

## ATWS Worksite Protection for Wye condition monitoring equipment maintenance

<b>DOCUMENT NO.</b>	D2021/29460
<b>WORK DESCRIPTION</b>	Condition monitoring equipment maintenance
<b>WPP Number</b>	CMO2BWS 10178
<b>SCOPE:</b>	<p>This SWI is applicable for the worksite protection arrangements using ATWS for routine condition monitoring equipment maintenance activities performed by the Condition Monitoring Operations section.</p> <p>Work activities include but not limited to:</p> <ul style="list-style-type: none"> <li>• Condition monitoring equipment corrective maintenance</li> <li>• Condition monitoring equipment routine maintenance</li> <li>• Maintenance activities in line with NWT310 Lookout Working</li> </ul>
<b>AUTHORISATIONS:</b>	<p><b>Protection Officer/Operator:</b></p> <ul style="list-style-type: none"> <li>• Protection Officer Level 1 or higher, and</li> <li>• WATWS – Wireless Automatic Track Warning System</li> </ul> <p><b>Installer:</b></p> <ul style="list-style-type: none"> <li>• Protection Officer Level 1 or higher, and</li> <li>• WATWS – Wireless Automatic Track Warning System</li> </ul>
<b>SAFETY CONTROLS – Lookout Working (ATWS) arrangements:</b>	<p>The work is performed at a defined worksite outside yard limits, protected using Lookout Working arrangements with Automatic Track Warning System (ATWS) equipment:</p> <ul style="list-style-type: none"> <li>• Installed ATWS sensors for Down approach on the <b>Down Main North line at 110.400 km</b></li> <li>• Installed ATWS sensors for Up approach on the on <b>Up Main North line at 111.900 km</b></li> </ul>
<b>PRESTART REQUIREMENTS:</b>	<p>Protection Officer/Operator assessment checklist must be completed before instructions in this SWI are followed.</p> <p>Tools and equipment required:</p> <ul style="list-style-type: none"> <li>• Protection Officer/Operator requires a phone to contact the Signaller.</li> <li>• ATWS equipment (see Required ATWS equipment checklist)</li> <li>• Digital radios</li> </ul>
<b>FURTHER INFORMATION:</b>	<p><i>NWT 300 Planning work in the Rail Corridor</i></p> <p><i>NWT 310 Lookout Working</i></p> <p><i>NGE 200 Walking in the Danger Zone</i></p> <p><i>NPR 711 Using Lookouts</i></p> <p><i>NPR 751 Calculating Minimum Warning Time</i></p> <p><i>NPR 712 Protecting work from rail traffic on adjacent lines</i></p> <p><i>NPR 752 Using Wireless Automatic Warning Systems</i></p> <p><i>NLA 314 Gosford–Broadmeadow</i></p> <p><i>Lookout Working Prohibited Locations Register</i></p>

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## Protection Officer assessment checklist

<b>Protection Officer/Operator's name:</b>		<b>Yes</b> (Tick if Yes)
This document has not expired 12 months beyond the issue date.		
SWI details and protection arrangements have been reviewed and validated for the assessed worksite location, including: <ul style="list-style-type: none"> <li>On-site safety assessment has been completed for relevancy of works being undertaken</li> <li>The required protection details, environment and tasks are unchanged from the details of this SWI</li> </ul>		
The Protection Officer and Qualified Workers deploying the ATWS equipment and protecting the worksite hold the WATWS qualification.		
<b>Corridor Safety Number</b>	<b>Protection Officer Signature</b>	<b>Date</b>

### Warning



If an above item does not apply, the Protection Officer must not use this Safe Work Instruction. A new worksite protection plan must be completed in accordance with NRF 014 Worksite Protection Pre-work briefing and NRF 015 Worksite Protection Plan.

