| **Level Crossing Interconnected Test Plan (NSW only)** |  |
| --- | --- |
| **Level Crossing Name:**       | Inspection & Test Plan No.:       |
| **Location:**       | Level Crossing with multiple input |
| **Road:**       | Date:       |
| **Rail Line:**       | **Km:**       |
| **TASKS TO BE UNDERTAKEN** |
|  | Responsibility – RA = Road Authority; ARTC = rail authority  |
| ID | **Activity / Criteria** | **Responsibility** | **Inspected** | Test Result |
| **Conformance Criteria** | **Initl.** | **Date** |
| 1 | **Preliminary Work** |
| 1.1 | Set out work area | RA / ARTC |  |  |  | Y/N |
| 1.2 | Configuration of traffic light sequenceNotification to TMC | RA | Authorised RA representative |  |  | Y/N |
| 1.3 | Notification to Network Control Centre | ARTC | ARTC Signal Maintenance Engineer |  |  | Y/N |
| 1.4 | Initiate maintenance mode on level crossing monitorTest timer relays | ARTC | * Press and hold reset button for 5 sec
* Observe monitor in Maintenance mode ( light flashing) 45min time limit

Record results for below timer testsGate Delay : Train Demand Response Time – TDJR : |  |  | Y / NY / NY / NY / N |
| 2 | **Functional Tests** |
| 2.1 | ***Functional Test 1*** Minimum clearance phase start delayMay not be required – dependent on traffic light configuration | RA/ARTC | Initiate Train Demand* Observe “TDR” de-energised, then “TLR” energised, then “XR” de-energised. Record Time between TDR and XR:
* Traffic lights leading to the level crossing return to stop
* Green clearance phase commences prior to level crossing operation.
* Green clearance phase terminates(>2 sec) after booms commence to descend

Cancel Train Demand and observe* Level crossing ceases to operate and traffic lights resume normal operation
* Relay sequence to be observed “TDR” energises then “TLR” de-energises, then “XR” energises
 |  |  | Y / NY / NY / N Y / N / NAY / N / NAY / N Y / N  |
| 2.2 | ***Functional Test 2*** Maximum clearance phase start delayMay not be required – dependent on traffic light configuration | RA/ARTC | Initiate Train Demand* Observe “TDR” de-energised, then “TLR” energised, then “XR” de-energised. Record Time between TDR and XR:
* Traffic lights leading to the level crossing return to stop
* Green clearance phase commences prior to level crossing operation.
* Green clearance phase terminates(>2 sec) after booms commence to descend

Cancel Train Demand and observe* Level crossing ceases to operate and traffic lights resume normal operation
* Relay sequence to be observed “TDR” energises then “TLR” de-energises, then “XR” energises
 |  |  | Y / NY / N Y / N Y / N / NAY / N / NAY / N Y / N  |
| 2.3 | ***Functional Test 3***Manual operation of Level Crossing | RA/ARTC | Turn the “Manual Operation switch “ON” and observe “**TDR**” de-energised and “**XR**” de-energised* Level crossing operates immediately
* Traffic lights proceed through the Train Demand Phase and Clearance Phase

Cancel Train demand and observe* Level crossing ceases to operate and traffic lights resume normal operation
* Relay sequence to be observed “TDR” energises then “TLR” de-energises, then “XR” energises
 |  |  | **Y / N****Y / N****Y / N****Y / N****Y / N** |
| 3 | Fault Test Scenarios |
| 3.1 | TDR false indicationInputs offInputs on | RA/ARTC | * TDR links open on NC and NO contacts
* Traffic Lights go into train demand phase
* Reinstate links
* TDR links closed on NC and NO contacts
* Traffic Lights go into train demand phase
* Reinstate links
 |  |  | **Y / N****Y / N****Y / N****Y / N****Y / N****Y / N** |
| 3.2 | Lights false indicationInputs offInputs on | RA/ARTC | * XE links open on NC and NO contacts
* Traffic Lights go into train demand phase
* Reinstate links
* XE links closed and false feed on NC and NO contacts
* De- energise TDR
* Traffic Lights go into train demand phase
* Reinstate TDR
 |  |  | Y / NY / NY / NY / NY / NY / NY / N |
| 3.3 | Traffic Light Relay (TLR) false indicationInputs offInputs on | RA/ARTC | * Remove N12 to TLR
* De-energise TDR
* Level crossing operate as per normal
* Reinstate TDR
* Check 1 sec delay between TDR energises and then XR energises
* False feed TLR
* De-energise TDR
* Level crossing operate as per normal
* Reinstate TDR
* Level crossing continues to operate
* Traffic lights go into flashing yellow state after xx seconds
 |  |  | Y / NY / NY / NY / NY / NY / NY / NY / NY / NY / NY / N |
| 4 | Re-instatement |
| 4.1 | Restore road traffic signals to normal operation. | RA | * Restore traffic light signals back to normal operation
* Ensure any interfaces have been disconnected
* Observe behaviour of traffic signals
* Ensure operation to current design
* Advise work complete
 |  |  | Y / NY / N Y / NY / NY / N |
| 4.2 | Restore level crossing to normal operation | ARTC | * Reset Level crossing monitor to normal mode
* Check to ensure any pins\ fuses removed for testing has been restored
* Test level crossing to ensure correct operation (lights, Bells and booms)
* Ensure all equipment locked and secure
* Advise Network Control Centre
 |  |  | Y / NY / NY / NY / NY / N |
|  |  |  |  |  |  |  |
|  |
| **ENGINEER CLOSE OUT** |
|  25 | **CERTIFIED BY** |       |       |       |
| First name and family name | Position | Organisation |
|       |  |       |
| RIW No. | Signature | Date |
|  | **Comments:** |       |