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1. **PURPOSE**

The purpose of this rule is to detail how Lookout Working is to be used to give Warning of approaching Rail Traffic to Track Workers in or near the Danger Zone in the Public Transport Authority (PTA) Network.

2. **GENERAL**

If the Absolute Signal Blocking (ASB) method is practical, this is the preferred method and must be applied as per Rule 3011 Absolute Signal Blocking.

The Lookout Working method must not be used for work on Overhead Line Equipment (OLE), work that breaks the Track or affects Infrastructure integrity.

Lookouts are the only safety measure used in this method of working on Track.

Work in the Danger Zone using the Lookout Working method must only be done where visibility allows.

The Lookout must be clearly identified.

Lookout Working may be used for:

- work requiring the use of tools which can be easily and immediately removed from the Track by one person without mechanical assistance;
- inspections in the Danger Zone; or
- work conducted in the Rail Corridor, but outside of the Danger Zone, that may intrude into the Danger Zone.

2.1. **TOOLS**

Workers using or being protected by the Lookout Working method may use Light, Powered or Light, Non-powered Hand Tools.

The tool or device must not interfere with the ability of the Worker to respond to a Lookout's warning.

3. **AUTHORISATION**

No-one is permitted to enter the Rail Corridor without the appropriate Authority.

3.1. **ENTERING THE RAIL CORRIDOR FOR WORK**

Before entering the Rail Corridor, the Protection Officer (PO) must log into the PTA’s Electronic Book On System. When the work is completed, the PO must log off in the Electronic Book On System.

If for any reason the Electronic Book On System fails to record the PO’s details then the PO must contact the Infrastructure Control Officer (ICO).
4. PROTECTION OFFICER

There must be a PO present at the Worksite for the period of the work.

A PO must:

- conduct a pre-work Safety Assessment;
- ensure work in the Danger Zone does not begin before the required safety measures are in place;
- be responsible for the Protection of Workers from Rail Traffic;
- tell Workers about the Locations of Safe Places;
- determine the number of Lookouts needed to protect the work; and
- ensure Lookouts do not work continuously at the same Location for more than 60 minutes.

NOTE

A PO must be satisfied that other work will not interfere with Protection duties.

5. PROTECTION

5.1. SAFE PLACE

An easily reached Safe Place must be available when the Lookout Working method is used.

Workers must immediately remove themselves, tools and materials to a Safe Place when told to do so by a Lookout.

WARNING

A PO must take into account the extra time required for the minimum Sighting Distance when providing additional Lookouts or touch Warnings.
5.2. NOISY ENVIRONMENT

When the PO has assessed that the audible Warning provided by the Lookout cannot be heard by all Track Workers, the PO must ensure Touch Lookouts are positioned to provide physical Warning to those Workers.

NOTE
The Touch Lookout must do no work other than providing Warning.
The Lookout must be visible to the Worker at all times.

5.3. PLACING LOOKOUTS

The PO must ensure:

- that the Locations of Lookouts and the visibility conditions give Lookouts enough Sighting Distance of approaching Rail Traffic;
- that Lookouts have Effective Communication with Workers and are equipped with an audible Warning device;
- when working in Bidirectional locations where rail traffic can approach from either direction:
  - a minimum of one (1) Lookout is placed either side of the Worksite and a minimum of five (5) seconds reaction time can be achieved when calculating the Sighting Distance; or
  - a single Lookout is placed to provide warning for both directions and a minimum of 15 seconds reaction time can be achieved when calculating the Sighting Distance.
- that when Rail Traffic approaches, Lookouts can warn Workers in time to allow them to:
  - react to the Warning of the approach of Rail Traffic; and
  - move themselves and their equipment to a Safe Place before the Rail Traffic arrives.

5.4. ADDITIONAL LOOKOUTS

To give sufficient Warning time POs may use additional Lookouts.

A maximum of one additional Lookout may be placed in each direction from which Rail Traffic may approach.

The additional Lookout must remain within sight and hearing distance of the Lookout closest to the Worksite.
5.5. USING LOOKOUTS AT NIGHT

The General Manager of the Network & Infrastructure Division will only permit the use of Lookout Working at Night when the Worksite Location has been compared against Exclusion Zone locations identified in the N&I 8800-400-001 Public Transport Authority Rail Access Manual.

Work in the Exclusion Zones will not be permitted to be carried out under Lookout Working; other Protection methods in these rules will be used.