## Required ATWS Equipment

Item	Description	Quantity
Aerial	Telescopic Aerial	3
Assembly Kit	Orange Bag with Tools	1
Battery ZA24-2.9	Small battery for Junction Box and Transmitter	4
Device Frame	Protective Frame	2
F500-AB Junction Box	Receiver Device	2
F500-SEN Train Sensor	Sensor	2
Housing for Aerial	Housing for Telescopic Aerial	3
KF5-5 Extension Cable	Extension Cable (5m) for F500-SEN to F500-AB	0
Mobile Backpack	Harness for Device	0
Pouch	Pouch for small battery	2
Tripod	Tripod for Device	3
ZFS Radio Transmitter	Radio Transmitter Device	2
ZPW Warning Unit	Control and Warning Device	1

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## Worksite Protection Pre-work Briefing

Briefing date:  /  /

### Protection Officer details

name       signature       contact No.

Work location:

Scope of work:

Worksite protection:  Refer to Worksite Protection Plan for details

Hazards (e.g. Site specific hazards identified, including physical environment, human errors, plant and equipment)	Controls (to be implemented to eliminate or reduce the risk to the lowest practicable level)	Person responsible for Control
<b>Approaching rail traffic</b>	Lookout Working using ATWS Workers to remain within worksite limits. Workers to be within 50m of a warning device	Protection Officer/Operator
<b>Unidirectional running</b>	ATWS sensors placed for all entry points into the worksite	Protection Officer/Operator
<b>Miscount of multiple train warnings</b>	Protection Officer/Operator must call out to workers the: <ul style="list-style-type: none"> <li>number of train warnings, and</li> <li>clearing of each train warning.</li> </ul> Dedicated Lookouts must confirm with the Protection Officer/Operator when rail traffic has cleared the worksite and which train warning that rail traffic belonged to.	Protection Officer/Operator and Workplace Supervisor
<b>Electric shock</b>	Operators must make sure ATWS antennae length does not breach Safe Approach Distance (SAD) to overhead wiring.	All
<b>Mobile phone distraction</b>	Mobile phone usage is not allowed in the Danger Zone. Mobile phones may be used only in a safe place after informing the Protection Officer.	All
<b>Digital radios</b>	Digital radios only to be used in a safe place. GRN radios must not be used.	All
<b>Obstructions or uneven surfaces in the exit path to a safe place</b>	Before commencing work, a route to the safe place is to be agreed upon taking obstructions and uneven surfaces into consideration.	Workplace Supervisor
<b>Exposure to excessive noise</b>	Workers must not stand directly in front of audible warning devices.	All
<b>Slips, trips, falls and hazards carrying ATWS equipment</b>	Areas of concern are marked and/or identified to all workers. Designated work areas to be established and kept free of hazards. Established walk areas to be utilised where established.	All

**Safe Work Instruction**



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**Workplace Supervisor details**

name  contact No.

Emergency assembly point:  SWMS/SWI Ref #:

First aid kit location:  First aider:

**Workplace Supervisor acknowledgement**

The Workplace Supervisor acknowledges that all identified WHS and rail safety hazards have the appropriate controls in place to manage and/or eliminate the hazards.

Yes

**Participant Acknowledgement**

**NOTE: Recipients of the briefing are to question the Briefer if they don't understand any part of this briefing.**

All workers listed below acknowledge that they:

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>1. have been inducted to the site</li> <li>2. are free from alcohol and drugs</li> <li>3. are free from the effects of fatigue</li> <li>4. hold the applicable and current Rail Safety Worker Authorisation, trade licence and/or induction record e.g. Construction Industry Induction</li> <li>5. must wear the appropriate Personal Protective Equipment (PPE)</li> </ol> | <ol style="list-style-type: none"> <li>6. have been briefed on the contents of the Worksite Protection Plan</li> <li>7. have been shown the Worksite Protection Plan diagram</li> <li>8. understand the kinds and limits of worksite protection in place</li> <li>9. have been briefed about any new hazards and controls identified during the final site inspection <i>(final site inspection must be conducted immediately before commencing work)</i></li> </ol> |
|---|--|

Mark each check box below with a tick  if the item applies or a cross  if the item does not apply.

