Government of South Australia
Department for Infrastructure and Transport

Management of Rolling stock for Intense Wind Events

Engineering Instruction

Rail Commissioner

RS1-DOC-000451

DOCUMENT AMENDMENT RECORD

Revision	Change Description	Date	Prepared	Reviewed	Approved
0	Original Version KNet # 8358077	Feb 2014	Craig Evans	Matthew Reedman	Peter Haskard
1	Shift Manager responsible for wind monitoring Inclusion of wind monitoring devices and management of data produced by these devices Inclusion of 3000 class and review of wind data	Apr 2019	Peter Lindqvist Mark Pronk	Gary Webb Mark Pronk	Peter Lawson
2	Flinders viaduct speed restriction added	Nov 2020	Kuldeep Zala	Mark Pronk	Gary Webb
3	Update to the new DIT template	Mar 2026	Carl Parr	Naveen Sulake	Garry Webb
Document Review Schedule: This document is due for review every 5 years or as required					

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1. Introduction

Intense wind events can pose a risk to Rolling stock and on other Networks have resulted in derailments. The 3000 and 4000 class of rolling stock have specified maximum wind speeds for safe operation.

2. Purpose

This instruction describes the responsibilities and processes to be followed so that the risk of rolling stock encountering winds higher than those specified is minimised at known locations exposed to the wind.

3. Scope

This standard applies to all rolling stock operating on the AMPRN during forecast or measured intense wind events.

4. Related Documents

DOCUMENT NAME	DOCUMENT NUMBER
Calculation Report Sensitivity to Crosswinds	3EGH000008-0357 KNet # 7762738
4000 Class Resistance of Railway Vehicles to Roll-Over in Gales	3EAM911212 KNet # 8328094
3000 Class Wind Rollover Test Report	KNet #13636715

5. Acronyms

ACRONYM	FULL NAME
AMPRN	Adelaide Metropolitan Passenger Rail Network

6. Definitions

TERM	DEFINITION
Intense Wind Event	When the wind speed is forecast to reach or observed to be 60 kph or greater.

7. Monitoring Devices and Monitoring Displays

7.1. Monitoring Devices

Wind speed monitors (anemometers) are installed at critical locations on the Adelaide Metropolitan Passenger Network (AMPRN). Locations are as follows:

- Onkaparinga Viaduct Bridge (OVB) - Seaford Line
- Field River embankment - Seaford Line
- Flinders Viaduct (Top of the VT1 lift shaft) – Flinders line

On-screen displays are provided at Operations Control Centre (OCC).

8. Roles and Responsibilities

8.1. Operations Control Centre Shift Manager

The Shift Manager shall review the wind speed forecasts at the critical locations daily in order to determine if intense wind events (>60 kph) are forecast:

- OVB – https://wind.willyweather.com.au/sa/adelaide/onkaparinga-hills.html
- Field River Embankment – Same as OVB
- Flinders Viaduct (Bedford Park) – Same as OVB

The Shift Manager shall ensure that wind speeds are monitored daily on the OCC on-screen wind monitors.

The Shift Manager shall implement the Operational Restrictions dependent on the wind speed categories as detailed in Section 10.

8.2. Maintenance service provider.

The maintenance service provider shall be responsible for the maintenance and ongoing function of the wind speed monitoring devices.

9. Management of Intense Wind Event.

9.1. Implementing Operational Restrictions

Where wind speeds are detected that meet or exceed the criteria detailed in Section 10, the OCC Shift Manager shall implement Temporary Speed Restrictions (TSR's); in accordance with the table in Section 10. These TSR's shall remain in place until the criteria specified in paragraph 9.2 are satisfied.

9.2. Removing Operational Restrictions

TSR's implemented due to intense wind events shall be amended to a relevant Wind Speed Category; or removed; by the Shift Manager following no maximum wind speeds occurring within the previous 60 minutes.

10. Operational Restrictions

Wind Speed Category	**Maximum Observed Wind Speed in previous 60 minutes** (kph)	Temporary Speed Restriction ***Onkaparinga Valley Bridge*** (kph)	Temporary Speed Restriction ***Field River*** (kph)	Temporary Speed Restriction ***Flinders Viaduct*** (kph)
1	70 -79	No action	60	No action
2	80-89	70	30	30
3	90-99	40	Stop trains	Stop trains
4	100 or greater	Stop trains		