



**Heathrow  
Express**

The smarter way

Heathrow Express Operating Company Limited

The Compass Centre, Nelson Road  
Hounslow, Middlesex  
TW6 2GW

Paul Quilter  
Heathrow Airport Limited  
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Middlesex, TW6 2GW

17 August 2023

Dear Paul,

**Heathrow Express HAL Network Change proposal:**

**Changes to Platform Stop Marks for use by GWR Class 387**

This proposal is issued to Heathrow Airport Limited ("HAL") in accordance with Condition G3.1 of the HAL Network Code and constitutes a formal proposal for a HAL Network Change under that Condition.

Heathrow Express wishes to implement the HAL Network Change described above. This notice outlines the details of the proposed scheme as required under Condition G3.2.

The proposed HAL Network Change seeks to address a performance and safety risk at Heathrow Central Station Platform 1 and enable 4-car Heathrow Express services to operate using First Greater Western Limited ("GWR") CI.387 units under the HEOC track access agreement. A detailed specification of the scheme is set out in Appendix A to this letter.

The change being proposed by Heathrow Express is to revise the stop marks at Heathrow Central Station and Heathrow Terminal Five Stations to include a 4 car stopping point. In addition, the Country end CI.387 stop car mark on Platform 1 of Heathrow Central Station will be moved to address an ETCS performance and safety risk associated with the proximity of the current mark to signalling infrastructure. Following consultation with MTR, the change also proposes replacement of the existing S-car stop marks with 9 car stops. Full details are shown in Appendix A.

In accordance with G3.1(b), Heathrow Express hereby gives permission for HAL to consult with the persons specified. Heathrow Express requests that HAL commences and completes the consultation process as soon as possible. Heathrow Express requires HAL to consult upon this proposal as necessary and provide a response to Heathrow Express.

Upon receipt of approval, HEOC's agents, GWR will be liaising directly with yourselves to achieve installation of the stop marks at GWR's expense.

Please let me know if you require any further details to enable HAL to begin formal consultation of this proposal.

Yours sincerely,

**Harsha Gautam**  
**Train Services Lead**  
**Heathrow Express Operating Company Limited**

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# Appendix A

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## **A.1 Reasons for proposed change**

Class 387 units have been modified for use on Heathrow Express services between Paddington and Heathrow. The European Train Control System (ETCS) has been fitted to these units and provides Automatic Train Protection (ATP) when the units are operating on the route between Heathrow Tunnel Junction and Heathrow terminals. Platform Stop Marks (PSMs) were fitted at Heathrow Central Station and Terminal 5, to support operation of Class 387 trains. The operation of these trains is currently limited to 8-car trains only.

Changes are required to the PSMs that have been fitted to:

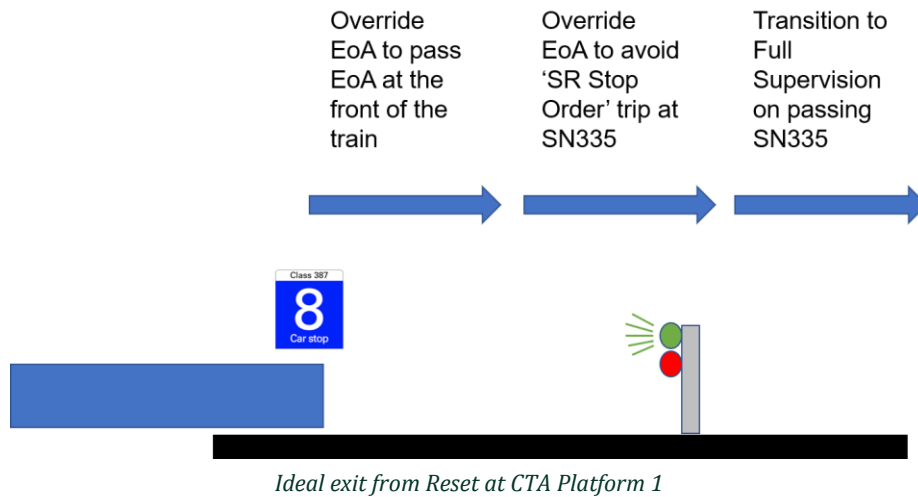
- allow operation of 4-car formations; and
- address an ETCS performance and safety risk associated with the proximity of signals to the current PSM at the Country end of Heathrow Central Station Platform 1.