- |  |   |
|--|---|
| <input type="checkbox"/> have been informed of the requirements of the electrical permit (if required)<br><input type="checkbox"/> have been briefed on the SWMS/SWIs/documentated safe work practice for the job<br><input type="checkbox"/> have been instructed in the controls recorded in this document and SWMS/SWIs | <input type="checkbox"/> have been made aware of any hazardous materials/substances on site<br><input type="checkbox"/> have been briefed on Safety Data Sheets (SDS)<br><input type="checkbox"/> have been briefed on the WHS Management plan<br><input type="checkbox"/> have been briefed on the hazards of adjoining worksites/processes. |
|--|---|

Name	Signature	Time of briefing: hh:mm	Amendment briefing: hh:mm and initial

Safe Work Instruction

ATWS Worksite Protection for Wye condition monitoring equipment maintenance



Worksite Protection Plan – Lookout Working

Signaller Details

Signaller name: [ ] Wyong Panel 4923 0921

Protection Officer Details

Protection Officer name, signature, contact No., RSW or RIW No., designation, Planned duration

Workplace Supervisor details: [ ]

Type of work: [ ]

Worksite Location (tick the tracks that apply)
On the Up Main North line [ ]
between 69.8 Auto Signal and 68.6 Auto Signal
On the Down Main North line [ ]
between 68.3 Auto Signal and 69.7 Auto Signal

Worksite Assessment

Has the Lookout Working Prohibited Locations Register been consulted? Yes [ ]

Warning method

ATWS

Minimum Warning Time Calculations

Maximum track speed 115 km/h

Number of ATWS Sensors used 2 Position of ATWS Sensors 110.400 km to 111.900 km

Number of dedicated Lookouts used - Position of Lookouts - km To - km

Note - Lookouts are relocated to positions within these KMs as workers move along the worksite.

7 sec + 3 sec + 10 sec = Minimum Warning Time (MWT) 20 sec 115 km/h 639 metres
7 sec + 3 sec + 10 sec (S+M+10 sec = MWT) 20 sec 115 km/h 639 metres
See Time (S) Move Time (M) Safe Time Track speed Minimum Sighting Distance as calculated

Where are the safe places identified for the Lookouts and the workers?

Lookouts: Not applicable

Workers: Up and Down Cess

Ensure the workers have been briefed about these work details Yes [ ]

Diagrams, notes and detailed instructions of worksite protection arrangements are over the next pages. These are to be read and followed as part of this worksite protection plan for Lookout Working with ATWS.

