it will effect public Note (4) |
| Track and Structures infrastructure | Examine in accordance with documents referenced in Section 3 | Prior to opening a line for train operations Note (9) | Nil – major investigation required |

Notes:

- 1) *If as a result of the inspection it is assessed that hazards may arise between inspections then repair or re-inspection at more frequent intervals may be appropriate*
- 2) *The issue in this situation is the possibility of access to potential infrastructure hazards by the public. An assessment of the risk of injury needs to be undertaken to determine if active risk mitigation strategies (eg fencing off structures) or regular inspections required.*
- 3) *Neighbours in this context are defined as dwellings, commercial premises or substantial property improvements adjacent to the railway boundaries. Open land or minor improvements such as fencing are not considered.*
- 4) *The assessment of risk needs to consider the degree of hazard or loss associated with failure, accelerated damage or theft; the probability of the line re-opening to rail traffic, the potential impact of any failure on the public or on neighbours and the probability of occurrence (this is particularly relevant in earthworks stability; the continuation of drought conditions would, for instance reduce the potential for slips and floods, and consequently, the need for inspection of these conditions is significantly reduced).*
Risk assessment, where required in this standard is to be conducted by the Infrastructure Manager or nominated representative using an accepted methodology
- 5) *ARTC has statutory obligations for the control of noxious weeds and reduction of fire hazards. In locations where there is co-operation between ARTC and local authorities and neighbouring landowners, an alternative approach may be to rely on being notified of the presence of noxious weeds or of significant fire hazards by these external parties. Knowledge of problem areas is also an important input to a risk assessment of inspection requirements*
- 6) *To be determined by the Infrastructure Manager or nominated representative considering the level of road traffic, the condition of the crossing and its potential for deterioration.*
- 7) *Where services have been withdrawn, active steps should be taken to remove level crossings. At the road authorities request this could include removal of the track and installation of an uninterrupted road surface.*

At the very least, all level crossing signage should be replaced by "rough surface" signs. Until a level crossing is removed (tracks removed) the condition of the road surface at the road/rail interface remains ARTC's responsibility.

- 8) Inspection frequency is to be determined by the Infrastructure Manager or nominated representative based on assessment of the risk of a major structural failure (eg UB falls into waterway). The assessment should be based on structure type, current condition, failure potential and the consequences of failure. An assessment should also be made of the benefits to ARTC of removal of the structure.*
 - 9) All relevant inspections in the Track Examination System, Structures Examination System and Ultrasonic testing system. Depending on the length of time that the service has been suspended, some of the examinations may still be within their normal cycle (eg 2 year bridge examination, 12 month turnout examination etc). In these cases additional pre-operational inspection is not required.*
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