

Statement of : Paul Thompson

Age of witness : Over 18 years of age

Occupation of witness: Head of Operations London Mains Replacement Programme (tRIIO)

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This statement, consisting of 7 pages, each signed by me, is true to the best of knowledge and belief and I make it knowing that, if it is tendered in evidence, I shall be liable to prosecution if I have wilfully stated in it anything which I know to be false or do not believe to be true.

Signature:

Dated: 25 June 2021



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- 1 I make this statement on behalf of tRIIO in my capacity as Head of Operations; London Mains Replacement Programme for tRIIO, a role which I held until 31 March 2021.
  - 2 I am duly authorised to make this statement on behalf of tRIIO. Not all of the information contained in this statement is directly within my knowledge. In a number of instances, I have sought guidance from others working for tRIIO (both past and present – now with MES, see paragraph 8 below) in order to enable me to expand fully on matters tRIIO considers might be of relevance to the Inquiry.
  - 3 This is the third statement made by a representative of tRIIO for the purposes of this Inquiry, but is the first statement that I have made. Two statements have previously been made by Matthew John Dolan on 5 February 2018 (MET00012711) and 5 October 2018 (TRI00001797).
  - 4 I was not directly involved in the tRIIO project at Grenfell Tower, but was involved after the event to support tRIIO in carrying out a detailed review of its work and processes within the Tower and more generally to consider how tRIIO worked in multi-occupancy buildings (**MOBs**).
  - 5 Following the tragedy tRIIO reflected on its working practices, particularly in relation to MOBS, which often involved more complex design considerations than single occupancy buildings, with a view to improving those practices. This process involved tRIIO working with internal and external specialists in the fields of building and fire safety, firestopping product manufacturers, ventilation engineers, civil and structural engineers.
  - 6 The purpose of this statement is to explain what actions tRIIO took following the fire in terms of its approach to its work on gas installations in MOBs. tRIIO hopes that explaining the work it did will assist the Inquiry to make recommendations and result in positive change for the gas industry now and in the future.

Ensuring lessons learnt are not lost

- 7 tRIIO's contractual relationship with Cadent ended on 31 March 2021, which was the natural and anticipated end of the contractual relationship and is unrelated to the events of 14 June

2017. In preparation for this, on 1 April 2020, Cadent took over the design work previously done by tRIIO and the tRIIO design team moved to Cadent pursuant to the TUPE regulations.

- 8 Morrison Utility Services (MUS), now known as Morrison Energy Services (MES), one of the companies forming part of the tRIIO joint venture, is providing Contract Management Organisation (CMO) services to Cadent after 31 March 2021 under a new contractual relationship. I understand that this new arrangement does not include Principal Designer or Designer duties for MOB's work.
- 9 tRIIO anticipates that the work it carried out following the fire, and the updates to its working practices adopted on MOB's projects, will still be valuable because:
- (a) The MOBS Design Booklet developed by tRIIO (explained below) and other improvements mentioned in this statement, which were made prior to 1 April 2020, have been adopted and in some cases developed further by the design team now at Cadent. As tRIIO continued to work with the design team on the construction side of MOB's projects, tRIIO played an active role in those developments; and
  - (b) As I explain above, MES will be providing CMO services to Cadent after 31 March 2021. As a party to the joint venture, MES has the benefit of tRIIO's learning as set out in this statement.
- 10 The rest of this statement deals with what tRIIO has done since the fire, covering the areas listed below. Where practical changes were made, it was often a case of adding to, improving or better communicating what was already in place, rather than starting from scratch (as explained further below).
- 11 The balance of this statement is arranged as follows:
- Part A: Surveys of high rise MOB's;
  - Part B: Building Control;
  - Part C: Other practical changes to tRIIO's processes; and
  - Part D: Training.

#### Part A: Surveys of high rise MOB's

- 12 Following the fire, tRIIO surveyed all of the high-rise MOB's it had previously completed work on. The purpose of this review was to ensure the works were compliant with IGEM/G/5 and the Building Regulations. I am told by members of tRIIO's operational team who oversaw this work that the surveys commenced in July 2017 and reviews of around 40 projects were carried out. The majority of defects identified were minor; examples included missing gas signage tape and missing signage. tRIIO also identified a small number of defects relating to ventilation, ducting around pipework and thermal expansion provision. The operational team responsible for this work have confirmed to me that all defects requiring remediation by tRIIO have been completed.