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<b>INSTRUCTIONS:</b>	<ol style="list-style-type: none"> <li>1. Workers enter the rail corridor via access gate <b>W00 113.974 U</b></li> <li>2. Protection Officer conducts the pre-work briefing.</li> <li>3. Protection Officer contacts Wyong Panel to tell the Signaller about the use of ATWS.</li> <li>4. Setup ATWS Worksite Warning System as per installation instructions</li> <li>5. Install/calibrate/verify Down ATWS sensor at <b>110.400 KM</b> on the <b>Down Main North line</b>.</li> <li>6. Install /calibrate/verify Down ATWS sensor at <b>111.900 KM</b> on the <b>Up Main North line</b>.</li> <li>7. Test ATWS equipment.</li> <li>8. Perform first rail traffic movement activation test with each ATWS sensor.</li> <li>9. Workers start work.</li> <li>10. After work is completed, workers move into a safe place.</li> <li>11. Turn off ATWS Warning unit.</li> <li>12. Turn off and remove all ATWS transmitter units.</li> <li>13. All workers egress the rail corridor via access gate <b>W00 113.974 U</b></li> <li>14. Protection Officer contacts the Signaller at Penrith Panel to end ATWS.</li> </ol>
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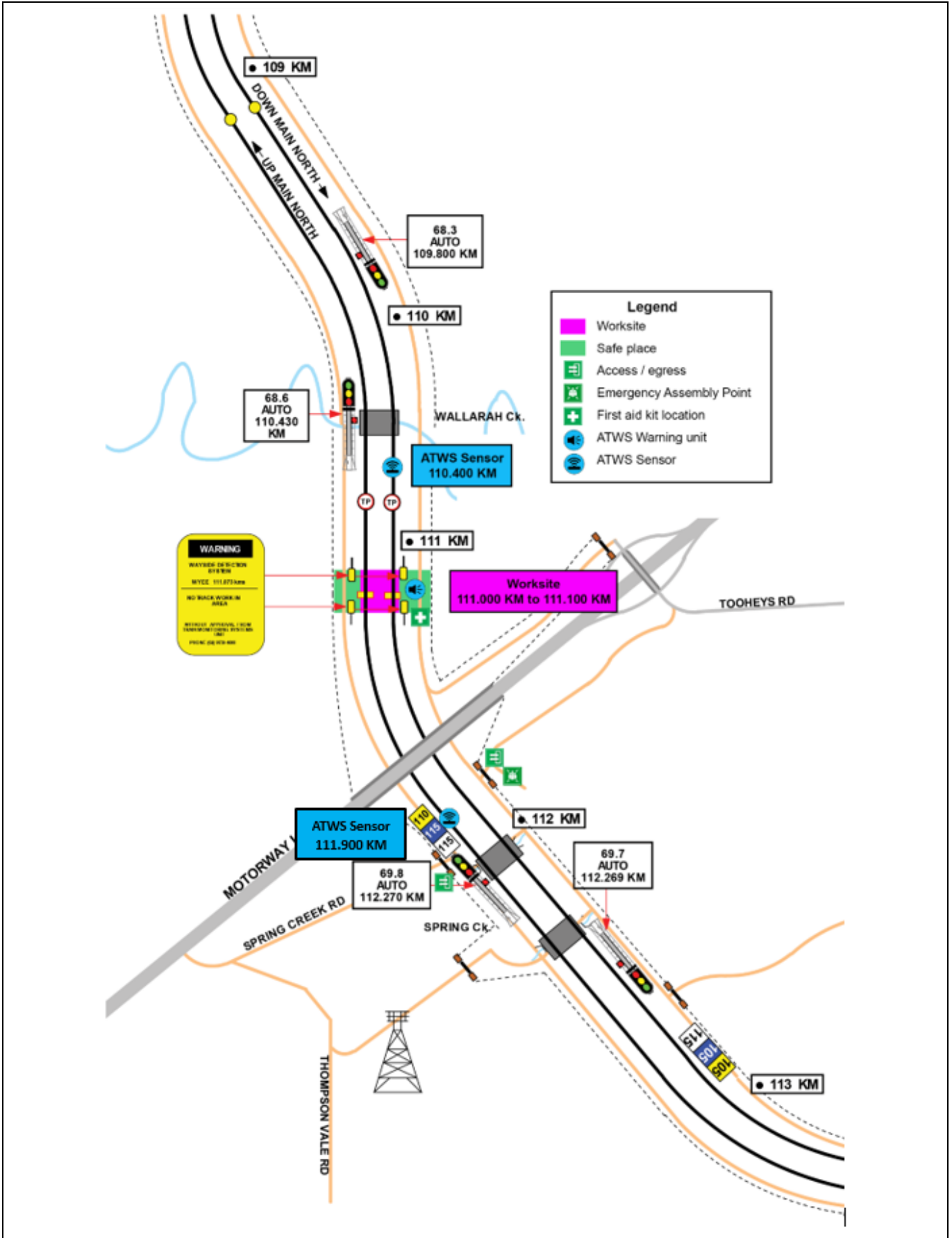
<b>ADDITIONAL DETAILS</b>	<p><u>ATWS Sensor plate test calibration</u></p> <p>Whilst performing the plate test calibration, make sure to look for rail traffic approach.</p>
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**Setup checklist for ATWS worksite warning unit on the Up and Down Main North line at 111.050km**