### **Commencement of 4-car operations**

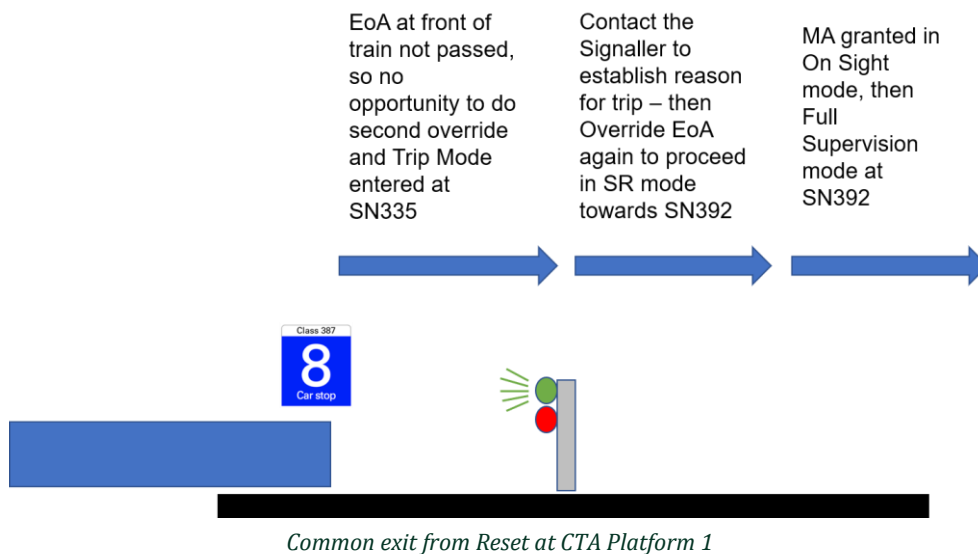
HEOC wishes to introduce the ability of 4-car Class 387 train formations to operate Heathrow Express services, replacing some of the 8-car services that already operate. Having assessed the risks associated with the introduction of 4-car services, Heathrow Express has determined the stopping point for both 4-car and 8-car services at Heathrow Central Station and Terminal 5 Station. The existing PSMs used by Class 387 are designated for 8-car formations only and so a new PSM design is required.

### **ETCS performance and safety risk at Heathrow Central Platform 1**

When an ETCS reset is performed on a Class 387 operating at Heathrow Central Platform 1, the train loses its position data. Therefore, the Radio Block Centre (RBC) is unable to provide a Movement Authority and an End of Authority (EoA) is created at the front of the train. After being authorised to proceed by the Signaller, the Driver must use the 'Override EoA' function to enter Staff Responsible mode and pass the End of Authority (EoA) at the front of the train. When the Override detects that this EoA has been passed, it deactivates, with the train still in Staff Responsible mode. The Driver must then stop and operate the Override EoA function again to avoid being tripped by the 'Stop in Staff Responsible' command issued by the balise group at the signal. The train is then able to proceed past SN335 and transition to Full Supervision. This sequence is shown below.



However, the proximity of the PSM to the signal means that the train does not always travel far enough to pass the EoA at the front of the train, before reaching the balise group at the signal. Consequently, the 'Stop in Staff Responsible' command issued by the balise group removes the EoA and the train is tripped. The Rule Book requires the Driver to contact the Signaller and agree the reason for the trip, before being given permission to proceed on to the next signal (SN362 when travelling towards Terminal 5), again operating the Override EoA to enter Staff Responsible mode, before the train picks up a Movement Authority in On Sight mode, then Full Supervision mode. This sequence is shown below.



