

ANPR 749

In Cab Activated Points System

Applicability

NSW

SMS

Publication Requirement

External Only

Document Status

Issue/Revision #	Effective from
1.1	08 June 2016

Introduction

Some *locations* in *Train Order* territory use In Cab Activated Points System (ICAPS) to set a *route*.

ICAPS allows the rail traffic crew to operate the motorised *points* remotely from the *locomotive* as the movement approaches a *crossing loop location*.

To allow remote operation of the points, the locomotive must be equipped with ICAPS control equipment. This equipment transmits a designated command to the *infrastructure* equipment located on the ground that allows the points to be set for the crossing loop.



There is no requirement to operate the ICAPS equipment, to set the route for the main line.



Persons working on or around points that are subject to the ICAP method of working must remain vigilant for the remote operation of this equipment.

Locomotive Equipment

The ICAPS equipment is either permanently fixed within the drivers locomotive cab, or is portable and can be transferred from locomotive to locomotive.

The equipment consists of a screen and control buttons which allows the rail traffic crew to set the points for the crossing loop whilst the movement is approaching the location.

The text screen will only display text when the rail traffic has passed the strike in point.

Activating the points

The ICAPS control equipment, point's control, can only be activated whilst the locomotive is within the set limits of the strike in point on approach to a location with ICAPS control equipment.

This is indicated by a text message displayed on the locomotive ICAPS control equipment which is generated utilising Global Positioning coordinates.

The strike in point is located between 5 and 8 kilometres from the *crossing loop* location and extends for a distance of 2 kilometres.

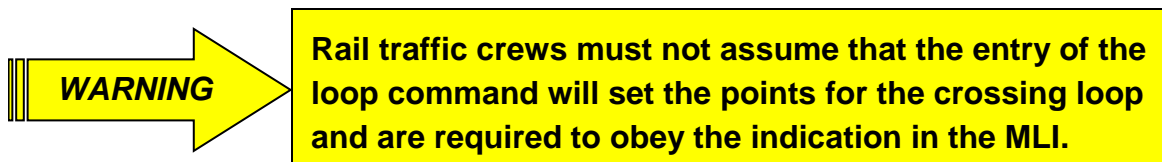
The ICAPS control equipment will not accept a command once the locomotive has passed beyond the zone of the strike in point.

If the locomotive has passed beyond the zone of the strike in point and is required to enter the crossing loop:

- the rail traffic must STOP at the Main Line Indicator (MLI), and
- the rail traffic crew must operate the points using the local push button controls to set the route.

When selecting the command to enter the crossing loop, and successful communication of the command:

- the MLI will restore to the STOP position, and
- the route will set for the crossing loop, and
- the main line indicator will display a steady red light with angled white lights indicating that the points are set for the turnout.



If the rail traffic crew is required to set the route for the main line after selecting the crossing loop route on the ICAPS control, or the route is incorrectly set as the movement approaches, the rail traffic must STOP at the MLI and reset the route using the local control equipment.

Operation of points from ICAPS controls

1. As the rail traffic movement approaches the location it will enter the strike in point. The text screen located in the locomotive cab will display the following message:

**(Location Name) WEST END
POINT OPERATION AVAILABLE**

2. If the rail traffic movement is not required to enter the loop line, the driver is not required to operate ICAPS equipment.
3. As the rail traffic movement proceeds beyond the strike in point the text screen will display the following message:

‘END OF REQUEST OPPORTUNITY’

4. When the rail traffic crew observe the message **(Location Name) WEST END POINT OPERATION AVAILABLE**, the driver must press the Set for Loop button, the text screen will display the following message:

CONFIRM POINT OPERATION

5. Press the Set for loop button again 5 seconds after the first button press.
6. The main line indicator will restore to the STOP position.
The route will set for the loop line after a 120 second time release.
The main line indicator will display a steady red light with angled whites, indicating that the points are set for the crossing loop.
7. Rail traffic is authorised to enter the crossing loop.
8. When the rail traffic is in clear on the loop line the points will restore to the normal position.
9. If the rail traffic proceeds beyond the strike in point before the driver operates the ICAPS equipment, the driver must STOP the train at the MLI and operate the points as detailed for that specific location using the local controls.

Related ARTC Network Procedures

ANPR 707	Clipping points
ANPR 738	Operating power interlocking machines

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08 June 2016