

ATWS Worksite Protection for Rhodes condition and monitoring equipment maintenance

DOCUMENT NO.	D2023/1824
WORK DESCRIPTION	Condition monitoring equipment maintenance
WPP Number	CMO13BWS 10002
SCOPE:	<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"> • Condition monitoring equipment corrective maintenance • Condition monitoring equipment routine maintenance • Maintenance activities in line with NWT310 Lookout Working
AUTHORISATIONS:	<p>Protection Officer/Operator:</p> <ul style="list-style-type: none"> • Protection Officer Level 1 or higher, and • WATWS – Wireless Automatic Track Warning System <p>Installer:</p> <ul style="list-style-type: none"> • Protection Officer Level 1 or higher, and • WATWS – Wireless Automatic Track Warning System
SAFETY CONTROLS – Lookout Working (ATWS) arrangements:	<p>The work is performed at a defined worksite inside yard limits, protected using Lookout Working arrangements with Automatic Track Warning System (ATWS) equipment:</p> <ul style="list-style-type: none"> • Installed ATWS sensors for Down direction running on the Down Main North line at 16.292 km • Installed ATWS sensors for Down direction running on the Down Relief North line at 16.292 km • Installed ATWS sensors for Up direction running on the on Up Main North line at 18.059 km
PRESTART REQUIREMENTS:	<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"> • Protection Officer/Operator requires a phone to contact the Signaller. • ATWS equipment (see Required ATWS equipment checklist) • Digital radios
FURTHER INFORMATION:	<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 300 Strathfield- Hornsby</i></p> <p><i>Lookout Working Prohibited Locations Register</i></p>

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Protection Officer/Operator assessment checklist

Protection Officer/Operator's name:		Yes (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"> On-site safety assessment has been completed for relevancy of works being undertaken The required protection details, environment and tasks are unchanged from the details of this SWI. 		
The Protection Officer and Qualified Workers deploying the ATWS equipment and protecting the worksite have been inducted into the requirements of the ATWS protection method for the location.		
Corridor Safety Number	Protection Officer Signature	Date

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	6
Device Frame	Protective Frame	3
F500-AB Junction Box	Receiver Device	3
F500-SEN Train Sensor	Sensor	3
Housing for Aerial	Housing for Telescopic Aerial	3
KF5-5 Extension Cable	Extension Cable (5m) for F500-SEN to F500-AB	1
Mobile Backpack	Harness for Device	0
Pouch	Pouch for small battery	4
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

Work location:

Scope of work: **Condition monitoring equipment maintenance**

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
Approaching rail traffic	Lookout Working using ATWS Workers to remain within worksite limits. Workers to be within 50m of a warning device	Protection Officer/Operator
Unidirectional running	ATWS sensors placed for all entry points into the worksite	Protection Officer/Operator
Unsignalled rail traffic movements	Dedicated Lookouts placed watching for unsignalled movements in both directions	Lookout
Miscount of multiple train warnings	Protection Officer/Operator must call out to workers the: <ul style="list-style-type: none"> number of train warnings, and clearing of each train warning. 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
Electric shock	Operators must make sure ATWS antennae length does not breach Safe Approach Distance (SAD) to overhead wiring.	All
Mobile phone	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
Digital radios	Digital radios only to be used in a safe place. GRN radios must not be used.	All
Obstructions or uneven surfaces in the exit path to a safe place	Before commencing work, a route to the safe place is to be agreed upon taking obstructions and uneven surfaces into consideration.	Workplace Supervisor
Exposure to excessive noise	Workers must not stand directly in front of audible warning devices.	All
Slips, trips, falls and hazards carrying ATWS equipment	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

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Worksite Protection Plan – Lookout Working

Signaller details

	Epping Panel	9701 1580
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Protection Officer details

name	signature	contact No.
RSW or RIW No.	designation	Planned duration

Workplace Supervisor details:

Type of work: **Condition monitoring equipment maintenance**

Worksite location

On the

between and

On the

between and

Worksite Assessment

Has the Lookout Working Prohibited Locations Register been consulted? Yes

Warning method

ATWS	Voice/Touch
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Minimum Warning Time Calculations

