ANPR 711

Lookouts

Applicability

NSW
SMS

Publication Requirement

External Only

Document Status

Issue/Revision #	Effective from
3.2	16 July 2021

Introduction

Lookouts give warning about *rail traffic* movements to workers in the *Danger Zone*.

Lookouts *must* have effective sighting of workers and approaching rail traffic.

Lookouts do no work other than look for, and give warning about, the approach of rail traffic.

Equipment

Lookouts must have:

- *effective communication* with workers, and
- one or more *audible warning devices*.

Protection Officer

1. Identify all possible points of entry into the worksite.
2. For each route leading to the worksite, calculate the Minimum Warning Time.
3. Decide on the number of Lookouts needed to keep watch for rail traffic and give warning.
4. If necessary, place an additional Lookout before the Lookout closest to the worksite, to give earlier warning about approaching rail traffic.
5. Place each Lookout in a *safe place*.

If the safety assessment identifies the use of two Lookouts in any running direction is insufficient for the work or location, then a higher method of protection must be used.

The maximum number of Lookouts in any running direction on each track is two (2).

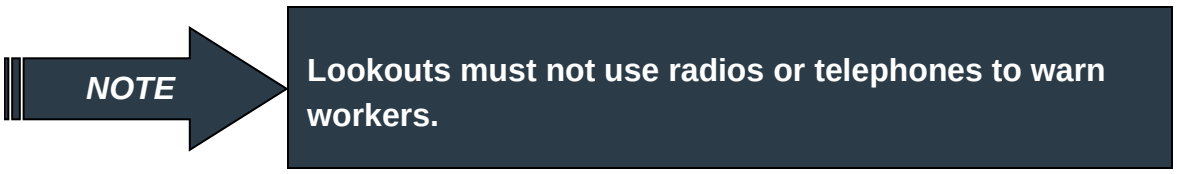
The additional Lookout must stay within sight and hearing of the Lookout closest to the worksite.

Worksite over a large area

Protection Officer

1. Make sure that all workers and their equipment are in a safe place before repositioning the Lookout.
2. Reposition the Lookout, and for each route leading to the worksite, calculate the Minimum Warning Time.
3. Make sure the Lookout is in position and the line is clear before allowing workers to commence work.

Giving warning



Lookouts

1. Agree with the *Protection Officer* about how workers will be warned about the approach of rail traffic.
2. Stand or walk in a *safe place* where you can see approaching rail traffic.
3. Remain within sight and either physical touch or hearing of the workers. If you cannot do this safely, tell the Protection Officer.
4. Keep a continuous watch for the approach of rail traffic. In *bidirectional* single-track areas where one (1) Lookout is used, look frequently in each direction (approximately every 5 seconds is recommended).
5. If you see or are advised that rail traffic is approaching, warn the workers immediately.
6. Only if workers and their equipment are in a safe place, face the approaching rail traffic and give an ALL CLEAR *handsignal* to the *Rail Traffic Crew*.
7. Wait for the Driver or track vehicle operator to acknowledge the ALL CLEAR handsignal.
8. Make sure that the line is clear before telling the Protection Officer that it is safe for work to resume.

9. Tell the Protection Officer if you need to move from your designated position, and only move if all workers and their equipment are in a safe place, or a new Lookout is in position.
10. If conditions such as visibility change, tell the Protection Officer.

Minimum Warning Time

Minimum Warning Time (MWT) is the minimum time required for a Lookout to warn workers on track about approaching rail traffic.

When using a single Lookout on bidirectional single-track areas to provide warning for both directions, a minimum of 15 seconds must be used for the reaction time.

The minimum warning time required must be recorded in permanent form and be calculated as follows:

- time it might take a Lookout to see approaching rail traffic and warn workers (Reaction Time) = **A** seconds

  plus

- time it takes the workers to hear or respond to the warning and start to move = **B** seconds

  plus

- time required to move the workers, tools, equipment and materials clear of the track to a Safe Place = **C** seconds

  plus

- the minimum time to be in a Safe Place before rail traffic arrives = **10** seconds

The Minimum Warning Time required = (A + B + C + **10**) seconds.

NOTE

If using a single Lookout in a bidirectional single-track area, the reaction time (A) as detailed above will need to have additional time included for the Lookout to look in both directions. This must not be less than fifteen (15) seconds.

Minimum Sighting Distance

The minimum sighting distance needed to see an approaching rail traffic movement is dependent on the minimum warning time required and the maximum permanent track speed and is determined from the below Table.

Approaching rail traffic will travel over the distances shown, within the times shown at the top of the table, when travelling at the speeds shown on the left.