The close proximity of the PSM to the signal means that this situation is commonly encountered. This has the effect of increasing delays and extending the distance that is operated in the lower safety modes of Staff Responsible and On-Sight.

## A.2 Specification of the works to be done

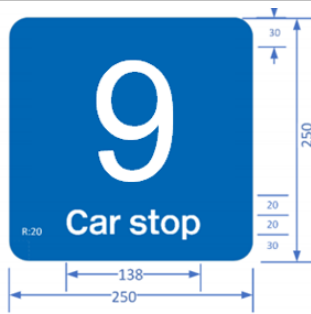
### PSM Design

The new PSMs will be installed, according to a design compliant with RSSB sign AK104 issue 2.1 [1] and GI/RT 7033 issue 4 [2]. There will be four new designs of PSM, depending upon the location, as shown below.

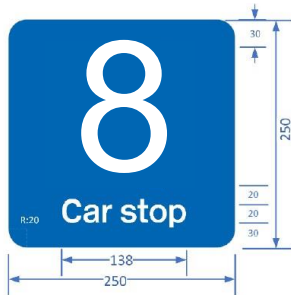
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**PSM Design****PSM Type and Description**

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**9 car**

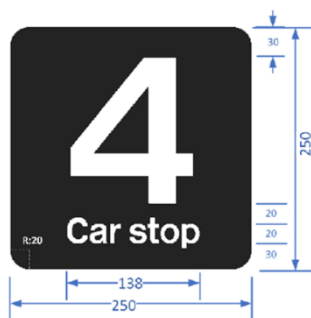
This is the new nine car PSM design, showing white text on a blue background. This design will replace existing S Car PSMs in all locations at CTA platforms and Terminal 5 platforms.

**8 car**

This is the new eight car PSM design, showing white text on a blue background. This design will replace existing eight car PSM design in two locations at CTA platforms.

**4-8 car**

This is the new 4-8 car PSM design, showing white text on a blue background. This design will replace the existing eight car PSM design in all locations at Terminal 5 platforms and will be installed in two locations at CTA platforms.

**4 car**

This is the new four car PSM design, showing white text on a black background. This design will be installed in two new locations at CTA platforms.

*Proposed changes to PSM design*

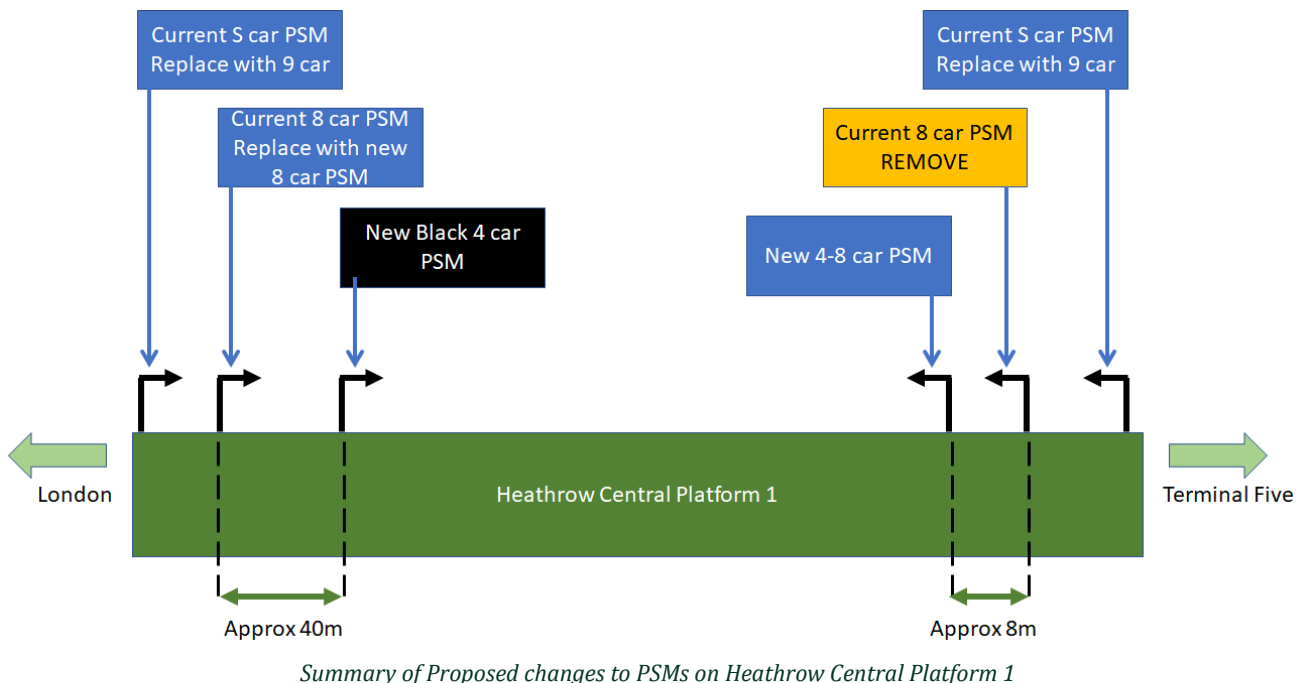
**Heathrow Central Platform 1 PSM Changes**

