



## Certificate of Derogation from a Railway Group Standard

(in accordance with part 6 of the Railway Group Standards Code)

### 1. Type of deviation

Deviation Number: **12/122/DGN**

Derogation

### 2. Details of applicant:

Network Rail (LNW South),  
Desk 054, Elder Gate, Milton Keynes, MK9 1EN.

The Quadrant: MK, Furzton, Floor 3,

### 3. Your reference number:

Tracker No. 9880

### 4. Status of applicant:

Infrastructure Manager, RSSB Member

### 5. Title of certificate:

Stafford Station, flashing aspects for LS3585 Down Fast to Platform 3 MAY-FA.

### 6a. Details of Railway Group Standard (RGS):

RGS Number:	Issue No:	Issue Date:	Title:
GK/RT0045	Two	March 2012	Lineside Signals, Indicators and Layout of Signals

### 6b. RGS clause(s):

5.2.3

### 6c. RGS clause requirements:

"5.2.3 Junction method 2: Flashing yellow aspect sequence

5.2.3.1 Junction method 2 shall only be used where all of the following apply:

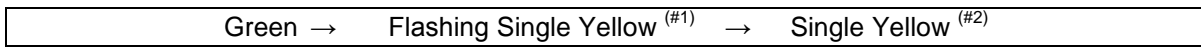
- a) The speed reduction to the permissible speed at the point of divergence falls within the ranges set out in Table 23.
- b) The divergence is not into a terminal line.
- c) There is no operational requirement to reduce the speed of the train at the junction.

Permissible speed approaching the diverging junction	Permissible speed at the point of divergence
80 mph – 125 mph	40 mph or greater
40 mph – 75 mph	25 mph – 40 mph

Table 23 Speed ranges for flashing aspect sequences

5.2.3.2 Where a flashing yellow aspect sequence is displayed and 3-aspect colour light signalling is provided, the signalling system shall be configured so that:

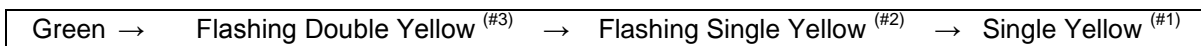
- a) A single flashing yellow aspect is displayed by the junction distant signal, and
- b) A single yellow aspect is displayed by the junction signal.



- #1 Junction distant signal  
#2 Junction signal

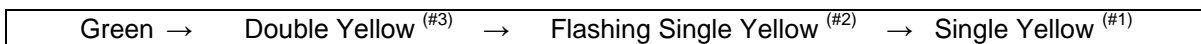
5.2.3.3 Where a sequence of flashing yellow aspects is displayed and 4-aspect colour light signalling is provided, the signalling system shall be configured so that:

- a) A flashing double yellow aspect is displayed by the junction outer-distant signal (except where 5.2.3.4 applies).
- b) A flashing single yellow aspect is displayed by the junction distant signal, between the flashing double yellow aspect and the single yellow aspect.
- c) The single yellow aspect is displayed by the junction signal.



- #1 Junction signal  
#2 Junction inner distant signal  
#3 Junction outer distant signal

5.2.3.4 By exception, only when the junction outer distant signal is also a junction signal, the junction outer distant signal shall display a double yellow aspect on the approach to a flashing yellow aspect at the junction inner distant signal.



- #1 Junction signal  
#2 Junction inner distant signal  
#3 Junction outer distant signal

5.2.3.5 The junction signal aspect shall change from a single yellow aspect to a less restrictive OFF aspect compatible with the aspect sequence beyond the diverging junction when the approaching train has passed the junction distant signal displaying the flashing single yellow aspect.

5.2.3.6 A flashing aspect sequence shall only be displayed when the approaching train is detected to be in a position that is compatible with the required reading time of the junction distant signal that displays the flashing single yellow aspect and one of the following applies:

- a) The first signal beyond the diverging junction is a controlled stop signal that is either one of the following:
  - i. Displaying an OFF aspect.
  - ii. Displaying an ON aspect and a forward route is set.
  - iii. Displaying an ON aspect at the end of a loop line or platform line where all trains are expected to stop.
- b) The first signal beyond the diverging junction is an automatic signal.
- c) The first signal beyond the diverging junction is an isolated distant signal.

5.2.3.7 A flashing yellow aspect sequence shall only be applied to more than one diverging route at a junction signal, if both of the following apply:

- a) The difference in permissible speed between the highest speed diverging route and the other diverging route(s) is not more than 10 mph, and
- b) Any safety hazards or serious operational inconvenience arising from misrouting are common to all routes to which the flashing yellow aspects apply.”

