



FAO: Assistant Coroner Mr Jonathan Stevens
St Pancras Coroners Court,
Camley Street,
London
N1C 4PP

23 July 2020

Dear Assistant Coroner Stevens,

Inquest into the death of Flora Shen

Thank you for the Regulation 28 Prevention of Future Deaths Report (the report) dated 29th May 2020 in respect of Flora Shen. This letter has been prepared in response to the report. It addresses the matters of concern raised and also provides background information relevant to the operating model of the Docklands Light Railway (DLR).

Keolis Amey Docklands (KAD) operate the DLR on behalf of Transport for London (TfL), under contract. After liaison with KAD, we have developed a joint response with the General Manager for TfL and the Managing Director for KAD to the questions which have been raised on behalf of both organisations.

Keolis Amey Docklands (KAD) and Transport for London (TfL) offer our sincere condolences to Flora Shen's family and friends.

If there is anything further that I can assist you with, please contact me.

Yours sincerely




Director, Rail & Sponsored Services
Transport for London

The report has raised three matters of concern that we shall respond to in turn.

- 1. If a member of the public on the train sees a person or a hazard on the track ahead they have to go to one of the doorways to activate the passenger alarm. The Passenger Services Assistant then goes to the telephone which is accessed by a key to ask why the passenger alarm has been activated. In order to stop the train the Passenger Services Agent then needs to replace the phone, lock the phone compartment and use a key to activate the emergency brake.**

Every DLR train has a Passenger Service Agent (PSA) on board when it is in service. There are a number of methods of stopping the train which can be used if a passenger alarm is activated on the train. These involve either the PSA or the DLR Control Centre¹ establishing the nature of the alarm before taking action such as stopping the train. In all cases, without active intervention by the PSA or Control Centre, trains will continue to the next station, but will not then proceed beyond the next station until the alarm has been investigated and reset. This is a commonly used practice across other UK rail operators.

There are a number of methods by which trains can be stopped once a passenger has pressed an on-train alarm.

There are four passenger alarms in each vehicle of a train (two or three vehicles make up a train) and if a passenger spots a hazard on the track, they can locate the nearest alarm and activate it. Alternatively, if the PSA was in the same vehicle as the passenger, then the passenger could notify the PSA verbally, which will then start the following process.

As noted above, the alarm does not cause the train to automatically apply the brake. However, when an alarm is activated on board the train, it sends an alarm both to the Control Centre as well as sounding an audible alarm on the train which the PSA can hear regardless of which vehicle they are in and from which vehicle the alarm was pressed.

The alarm can be acknowledged by the Control Centre, who can speak directly to the passenger to ascertain the nature of the alarm. On the newer vehicles in

¹ The DLR Control Centre is where the railway is controlled from, and includes all signalling and communications controls.



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the fleet (2007 stock), the PSA can also hear this conversation as it would be broadcast over the radio system. If necessary, the Controller in the Control Centre can remotely apply the emergency brake to that specific train, or if needed they can halt all trains in the area by pressing the Emergency Train Stop button within the Control Centre.

The PSA is also able to respond to an alarm from several places within the train being the Emergency Driving Position (EDP) at the front of the train; at any Door Control Panel (DCP), located at every door; and from a staff-only equipment cupboard. The emergency train stop can be activated from any DCP or the EDP, however, if the alarm is responded to from the cupboard, the PSA will need to go to either the DCP or EDP. It is more likely that the PSA will either be close to a DCP or at the EDP driving the train and can then take between 1-5 seconds to apply the emergency brake.

Depending on the nature of the emergency, the PSA will either stop the train immediately, using one of the methods described above, or, if appropriate, allow the train to proceed to the next station where the emergency can be dealt with more effectively / safely.

Should the alarm be activated on the older vehicles in the fleet (B92 stock), the alarm notification still goes to both the Control Centre and the PSA. In this instance, the Control Centre would speak to the PSA to establish what the issue is and have the capability to stop the train if required.

- 2. The ability to respond to a danger or hazard on the line seems sometimes to be dependent on this being noticed by a member of the public on a train and them being able to contact the Passenger Service Agent in time for the train to be stopped.**

We have described above the ways in which a passenger on-board the train can press an alarm and speak to the PSA and / or Control Centre, and appropriate action can be taken.

However, there are a number of other preventative controls used to manage this risk.



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On platforms, the DLR has yellow lines on all platforms, consistent with London Underground and National Rail services, to encourage customers to stand away from the platform edges. This message is periodically reinforced by poster and announcement campaigns. If the Control Centre is informed of (via one of the methods described below), or observes via CCTV, a passenger close to the platform edge, they can make direct announcements to customers telling them to step backwards from the platform edge.

On every platform area on DLR, there is a Passenger Emergency Point (PEP) which is identified by "Alarm" signage on the platforms. These points are a further method by which passengers (or mobile staff such as Travel Safe Officers or maintenance staff) can notify the Control Centre of an issue or incident on the railway, and a means by which the passenger can directly stop trains themselves. The PEP contains: -

- (a) a Passenger Alarm, which connects directly through a two-way voice link to a staff member in the Control Centre (usually the Information Assistant – this is a role in Control Centre specifically dedicated to reviewing CCTV cameras and making public announcements);
- (b) an "Emergency Train Stop" button. Pressing this button has the same effect as pressing the "Emergency Train Stop" button in the Control Centre and will immediately bring all trains in the surrounding area to a controlled stop.