	Distance Travelled / Time Taken					
Speed Km/h	**20 seconds**	**25 seconds**	**30 seconds**	**35 seconds**	**40 seconds**	**45 seconds**
160	890m	1110m	1335m	1555m	1780m	2000m
150	840m	1045m	1250m	1460m	1670m	1875m
140	780m	970m	1170m	1360m	1555m	1750m
130	730m	905m	1085m	1265m	1445m	1625m
120	670m	835m	1000m	1170m	1335m	1500m
110	620m	765m	920m	1070m	1225m	1375m
100	560m	695m	835m	975m	1110m	1250m
90	500m	625m	750m	875m	1000m	1125m
80	450m	555m	670m	780m	890m	1000m
70	390m	485m	585m	680m	780m	875m
60	340m	420m	500m	585m	670m	750m
50	280m	350m	420m	485m	555m	625m
40	230m	280m	335m	390m	445m	500m
30	170m	210m	250m	295m	335m	375m
25	140m	175m	210m	245m	280m	315m
20	120m	140m	170m	195m	225m	250m
15	90m	110m	130m	150m	170m	190m

Figure ANPR 711-1

Example of how Warning Time is Calculated.

The Minimum Warning Time required = (A + B + C + **10**) seconds	
(A) Reaction time	3 Seconds
(B) Time it takes the workers to hear the warning and start to move	6 Seconds
(C) Time required to move the workers, tools, equipment and materials clear of the track	10 Seconds
Minimum time to be in a Safe Place before rail traffic arrives	**10** Seconds
Minimum warning time required	**Total 29 Seconds**

Maximum permanent track speed for the worksite location is 145 km/h as identified in the *Route Access Standards* (RAS) or *Network Information Books* (NIB's).

The Minimum Sighting Distance of approaching rail traffic from the above Table is 1250 metres
(rounding up to 30 seconds and 150 km/h).

The Lookout must be positioned to be able to see approaching rail traffic at least 1250m away in order to give the minimum warning time required.

Figure ANPR 711-2

Example of how Warning Time is Calculated on bidirectional single track.

The Minimum Warning Time required = (A + B + C + **10**) seconds	
(A) Reaction time	15 Seconds
(B) Time it takes the workers to hear the warning and start to move	7 Seconds
(C) Time required to move the workers, tools, equipment and materials clear of the track	10 Seconds
Minimum time to be in a Safe Place before rail traffic arrives	**10** Seconds
Minimum warning time required	**Total 42 Seconds**

Maximum permanent track speed for the worksite location is 145 km/h as identified in the *Route Access Standards* (RAS) or *Network Information Books* (NIB's).

The Minimum Sighting Distance of approaching rail traffic from the above Table is 1875 metres
(rounding up to 45 seconds and 150 km/h).

The Lookout must be positioned to be able to see approaching rail traffic at least 1875m away in order to give the minimum warning time required.

Verification of Sighting Distance

To ensure the sighting distance is correct, the Protection Officer must use one of the following methods:

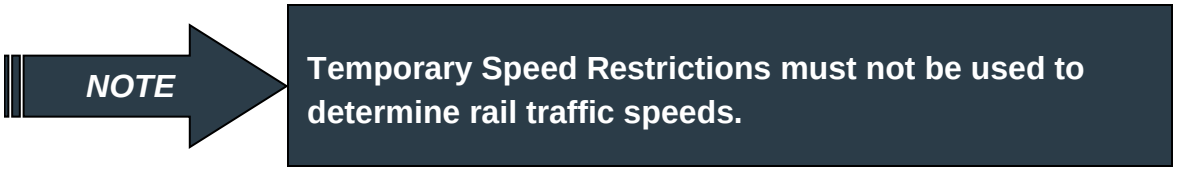
- approved Network Diagrams which identify actual kilometre to prominent *infrastructure* or locations, or
- technological devices such as sighting distance scopes, or
- physically drive or walk the sighting distance to accurately measure and identify the specific marker for the sighting distance.

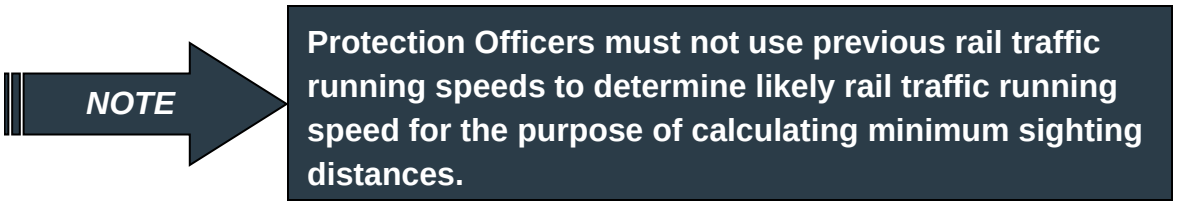
Permanent Speeds

Permanent track speed locations are nominated in the Route Access Standards (RAS) and Network Information Booklets (NIB's).

Protection Officer's implementing Lookout Working must have a current printed copy of the relevant RAS or NIB with them to determine the minimum sighting distance required.

Where there are multiple permanent speeds where Lookout Working is being used, the highest permanent speed must be used to determine minimum sighting distances.





Effective Date

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