5.6. LOOKOUTS

**WARNING**

Lookouts must not use radios or telephones to warn Workers.

Lookouts must:

- agree with the PO about how Workers will be warned about the approach of Rail Traffic;
- keep a continuous watch for the approach of Rail Traffic;
- remain within sight and hearing or in physical touch of the Workers. If this cannot be done safely, the PO is to be notified;
- tell the PO if the Lookout needs to move from the designated position and only move if all Workers and their equipment are in a Safe Place or a new Lookout is in position; and
- tell the PO if conditions, such as visibility, change.

**WARNING**

Lookouts must do no work other than look for and give Warning about the approach of Rail Traffic.

Lookouts must not:

- manage the passage of Rail Traffic;
- do any other work; or
- use any portable electronic devices, such as radios, mobile phones or any similar devices, at any time.

5.7. RAIL TRAFFIC CREW

On approaching work groups, the Rail Traffic Crew must sound the Whistle to give Warning. If Workers are not clearing to a Safe Place the Whistle must be repeatedly sounded until the Lookout has given the CLEAR Handsignal.
5.8. GIVING WARNING

When Rail Traffic approaches the Worksite or a Warning is given by the additional Lookout, the Lookout must immediately warn the Workers.

NOTE
Warning must be given as soon as Rail Traffic is seen to be approaching even if the Rail Traffic has not reached the minimum Sighting Distance.

WARNING
If acknowledgement of the Lookout’s Warning is not immediate the Lookout must continue to sound the Warning until acknowledged.

The Workers must:
- acknowledge the Lookout’s Warning by raising an arm above their head;
- remove their tools, equipment and materials from the Danger Zone;
- move to a Safe Place; and
- notify the Lookout by raising an arm above their head.

Only when all Workers and their equipment are in a Safe Place can the Lookout face the approaching Rail Traffic and give the CLEAR Handsignal to the Rail Traffic Crew.

The Lookout must maintain the CLEAR Handsignal until the Rail Traffic Crew acknowledges the Handsignal.

The Lookout must make sure that the line is Clear before telling the PO that it is safe for work to resume.

5.9. LOW LIGHT AND POOR VISIBILITY

POs must always remain aware of the changing conditions at the Worksite such as low light and the reduction of Sighting Distance for the Lookout.

If Sighting Distance reduces below the minimum required, then work must cease and all Workers and equipment must move to a Safe Place.

5.10. ADJACENT LINE

If the Safety Assessment indicates that Workers need to be protected from Rail Traffic on Adjacent lines, the PO must arrange for the Adjacent lines to be protected as per Procedure 9010 Protecting Work from Rail Traffic on Adjacent Lines.
6. **CALCULATING MINIMUM SIGHTING DISTANCE**

**WARNING**

If the calculated minimum Warning times cannot be met, then Lookout Working must not be used.

**WARNING**

When using additional Lookouts, five (5) extra seconds reaction time must be added for each additional Lookout.

The minimum Warning time required shall be calculated as follows:

- reaction time (minimum five (5) seconds);
- time required to move the Workers, tools, equipment and materials clear of the Danger Zone (determined in the test conducted by the PO); plus
- being in a Safe Place for a minimum of ten (10) seconds before Rail Traffic arrives.

6.1. **EXAMPLE OF HOW WARNING TIME IS CALCULATED**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction time</td>
<td>5 seconds</td>
</tr>
<tr>
<td>Time required to move the Workers, tools, equipment and materials clear of the Danger Zone</td>
<td>20 seconds</td>
</tr>
<tr>
<td>Minimum time to be in a Safe Place before Rail Traffic arrives</td>
<td>10 seconds</td>
</tr>
<tr>
<td>Minimum Warning time required</td>
<td>Total 35 seconds</td>
</tr>
</tbody>
</table>

*TABLE 6.1: Example of How Warning Time is Calculated*

**WARNING**

The Sighting Distance must be measured.

The minimum Sighting Distance needed to see an approaching Rail Traffic movement, so that sufficient Warning can be given, is dependent on the minimum Warning time required and the maximum Track speed, and is determined from Table 6.2 as demonstrated in the following example:
Example: The minimum Warning time required in this example is 35 seconds and the maximum Track speed in the area is 120 km/h, therefore the minimum Sighting Distance of approaching Rail Traffic is calculated in Table 6.2 to be 1170 metres.