In the event of the Emergency Train Stop button being pressed on a platform, the Control Centre is immediately notified through the signalling system. CCTV screens automatically change to display the location of the button being pressed and can talk directly to the passenger or member of staff on site.

All platform areas of the DLR network are monitored by CCTV screens from the Control Centre. All staff members within the Control Centre have their own CCTV screen, with the 'Information Assistant' role specifically including monitoring a bank of CCTV screens.

In the event an incident is identified by any staff member within the Control Centre, all desk positions have "Emergency Train Stop" buttons within arms' reach. Pressing this button removes signal authority from all automatic trains within or immediately approaching the station, which activate the trains' "emergency brakes". Any other automatic train will be brought to a controlled stop outside the station area, using the normal service brake.

The Control Centre also has the ability to immediately remove traction power, which is activated if a person or object is believed to be near the conductor rail (which is electrified to 750V DC).

In addition to the above, there are a number of other elements of the DLR's operation which help to control this risk. Although some of these are more focused at identifying vulnerable people, they also have benefits for the safety of all passengers.

- A core theme running through all frontline staff training is the need to be vigilant
 - Dedicated Travel Safe Officers patrol the DLR every day.
 - KAD have a team of Community Ambassadors, who work with the Community Mental Health Teams in Newham and Tower Hamlets, to educate and mentor specific groups of DLR customers on safe travel.
 - British Transport Police (BTP) officers routinely patrol the DLR
 - The Public address system is available for the Control Centre to make announcements to passengers, as needed (e.g. "please stand back from the platform edge" or "please stand back behind the yellow line").
 - Passenger awareness campaigns also take place around the risks at the platform-train interface, aligned with TfL poster campaigns.
- 3. The central DLR CCTV monitoring system cannot watch all stations at the same time and the safety of persons slipping, falling or collapsing on to a line on the DLR system seems to rely on ability of members of the public to notice the hazard and activate the alarm on either the platform or the train.**

The DLR has more than 1,000 CCTV cameras covering all 45 DLR stations. It is correct to state it is not possible to monitor all these cameras simultaneously. As mentioned above, there is a specific role within the Control Centre (the Information Assistant) who continuously monitors the bank of CCTV monitors, they can also bring up and view any particular camera view as required.

The operating model does, nevertheless, rely in many instances on passengers notifying train staff, mobile staff, or the Control Centre when noticing a hazard.

Your letter specifically asks for the actions that we propose to take following the incident and the associated timescales in order to address your areas of concern. These are as follows:

1. Enhancing the signage on the platform alarms – the intention of this work is to give passengers a greater chance of locating the alarms on the platforms should they notify a hazard on the track. The timescale for completion is July 2021; the programme is now being developed and would be rolled out on a risk-basis.
2. We will continue to research and collaborate with suppliers to identify potential solutions and improvements in the area of hazard/obstacle detection. We are currently exploring an emerging CCTV product that can detect persons and/or objects on the track, and have held preliminary discussions with its developer to assess its potential for testing on the DLR. We should know by December 2020 if a trial can be taken forward. However, this is partly dependent on the existing CCTV network being capable of supporting such a trial.

In addition to this, we are continually reviewing what other technologies exist around obstacle detection fitted to the trains. Technology in this area is still considered immature when applied in a railway environment and is not sufficiently developed for reliable operation at this time on the DLR network.

For any such on-train or CCTV-based system to be effective, it would need to be able to distinguish between trains entering platforms, hazards as well as non-hazards. Any system would also need to avoid both malicious activations and false positives to avoid adversely impacting the high frequency train service.

The DLR is a member of the international benchmarking community of 20 light rail operators, Nova. The operators regularly review advances in detection technology. One of the most commonly reviewed areas of interest is protecting the train-platform interface to ensure that it is safe for passengers to alight/board trains and the operators share best practice.

In summary, there are currently, as referred to above, a number of control measures to identify and respond to a person slipping, falling or collapsing on to the line. We will progress as soon as possible with enhancing the visibility of the



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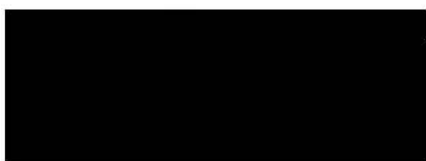
platform alarms and continue to work towards the possibility of an initial trial of the CCTV obstacle detection option.

The Office of the Rail and Road (ORR) is the independent safety and economic regulator for Britain's railways and is responsible for ensuring that railway operators comply with health and safety law. The ORR is also responsible for issuing safety certificates to all UK rail operators which are valid for a period of 5 years. The ORR reissued KAD's safety certificate on November 27th 2019 which is necessary for KAD to operate the DLR, and deems DLR's operating model, and specifically its safety management arrangements, to be appropriate for managing risk to a level "as low as is reasonably practicable" as defined in the Railways & Other Guided Transportation Systems (Safety) Regulations 2006. Safety Certificates.

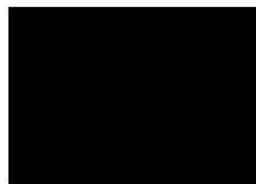
Notwithstanding the ORR's Safety Certificate, KAD and TfL are committed to continually improving safety on the DLR. We continuously review the risks associated with our operation and consider the additional mitigations that can be put in place to maintain the highest levels of safety on our network, for both passengers and staff.

If there is anything further that we or any member of our respective team can assist you with, please contact us.

Yours sincerely



General Manager DLR



Managing Director KAD