network procedures

Using Wireless Automatic Track Warning Systems

Introduction

A Wireless Automatic Track Warning System (ATWS) is an automated system that provides warning to workers of approaching rail traffic.

Wireless ATWS must not be used where a work on track authority is in place.

Equipment

The Protection Officer or ATWS Operator must wear a high visibility sleeve on the arm used to give the **ALL CLEAR** handsignal.

An ATWS consists of three main components:

- track-mounted sensors to detect rail traffic
- a transmitter unit
- a warning unit.

Installation

Outside yard limits

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 (MWT) in accordance with *NPR 751 Calculating Minimum Warning Time*.
3. Identify the sensor locations that will provide the MWT required to warn workers of approaching rail traffic.

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ATWS Operator

4. Install the sensors at the required locations.
5. Calibrate each sensor unit.
6. Test each sensor with an approved test plate.
7. Synchronise the transmitter unit with the warning unit.
8. Make sure that each sensor is activated by a rail traffic movement.

Protection Officer

9. Verify that the sensor location is correct by:
   - making sure there is a direct line of sight from the sensor to the worksite and visually confirming that the sensor is placed on the correct tracks, or
   - travelling from the sensor location to the worksite location on the same side of the track, or
   - recording the identification number of the rail traffic used to test the sensor and confirming that the same rail traffic passes the worksite.

Inside yard limits

Protection Officer

1. Make sure the worksite is specified in the Network Local Appendices.

WARNING

Sensors must only be placed for worksites specified in the Network Local Appendices

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ATWS Operator

2. If required, install the sensors at the specified locations.

Protection Officer

3. If required, clip and lock points to reduce the number of entry points.

ATWS Operator

4. Calibrate each sensor unit.
5. Test each sensor with an approved test plate.
6. Synchronise the transmitter unit with the warning unit.

Protection Officer

7. Visually verify the sensors are placed on the correct tracks as specified in the Network Local Appendices.

Using ATWS

Protection Officer

1. Before entering the Danger Zone, make sure that:
   - there is no approaching rail traffic between the sensors and the worksite
   - workers will remain within sight and hearing of the warning unit at all times.

Responding to a warning

When approaching rail traffic passes a sensor, the warning unit will sound an audible warning, warning lights will flash and **1 WARNING** will be displayed on the screen.

Protection Officer

1. Only if workers and their equipment are in safe places, face the approaching rail traffic and give the **ALL CLEAR** handsignal to the Driver or Track Vehicle Operator.

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ATWS Operator

2. After rail traffic has completely passed the worksite, cancel the warning on the warning unit.

WARNING

Be alert for following rail traffic movements

Protection Officer

3. After the warning has been cancelled, confirm that there is no approaching rail traffic between the sensor and the worksite before allowing work to resume.

Responding to a second warning

The warning unit screen will display **2 WARNINGS** if a second rail traffic movement is detected:

- before the first rail traffic movement has passed beyond the worksite
- before the first warning is cancelled.

ATWS Operator

1. When a second warning is activated, tell the Protection Officer about the warning.
2. Cancel the first warning only when the first rail traffic movement has completely passed the worksite.
3. Cancel the second warning only when the second rail traffic movement has completely passed the worksite.

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Protection Officer

4. Tell the workers about the second rail traffic movement and to remain in a safe place.
5. Only if workers and their equipment are in safe places, face the approaching rail traffic and give the **ALL CLEAR** handsignal to the Driver or Track Vehicle Operator.
6. After the warning has been cancelled, confirm that there is no approaching rail traffic between the sensor and the worksite before allowing work to resume.

False activation

If a false activation occurs, the warning unit will sound an audible warning, warning lights will flash and the screen will display a warning or a fault indication.

WARNING

If a false activation occurs, workers must not enter the Danger Zone until the Protection Officer has established:

- that the ATWS equipment is working correctly
- that there is no approaching rail traffic between the sensors and the worksite.

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Protection Officer

1. Make sure that workers remain in a safe place.
2. Make sure there is no approaching rail traffic between the sensors and the worksite by:
   - visually confirming that the line is clear between the sensors and the worksite, or
   - contacting the Signaller to confirm if there is rail traffic between the sensors and the worksite.

ATWS Operator

3. If there is no rail traffic between the sensors and the worksite, cancel all warnings on the warning unit.

Protection Officer

4. Make sure the warning has been cancelled before allowing work to resume.

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NPR 751 Calculating Minimum Warning Time

Effective date

31 October 2021