KiwiRail

Worksite Entry Train Alert System

(WETA)

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1. Introduction

The Worksite Entry Train Alert (WETA) system is an additional level of worksite protection that will:

- warn Rail Personnel when a rail movement has entered a protected work area
- warn Rail Personnel regardless of whether the rail movement has been authorised to enter or not
- provide an opportunity for track crew to leave their location / vehicles / equipment and clear the track immediately to avoid harm in the event of unauthorised worksite entry
- allow the plant to go into safe mode for passing trains adjacent to the worksite when working clear.

2. System Description

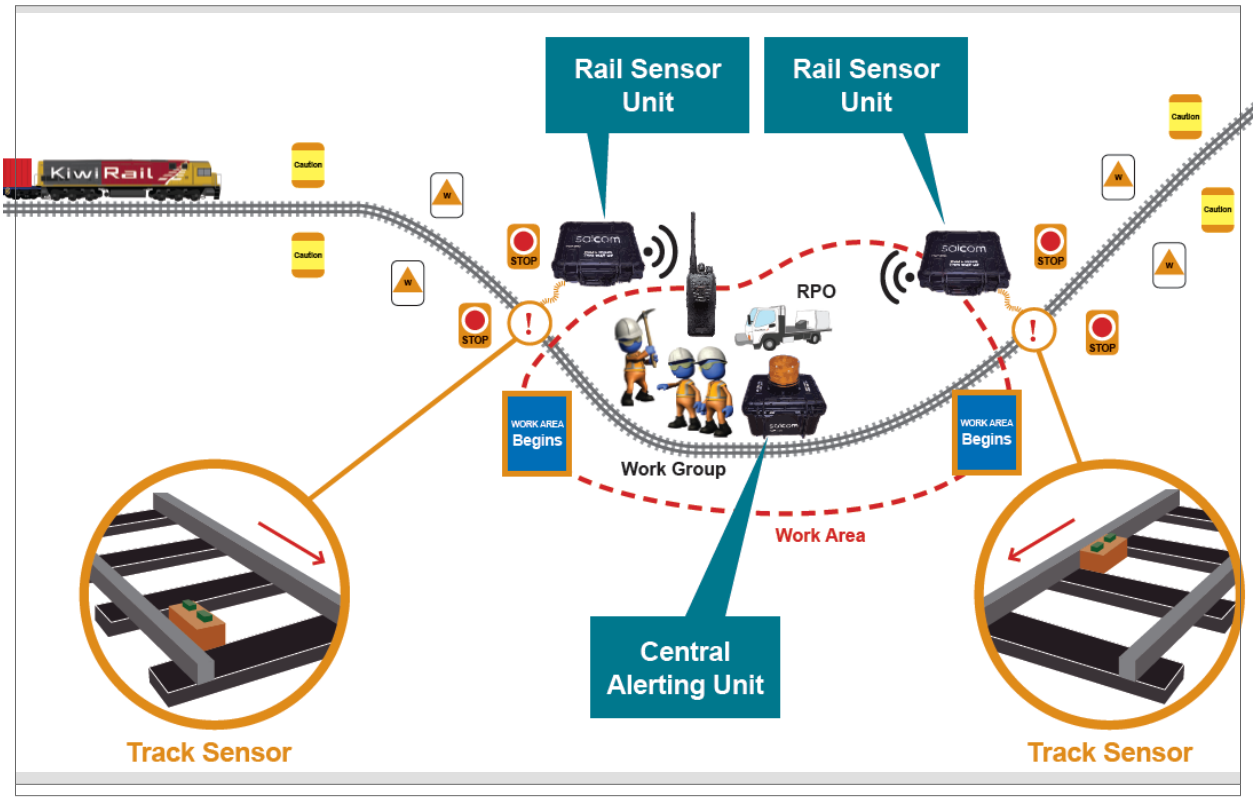
The WETA system consists of the following:

- Rail Sensor Units (RSU) with a track sensor that detects the presence and direction of rail vehicles passing.
- Central Alerting Units (CAU) will flash an orange light for 45 seconds and sound an alert for 20 seconds when activated.
- Repeater Units (RU) relay the messaging between all units for long worksites.

Rail Personal pagers will receive alert messages unique to that system set.

The WETA system:

- is an additional method of warning to all existing compulsory stop protection requirements
- can be used as an additional level of protection for any worksite which is using secondary protection
- is not absolute due to the unproven level of system reliability, and provisions of **TW02 Protected Work Area** and **TW04 Compulsory Stop Protection** must continue to be complied with.



3. WETA Operation

The WETA system will be used to support the following:

- **TS04 Compulsory Stop Protection** (compulsory stop protection will remain the primary method of protection), or
- Rail Personnel working behind authorised fencing, working clear of the line.

When a rail vehicle passes over an RSU:

- A channel 1 radio message will be transmitted at entry: **"Warning work site entered, Warning work site entered at Unit X."**
- A channel 1 radio message will be transmitted at exit: **"Worksite departed, worksite departed at Unit X."**

The system communicates between units by self-contained pager protocol messaging.

4. Area of Operation

WETA systems will be used at various worksites throughout the network.

The system is not suitable in terrain where the units can not communicate. Refer to the system Task Instruction for set up and testing procedures.

5. RSU Placement

The RSU and axle counters should normally be placed immediately on the worksite side of each compulsory stop board.

The aerial should be attached to the sign pole of the compulsory board or at a minimum of 500 metres before the authorised fencing area. This will provide the maximum practicable warning time for a worksite entry warning.

WARNING

Electrocution Hazard

Do not attach aerials to any poles or vehicles in electrified areas, and always keep 2 metres clear of all overhead wires.

If necessary, the RSU can be moved closer to the worksite to obtain communication between the system components, provided the distance between the RSU and the worksite is at least 350 metres for freight-only lines or 450 metres for passenger lines. This will ensure 15 seconds warning time is provided.