The scope of works for the Heathrow Central Platform 1 is:

- At the London End of the Platform – replace the current S car PSM with a new 9 car PSM
- At the London End of the Platform – replace the current 8 car PSM with a new 8 car PSM
- At the London End of the Platform – install a new black 4 car PSM approximately 40m in the rear of the existing 8 car PSM
- At the Terminal 5 End of the Platform – replace the current S car PSM with a new 9 car PSM

- At the Terminal 5 End of the Platform – remove and make good the existing 8 car PSM
- At the Terminal 5 End of the Platform – install new blue 4-8 car PSM approximately 8m in the rear of the existing 8 car PSM

This scope is summarised in the figure below.

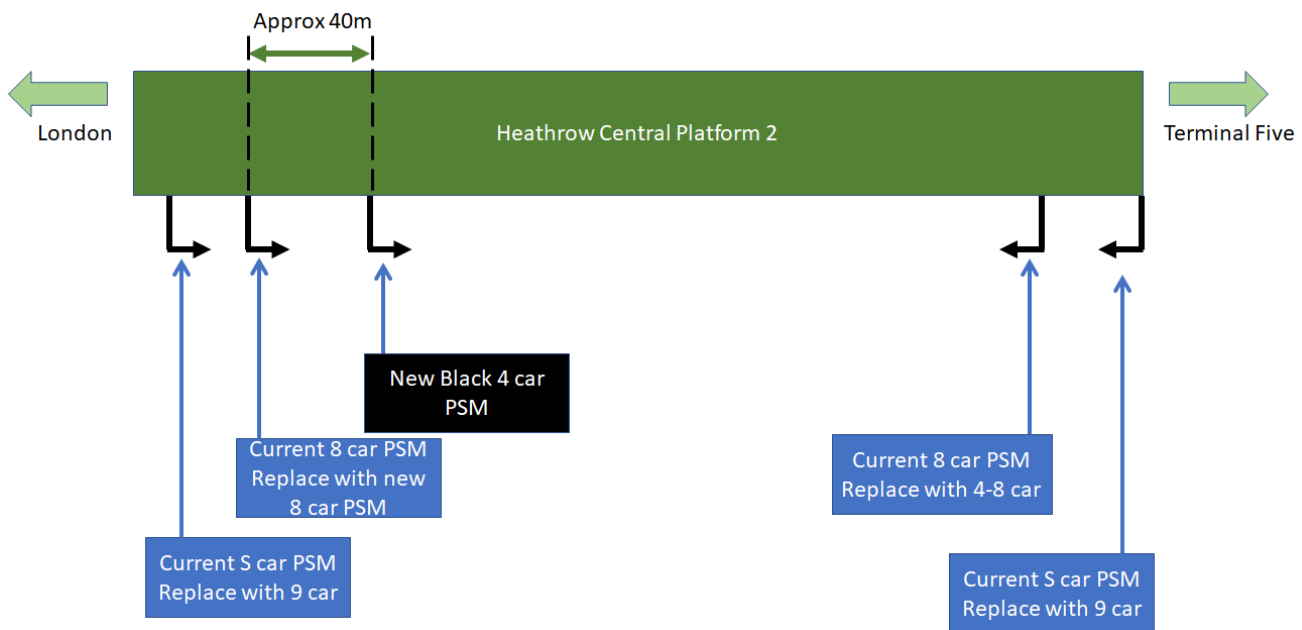


### **Heathrow Central Platform 2 PSM Changes**

The scope of works for the Heathrow Central Platform 2 is:

- At the London End of the Platform – replace the current S car PSM with a new 9 car PSM
- At the London End of the Platform – replace the current 8 car PSM with a new 8 car PSM
- At the London End of the Platform – install a new black 4 car PSM approximately 40m in the rear of the existing 8 car PSM
- At the Terminal 5 End of the Platform – replace the current S car PSM with a new 9 car PSM
- At the Terminal 5 End of the Platform – replace the current 8 car PSM with a new blue 4-8 car PSM

This scope is summarised in the figure below.



*Summary of Proposed changes to PSMs on Heathrow Central Platform 2*

### **Heathrow Terminal 5 Platform 3 PSM Changes**

The scope of works for the Heathrow Terminal 5 Platform 3 is:

- Replace the current S car PSM with a new 9 car PSM
- Replace the current 8 car PSM with a new blue 4-8 car PSM

### **Heathrow Terminal 5 Platform 4 PSM Changes**

The scope of works for the Heathrow Terminal 5 Platform 4 is:

- Replace the current S car PSM with a new 9 car PSM
- Replace the current 8 car PSM with a new blue 4-8 car PSM

### **'Do Not Alight Here' Signage**

'Do not alight here' signage is required in the tunnel section outside Heathrow Central station, at the Terminal 5 end of both platform 1 and platform 2.