Maximum track speed

Number of ATWS Sensors used Position of ATWS Sensor and

Number of dedicated Lookouts used Position of Lookouts to

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

Dedicated Lookout

2 sec	+	3 sec	+	10 sec	= Minimum Warning Time (MWT)	15 sec	25 km/h	105 metres
2 sec	+	3 sec	+	10 sec	(S+M+10 sec = MWT)	15 sec	25 km/h	105 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:

Workers:

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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INSTRUCTIONS:	<ol style="list-style-type: none"> 1. Workers enter the rail corridor via access gate N00 16.795 U. 2. Protection Officer conducts the worksite protection pre-work briefing. 3. Protection Officer contacts Epping Panel to tell the Signaller about the use of ATWS. 4. Setup ATWS Worksite Warning System as per installation instructions 5. Install/calibrate/verify Down ATWS sensor at 16.292 KM on the Down Main North line. 6. Install/calibrate/verify Down ATWS sensor at 16.292 KM on the Down Relief North line. 7. Install /calibrate/verify Down ATWS sensor at 18.059 KM on the Up Main North line. 8. Test ATWS equipment. 9. Place dedicated Lookout. 10. Workers start work. 11. Once work is completed, workers move into a safe place. 12. Turn off ATWS Warning unit. 13. Turn off and remove all ATWS transmitter units. 14. All workers egress the rail corridor via access gate N00 16.795 U. 15. Protection Officer contacts the Signaller at Epping Panel to end ATWS.
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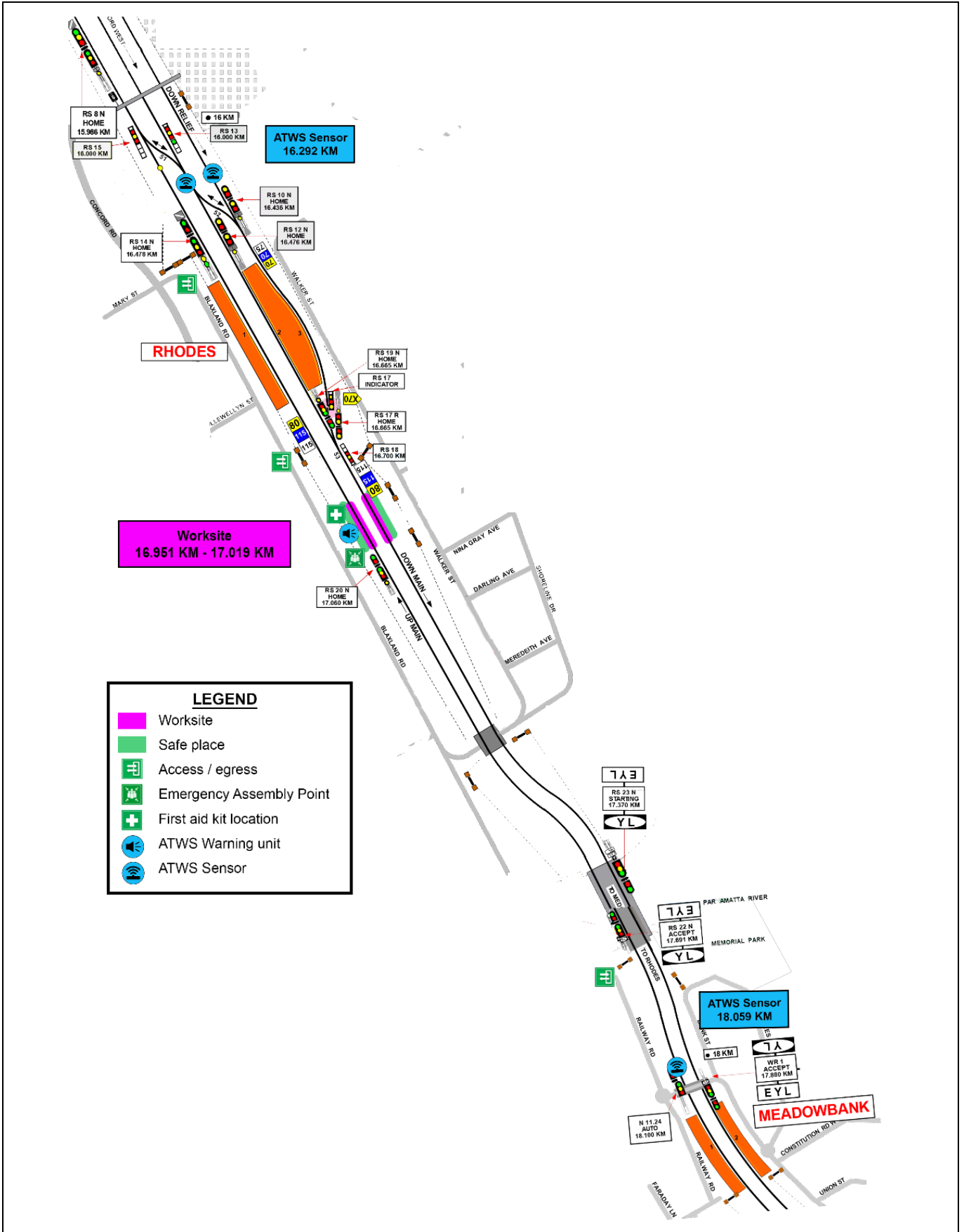
ADDITIONAL DETAILS	<p><u>ATWS Sensor plate test calibration</u> Whilst performing the plate test calibration, make sure to look for rail traffic approach.</p> <p><u>Unsignalled rail traffic movements</u> Unsignalled rail traffic movements may occur on any line from any direction. Dedicated Lookouts must remain within sighting and hearing of workers whilst watching for unsignalled rail traffic approach.</p>
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Setup checklist for ATWS worksite warning unit at Main North line at 17.000 KM