The Lookout must therefore be positioned to be able to see approaching Rail Traffic from at least this far in order to give the minimum Warning time required. The calculations must be rounded up to the nearest five (5) seconds.

The PO must:

- know the maximum speed for Rail Traffic on the Section of line that the work is to take place; and
- conduct a test to determine how long it will take for the Workers to remove their equipment and move to the Safe Place.

### 6.2. MINIMUM SIGHTING DISTANCE

<table>
<thead>
<tr>
<th>Maximum Track Speed</th>
<th>20 sec</th>
<th>25 sec</th>
<th>30 sec</th>
<th>35 sec</th>
<th>40 sec</th>
<th>45 sec</th>
</tr>
</thead>
<tbody>
<tr>
<td>130 km/h</td>
<td>730 m</td>
<td>910 m</td>
<td>1090 m</td>
<td>1270 m</td>
<td>1450 m</td>
<td>1630 m</td>
</tr>
<tr>
<td>120 km/h</td>
<td>670 m</td>
<td>840 m</td>
<td>1000 m</td>
<td>1170 m</td>
<td>1340 m</td>
<td>1500 m</td>
</tr>
<tr>
<td>110 km/h</td>
<td>620 m</td>
<td>770 m</td>
<td>920 m</td>
<td>1070 m</td>
<td>1230 m</td>
<td>1380 m</td>
</tr>
<tr>
<td>100 km/h</td>
<td>560 m</td>
<td>700 m</td>
<td>840 m</td>
<td>980 m</td>
<td>1120 m</td>
<td>1250 m</td>
</tr>
<tr>
<td>90 km/h</td>
<td>500 m</td>
<td>630 m</td>
<td>750 m</td>
<td>880 m</td>
<td>1000 m</td>
<td>1130 m</td>
</tr>
<tr>
<td>80 km/h</td>
<td>450 m</td>
<td>560 m</td>
<td>670 m</td>
<td>780 m</td>
<td>890 m</td>
<td>1000 m</td>
</tr>
<tr>
<td>70 km/h</td>
<td>390 m</td>
<td>490 m</td>
<td>590 m</td>
<td>680 m</td>
<td>780 m</td>
<td>880 m</td>
</tr>
<tr>
<td>60 km/h</td>
<td>340 m</td>
<td>420 m</td>
<td>500 m</td>
<td>590 m</td>
<td>670 m</td>
<td>750 m</td>
</tr>
<tr>
<td>50 km/h</td>
<td>280 m</td>
<td>350 m</td>
<td>420 m</td>
<td>490 m</td>
<td>560 m</td>
<td>630 m</td>
</tr>
<tr>
<td>40 km/h</td>
<td>230 m</td>
<td>280 m</td>
<td>340 m</td>
<td>390 m</td>
<td>450 m</td>
<td>500 m</td>
</tr>
<tr>
<td>30 km/h</td>
<td>170 m</td>
<td>210 m</td>
<td>250 m</td>
<td>300 m</td>
<td>340 m</td>
<td>380 m</td>
</tr>
<tr>
<td>25 km/h</td>
<td>140 m</td>
<td>180 m</td>
<td>210 m</td>
<td>250 m</td>
<td>280 m</td>
<td>320 m</td>
</tr>
<tr>
<td>20 km/h</td>
<td>120 m</td>
<td>140 m</td>
<td>170 m</td>
<td>200 m</td>
<td>230 m</td>
<td>250 m</td>
</tr>
<tr>
<td>15 km/h</td>
<td>90 m</td>
<td>110 m</td>
<td>130 m</td>
<td>150 m</td>
<td>170 m</td>
<td>190 m</td>
</tr>
</tbody>
</table>

*Table 6.2: Minimum Sighting Distance*

### 7. ENDING LOOKOUT WORKING

The PO must make sure all Workers, tools, equipment and materials are clear of the Worksite.
8. **KEEPING RECORDS**

The PO must keep *Permanent Records* about the details and changes to the *Worksite Protection* arrangements on the Lookout Working Worksite Planner form.

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9. **REFERENCE**

Rule 2001 Walking in the Danger Zone
Rule 2003 Handsignals and Verbal Commands
Rule 3011 Absolute Signal Blocking
Procedure 9010 Protecting Work from Rail Traffic on Adjacent Lines
N&I 8800-400-001 Public Transport Authority Rail Access Manual

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10. **EFFECTIVE DATE**

1 November 2018