The design of the signage shall be based on RSSB sign CA03 issue 1 [3], but displaying the text 'Do not alight here' rather than 'Danger - No unauthorised access'. The signage shall be compliant with GI/RT 7033 issue 4 [2], as illustrated in the example figure below.

The signage is required at 5m intervals on the platform side of the tunnel wall from the Terminal 5 end of each platform to a point 40m into the tunnel from the Terminal 5 end of each platform.

The signs will be approximately 500mm wide. The height of the centre of the signs will be approximately 2,500 mm above rail level.



*Example 'Do not alight here' signage based on CA03*

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### **A.3 Proposed timescales**

It is currently planned to fit and commission the equipment between October and November 2023.

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### **A.4 Proposals for division of costs and compensation**

Obligations under Part G of the HAL Network Code will be honoured for division of costs including any proposals for calculation of payment or compensation to HAL or any Access Beneficiary.

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### **A.5 Additional terms and conditions and Variation Procedure**

Once this HAL Network Change has become an established HAL Network Change (as defined in Part G of the HAL Network Code), the Sponsor may if it wishes, make any modification to the terms or conditions (including as to the specification of the works to be done, their timing, the manner of their implementation, the costs to be incurred and their sharing, and the division of risk) on which the change was established, use the following variation procedure:

HAL shall at the request of the Sponsor and following a process in accordance with Condition G3.3.1(a) ensure the specific variation (or variations) is formally communicated to all parties to this notice (the original consultation notice) for consideration. The parties to the consultation shall consider and respond to the variation (or variations) in accordance with the procedures set out in Conditions G3 and G4 in respect of the proposed variation, allowing for the changes in detail that must follow as a result of the procedure applying only to the proposed variation. It shall not be necessary for HAL to re-issue the entire HAL Network Change notice for consultation.