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	Book in ATWS sensor 3	
8	Perform Worksite Warning Test with all ATWS sensors	
9	Ensure the workers have seen the visual warning and heard the audible warning	
10	Select and Confirm Channel for the Radio Transmitter	
11	Confirm worksite warning unit is operational with Installers and advise them to lock devices and remove key	
12	Lock device and remove key	

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Diagram



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(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/Relief line at 16.292 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	
7	Commence calibration and automatic self-test	
8	Perform function test using Test Plate (Strike In/Strike Out)	
9	Perform first rail traffic activation test	
10	Confirm Transmitter booked in to correct T-channel (T1)	
11	Select and Confirm Channel for the Radio Transmitter	
12	Perform Worksite Warning Test using Test Plate	
13	Lock Device and Remove Key	



Image 1: ATWS Sensor Access gate N00 16.482 U



Image 2: Sensor location on the Dn Main/ Relief North line.

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

ATWS Worksite Protection for Rhodes condition and monitoring equipment maintenance

Installation checklist for ATWS transmitter and sensor on Up Main North Line 18.059 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	



Image 1: ATWS Sensor Access gate N00 17.748 U

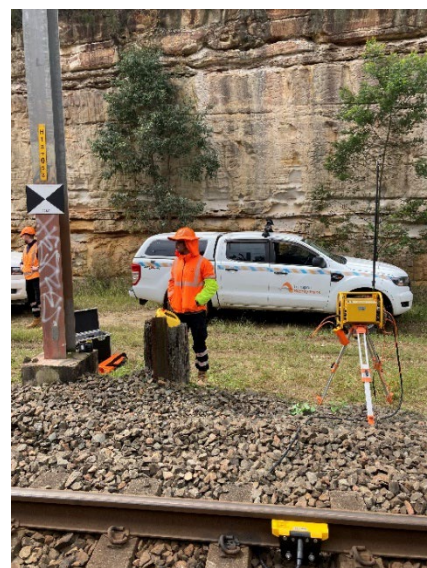


Image 2: Sensor location on the Up Main North16 line.