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# Derailment of 7SP5 between Caragabal and Wurrinya NSW

23 October 2011

Figure 1: Last four wagons of train 7SP5 at the Wurrinya derailment site



## Abstract

At approximately 05:45<sup>1</sup> on 23 October 2011, train 7SP5 was passing through Wurrinya on the main line of the Stockinbingal to Parkes Railway. Soon after, the driver noted that the train was losing air and brought the train to a stop. An inspection found that the rear portion of the train had derailed. There was significant damage to the last six wagons of the train, approximately 1 km of track, and several shipping containers. Up to 17 km of track suffered minor damage.

The investigation is continuing.

## FACTUAL INFORMATION

*The information contained in this preliminary report is derived from the initial investigation of the occurrence. Readers are cautioned that it is possible that new evidence may become available that alters the circumstances as depicted in the report.*

1 Eastern Daylight-saving Time, or Coordinated Universal Time (UTC) +11 hours.

## Location

Caragabal is approximately 56 km south-south-west of Forbes and at the 535 km<sup>2</sup> mark on the Stockinbingal to Parkes Railway in New South Wales (Figure 2). Wurrinya is approximately 36 km from Forbes and at the 555 km mark. Both locations have passing loops and grain loading facilities.

Figure 2: Location of derailment



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## Train information

Train 7SP5 was an intermodal superfreighter operating from Sydney to Perth on the Australian Rail Track Corporation (ARTC) East - West Corridor. It was owned and operated by Pacific National. The train consisted of three locomotives (NR65 leading, NR49 and NR45 trailing) hauling 42 container wagons, including nine multi-platform articulated wagons and four steel slab wagons. Total train length was 1609.8 m and a gross mass was 3408 t. The train was operated by a driver and co-driver.

## Track information

The Stockinbingal to Parkes Railway links the Lake Cargelligo Line at Stockinbingal with the Main Western Line at Parkes and provides a link between the Main South Line and the Main Western Line. The 173-km railway was opened through traffic in 1918 and became part of the Main East - West Corridor in 1993. The track belongs to the Country Rail Infrastructure Authority, is leased to the ARTC and forms part of the Defined Interstate Rail Network (DIRN).

The railway consists of a single main line with passing loops. The alignment through the area is typically long tangents joined by large radius curves. The vertical alignment of the track is gentle grades with a small climb into Wurrinya.

The main-line track structure is 'AS 90 lb' (47 kg) rail on concrete sleepers secured with resilient fastenings. The concrete sleepers were installed approximately 3 years prior to the derailment. The track sits on a low embankment along most of the section between Caragabal and Wurrinya.

## The occurrence

The crew of train 7SP5 signed on at 0215 on 23 October in Cootamundra. They then proceeded to Wallendbeen and relieved the previous crew of 7SP5.

Train 7SP5 passed train 9825 at Milvale and was given authority to proceed through to Goobang Junction (Parkes). At 0545, as the train was passing through Wurrinya, the crew felt the train 'run-in'<sup>3</sup>, then noted a decrease in the train brake pipe pressure. The driver brought the train to a stop. The co-driver was dispatched to investigate the air loss and returned to report that the rear portion of the train had derailed.

The train crew initiated emergency procedures by notifying the Network Control Officer at the Junee network control centre of the derailment. The train crew proceeded to check the state of the track and train, and sought authority to break the train and move it clear of the Back Marsden Road level crossing, over which it had stopped.

2 Track kilometres from Sydney Central Station via the Main South line and Stockinbingal.

3 A 'run-in' is a term used to describe what is felt in the locomotive when a train bunches or changes to a state of compression.

There was no injury to the train crew as a result of the derailment.

## **The investigation**

An inspection of the train revealed that the last six wagons had derailed at the southern end of the loop, and the last four of these six wagons had separated from the train. The six wagons and several shipping containers were significantly damaged.

An examination of the track found marks indicating that one or two wheel-sets derailed close to the 538.5 km mark. These wheel-sets then ran derailed for approximately 17 km until they struck the turnout at the southern end of the Wirrinya loop, causing train separation and derailling the six wagons. About 1 km of track and the turnout sustained significant damage, and up to 17 km of track suffered minor damage. A minor misalignment of the track was measured at the point of initial derailment. Although the derailed bogies and wheel sets were damaged as a result of the derailment, no evidence of bearing failure or wheel damage was identified on site.

The drivers were tested soon after the derailment for the presence of alcohol and drugs. The tests returned zero results.

A review of the locomotives' on-board data recording found that the train was being driven below the posted track speed and the train driving was consistent with sound driving practices.

### ***Ongoing investigation activities***

The investigation is continuing and will focus on examination of:

- the track condition and alignment between Caragabal and Wirrinya
- the condition and the performance of the rail vehicles
- train loading.