

## THE GRENFELL TOWER INQUIRY

---

### Written Closing Submission Thames Water Utilities Limited

---

1. Thames Water Utilities Limited (“TWUL”) operates the public water network across London, including in the area of Grenfell Tower.
2. TWUL is responsible for supplying water to household customers (and in some cases to non-household customers) who are connected to its network up to the boundary of private land (or the outside stop valve which may be located just inside this boundary). TWUL does not own and is not responsible for water infrastructure on private land owned by third parties; that includes the private land upon which Grenfell Tower is situated. Therefore, pipes, drainage, risers and other water fittings and fixtures on private land fall under the ownership and responsibility of other third parties.
3. TWUL supplied the water to the mains to which the London Fire Brigade (“LFB”) connected and drew water to help fight the fire at Grenfell Tower on 14 June 2017.
4. A number of TWUL Network Service Technicians (“NSTs”) attended the incident on 14 June 2017 to be on hand to assist the LFB and take direction as required. The first NSTs arrived at approximately 02.00am, around 40 minutes after TWUL was first made aware of the fire. Those NSTs immediately made themselves known to the LFB. From the point of arrival, the NSTs were involved in liaising with the LFB in relation to water flow and water pressure and assisted in providing additional water to the area when requested to do so by the LFB on two separate occasions.
5. As a water undertaker, TWUL is granted a licence by DEFRA, which permits TWUL to operate the public water network in a particular geographic region. That licence contains conditions that TWUL needs to adhere to. Amongst

those conditions is an obligation to report to Ofwat instances where water pressure achieved at a property for domestic purposes is less than: 10 metres per head of water (1 bar of pressure) at the external stop tap (i.e. at the boundary of a property) at a flow of 9 litres per minute. This is also known as the DG2 standard.

6. TWUL's obligations on the water pressure to be achieved only apply to the pressure in the network (e.g. the pipes and mains, up to the boundary with private land or the outside stop valve), and not to the point at which water flows from a tap.<sup>1</sup>
7. In respect of water flow for fire-fighting, Appendix 5 of the National Guidance Document on the Provision of Water for Firefighting (January 2007, 3<sup>rd</sup> edition) (the "National Guidance"), sets out non-binding guidelines for the water flow levels to be achieved for fire-fighting. The "ideal requirements" for water flow for multi occupied housing developments with more than two floors is specified as being "*a minimum of 20 to 35 litres per second*" through any single hydrant.<sup>2</sup>
8. TWUL uses meters within its network to monitor and record water flow and pressure. At all times on 14 June 2017, TWUL's network data recorded by those meters demonstrates that there were no issues with the water pressure or water supply within the water network itself, up to the point of the hydrants from where water was drawn by the LFB. The minimum pressure and flow requirements referred to above were exceeded at all times.
9. During Phase 1, TWUL has been asked by the Inquiry to assist the Inquiry's investigation of the fire-fighting response and the facts and circumstances of that response. There has been a range of accounts from witnesses concerning the fire-fighting response and the use of water. Some LFB witnesses speak positively of the availability of water during the fire. The

---

<sup>1</sup> As defined in Section 65(1) of the Water Industry Act 1991: "*it shall be the duty of a water undertaker to cause the water in such of its water mains and other pipes... to be laid on constantly and at such a pressure [emphasis added] as will cause the water to reach to the top of the top-most storey of every building within the undertaker's area.*" This obligation is caveated by Section 65(2) such that in any given case a water company is not required to provide "*a supply of water at a height greater than that to which it will flow by gravitation through its water mains from the service reservoir or tank from which that supply is taken.*"

<sup>2</sup> Note that the guidance in Appendix 5 of the National Guidance is only intended to apply to new developments and during permanent system changes, but is the most applicable to Grenfell Tower. Appendix 5 also recognises that in some locations the existing distribution system will not allow the delivery of such flow.

Inquiry has also heard evidence from some fire fighters who experienced issues with water when using aerial and other appliances to fight the fire externally, as well as issues with water being supplied to the LFB within the Tower via the dry riser. The Inquiry has also heard evidence from some residents in the Tower who experienced difficulties with accessing water through their internal taps part way through the fire.

10. In assessing the difficulties that the LFB personnel faced with water on 14 June 2017, it is important to distinguish what is meant by pressure in the water network and the pressure required to fight a fire.
11. When used in the context of the water network, water pressure is a measure of the force that pushes water through pipes. Water pressure determines the rate of flow of water from the tap (or hydrant) and lower pressure may result in a lower rate of flow. In high rise buildings, in order to supply water to residents located on upper floors, this can often mean that buildings are required to be fitted with pumps to help pressurise this water to ensure it can be delivered to customers at a greater height than the network alone has the capacity to provide, as was the case in Grenfell Tower, as TWUL understands that internal pumps were fitted in the basement of the building. TWUL is not responsible for installing or maintaining these pumps, nor for the pressure at which the water is delivered to residents, beyond the boundary with private land or the outside stop valve as explained at paragraph 6 above.
12. The pressure levels that TWUL maintains in the network should be distinguished from the pressure levels required when fighting a fire. The pressure of water discharged from fire hoses onto a fire does not come from the water pipes, water network or from fire hydrants. Instead, the pressure is generated from the fire engines themselves, which have a tank or reservoir within them from which water can be pressurised to the right level. The levels that a fire appliance can generate in order to fight a fire are far higher than the pressure levels present within the water network and at a fire hydrant.
13. Having considered the evidence heard during Phase 1 of the Inquiry's work and the extremely challenging conditions in and around Grenfell Tower, it

appears that the water issues experienced by the LFB when fighting the fire externally can be attributed to the sheer scale and unprecedented nature of the fire on 14 June 2017, and a number of factors; including falling debris damaging hoses causing a loss of water and water pressure from firefighting apparatus and forcing aerial appliances to be moved further away from the Tower; a number of appliances or covering jets needing to draw water from the same hydrant which would have resulted in the flow of water being split; and the existence and capacity of the dry riser in the Tower rather than a wet riser.

14. As explained above, TWUL's data from 14 June 2017 shows that there were no issues with the water pressure or water supply within the water network itself, up to the point of the hydrants from where water was drawn by the LFB; more water was available in the network, and further controlled operations could have been carried out by the NSTs to direct further water to the area, had it been required or requested.
15. TWUL is aware that any issues concerning *"to what extent was water pressure adequate to allow the LFB to fight the fire effectively"*<sup>3</sup> are to be examined by the Inquiry during Phase 2. TWUL looks forward to continuing to assist and support the Inquiry in this aspect of its work.

Eversheds Sutherland LLP on behalf of TWUL

6 December 2018

---

<sup>3</sup>

As set out in the Inquiry's List of Issues dated 4 June 2018