## 7. Scope of deviation:

Stafford Station, LS3585 signal MAY-FA to Platform 3.

## 8. Impacts of complying with the current RGS requirement:

Compliance would either require one of the following options:

- 1) MAR controls applied: stopping trains would take longer to clear the Down Fast into platform 3, which would be considered a worsening of the capacity/headway arrangements currently in place.
- 2) Reduction of the Approaching EPS linespeed to 75mph: bringing EPS speed in line with table 23 (75 mph approach, 25 mph divergence). This would be a worsening of the Down Fast capacity/headway arrangements currently in place.
- 3) Increase the turnout speed from 25 mph to the 40 mph: bringing it in line with table 23 (85 mph approach, 40 mph divergence). This option had to be discounted due to track realignment restrictions at Stafford.

## 9. Proposed alternative actions:

With MAR and reduction in approach linespeed being too restrictive and increase in turnout speed not feasible, the Stafford resignalling project is planning to replicate the existing MAY-FA facilities in place today.

SC5591 will be maintained at red until the train has arrived at the platform.

## 10. Impacts of the alternative actions:

Currently approaching Stafford station from the south, there is a flashing aspect sequence on the Down Fast with existing signal SD4-83 having an MAY-FA route into platform 3.

The MAY-FA sequence was overlayed onto the existing signal arrangement within the last 10 years by the WCRM project. The addition of the sequence was to clear the Down Fast of passenger trains as quickly as possible.

Operations have indicated to the Stafford Area Improvements project team that they would wish to retain this facility, as have Virgin Trains during signal sighting and consultation activities.

The approach speed is 75/85EPS with a turnout speed of 25 mph. The predominant users of the MAY-FA sequence would be capable of driving to the 85 mph EPS speed, therefore the divergence speed is non-compliant with table 23. However, as the EPS capable trains have enhanced supervision and braking capabilities, it is felt that in this case exceeding the upper limit by 10 mph does not introduce any additional risks.

The junction signal and flashing signals are to be located in identical positions to the current signalling arrangement. Exit signal (SC5591) has been moved by 24 m, further from S&C, thus reducing existing SPAD consequence.

It is proposed to allow an MAY-FA approach to the proposed Down Fast signal (LS3585) for the route into platform 3 at Stafford. The turnout speed of 25 mph is compliant for all trains, except those capable of driving to EPS speeds. The 85 mph approach to a 25 mph turnout does not comply with the requirements of table 23.

## 11. What other options have been considered?

Compliance to standard as covered in 'Section 8 - Impacts of complying with the current RGS requirements'.

**12. Consultation with affected parties**

See attached report - SDG\MAY-FA\124131\GS4 - Consultation Report: MAY-FA to Platform 3.  
Amey: supported.

**13. Additional actions/observations:**

Upon receipt, the applicant is required to identify affected, interfacing parties and copy this certificate, together with supporting information, to those parties.

Attachments:

- Network Rail consultation report Ref. SDG/MAY\FA\124131\GS4 Issue 1 of June 2012: Project Stafford Area Improvements
- RSK Business Solutions URS - Stafford Area Improvements: Signal Overrun Risk Assessment Report Ref. BS044/006/D141 Revision B of May 2012
- Signal Sighting forms LS3579, LS3581, S3585 and LS5591
- Stafford Station: scheme plan Ref. 11-NW-002 Sheet 1(vB) (extracts 1 to 5).

**14. Method of elimination:**

N/A

**15. Start and end date:**

N/A

**16. Signature of applicant:**

(Signals), Head of Signal Engineering

**Date of application:**

20/07/2012

**17. Status in respect of National Technical Rules:**

GK/RT0045 Issue 2 is currently on the list of National Technical Rules under the:

- Control Command and Signalling (published) Conventional Rail TSI
- Control Command and Signalling (published) High Speed Rail TSI.

**18. Status in respect of National Safety Rules:**

GK/RT0045 Issue 2 is not on the list of the proposed National safety Rules under the Conventional or High Speed Rail TSIs.

**19. Lead Standards Committee details:**

<b>Name of Committee:</b>	<b>Date of meeting</b>	<b>Minute reference:</b>
Control Command and Signalling	16/08/2012	12/CCS/08/156

**Authorised by:**

Signed by Jeff Allan on 05/09/2012

**Date of Authorisation:**

05/09/2012

Jeff Allan  
Head of Delivery, Control Command & Signalling, and Energy