Installer name		
Step	Task Description	Installer Initials
1	Verify Worksite Start Location with Kilometres	
2	Confirm Audible Level	
3	Confirm and Set Radio Channel for Warning Unit	
4	Book in ATWS sensor 1	
5	Book in ATWS sensor 2	
6	Perform Worksite Warning Test with all ATWS sensors	
7	Ensure the workers have seen the visual warning and heard the audible warning	
9	Select and Confirm Channel for the Radio Transmitter	
9	Confirm worksite warning unit is operational with Installers and advise them to lock devices and remove key	
10	Lock device and remove key	

# ATWS Worksite Protection for Wye condition monitoring equipment maintenance

Diagram







## ATWS Worksite Protection for Wye condition monitoring equipment maintenance

*(This page can be separated from the worksite protection plan to be given to the assigned installer)*

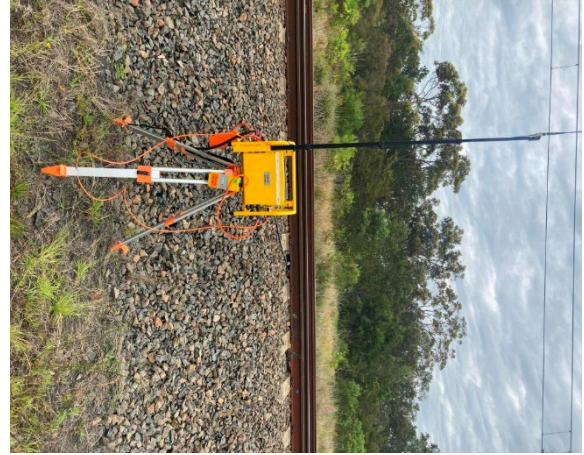
### Installation checklist for ATWS transmitter and sensor on Up Main North line at 111.900 KM

Installer name		
Step	Task Description	Installer Initials
1	Verify Track Label for Location of Sensor as per the Protection Diagram and Photos in this document	
2	Sensor clamp (SK150) pre-adjusted according to the rail profile as per the Worksite Protection Diagram	
3	Sensor Direction is Installed as per Worksite Protection Diagram and Photos in this document	
4	Connect Sensor Cable to Junction Box	
5	Confirm all batteries are fully charged	
6	Connect Junction Box to ZFS using Channel T1 –T4	
7	Commence calibration and automatic self-test	
8	Perform function test using Test Plate (Strike In)	
9	Perform first rail traffic activation test	
10	Confirm Transmitter booked in to correct T-channel (T1-T4)	
11	Select and Confirm Channel for the Radio Transmitter	
12	Perform Worksite Warning Test using Test Plate	
13	Lock Device and Remove Key	

# ATWS Worksite Protection for Wye condition monitoring equipment maintenance



**Image 1:** Sensor installation reference location



**Image 2:** Transmitter location

# ATWS Worksite Protection for Wye condition monitoring equipment maintenance

*(This page can be separated from the worksite protection plan to be given to the assigned installer)*

## Installation checklist for ATWS transmitter and sensor on Down Main North line at 110.400 KM

Installer name		
Step	Task Description	Installer Initials
1	Verify Track Label for Location of Sensor as per the Protection Diagram and Photos in this document	
2	Sensor clamp (SK150) pre-adjusted according to the rail profile as per the Worksite Protection Diagram	
3	Sensor Direction is Installed as per Worksite Protection Diagram and Photos in this document	
4	Connect Sensor Cable to Junction Box	
5	Confirm all batteries are fully charged	
6	Connect Junction Box to ZFS using Channel T1-T4	
7	Commence calibration and automatic self-test	
8	Perform function test using Test Plate (Strike In)	
9	Perform first rail traffic activation test	
10	Confirm Transmitter booked in to correct T-channel (T1-T4)	
11	Select and Confirm Channel for the Radio Transmitter	
12	Perform Worksite Warning Test using Test Plate	
13	Lock Device and Remove Key	

# ATWS Worksite Protection for Wye condition monitoring equipment maintenance



Image 1: Sensor installation location



Image 2: Transmitter location