#### Part B: Building Control

- 13 I understand that tRIIO's legal team have submitted proposals for areas of questioning of the Inquiry's gas expert, Mr Rodney Hancox. One of those areas is intended to assist the Panel in considering the application of Building Control to gas replacement works in MOB's. I note that paragraph 375 of Mr Hancox's report to this Inquiry states that it is his understanding that a gas

pipeline is not a controlled service as defined by the Building Regulations. That was also tRIIO's understanding at the time of the fire.

- 14 Indeed, at the time of the fire, it was tRIIO's understanding that if the works complied with the relevant gas safety legislation and adopted the best practices advocated within IGEM/G/5 edition 2 (IGEM/G/5), the construction of gas pipeline networks including internal riser configurations in MOBs would also comply with Building Regulations to the extent they applied.
- 15 As a result of the tragic fire and this Inquiry, a key issue which tRIIO has considered further is the role of Building Control within gas works. As a result, processes were put in place to ensure Building Regulations are considered in addition to the relevant gas safety legislation and IGEM/G/5. A licenced and accredited Building Control Inspectorate was engaged to provide Building Control input in respect of tRIIO's MOBs projects to:
- (a) review all standard designs, including the design, materials used and method of construction of boxing-in and use of fire stopping materials;
  - (b) review bespoke designs where required; and
  - (c) where Building Control approval is required, the Building Control Inspectorate will visit site, review the installation for compliance and submit the Building Control notice.

#### Part C: Other practical changes to tRIIO's processes

- 16 tRIIO also developed its approach to gas installations in MOBs by taking the following practical steps in the years since the fire and in response to its learning from the fire:
- (a) Increased resourcing to ensure that tRIIO's team had more capacity to service its MOBS projects, including a dedicated Pre-Construction and Design Health & Safety Advisor to support the design team during the pre-construction and design phases. Additional Project Managers, Pre-Construction Site Managers and Site Managers were employed and a new role of On Site Coordinator was created to essentially act as the Foreman for each project;
  - (b) Investment in technology, such as improved design software and a mobile application called "e-Pack", which allows project documents, including the Construction Phase Plan, its appendices and other associated documents, to be stored electronically and made easily available to all members of a project team wherever they are. I understand that MES will continue to use e-Pack and the same process in relation to e-Pack as tRIIO put in place and as I explain below;
  - (c) The development and deployment of the MOBS Standard Design Booklet (**MOBS Design Booklet**), which is a bespoke document containing standard designs to cover most scenarios likely to be encountered in MOBs. These have been reviewed and approved by specialists in fire protection and Building Regulations for compliance with applicable legislation, guidance and best practice. A copy of the MOBS Design Booklet developed by tRIIO can be found at Appendix 1 and a further version developed since the design team moved to Cadent dated October 2020 is at Appendix 2;
  - (d) Increased knowledge through various training and briefing sessions for designers, operational staff and contractors. I explain the training that tRIIO put in place below; and

- (e) The introduction of additional compliance checks. This included enhanced checks prior to designs being issued to the Construction team as well as additional checks following completion of the installation works before gas is introduced into the pipework.
- 17 I explain in the paragraphs that follow where each of the points summarised above fits into the key stages of design, pre-construction and construction during a MOB's project. This is by reference to tRIIO carrying out each stage, which it did until April 2020 when the design team moved to Cadent. However, as tRIIO continued to work with the design team after this date, I understand that the process remained the same as I have described below. I am told by the operational team now working for MES that they have taken forward these practical changes within the new contractual relationship which started on 1 April 2021.
- 18 When tRIIO (and now MES) is first instructed to carry out a MOBS project it will request from the duty holder key documents to consider as part of the pre-construction survey, which are used to develop the Construction Phase Plan including the fire risk assessment. A Pre-Construction Site Manager will then survey the building with this information in mind and produce a pre-construction survey. The pre-construction survey was previously in a hard copy format, whereas this was updated to be carried out within our mobile application "e-Pack". This meant that the structure of the surveys was formalised and made more comprehensive to capture information including (but not limited to) the following:
- (i) building details,
  - (ii) suspected Asbestos Containing Materials locations (for specialist survey),
  - (iii) existing gas network details,
  - (iv) building fire plan and fire arrangements,
  - (v) buy-out options,
  - (vi) other CDM duty holders,
  - (vii) potential requirements for temporary works,
  - (viii) structural issues,
  - (ix) proposed laydown and welfare arrangements,
  - (x) underground services and hazards,
  - (xi) environmental aspects,
  - (xii) ventilation provisions,
  - (xiii) fire stopping provisions and requirements,
  - (xiv) means of escape,
  - (xv) proposed and existing meter locations
  - (xvi) requirements for additional Emergency Control Valves,
  - (xvii) electrical works required and
  - (xviii) internal (to property) pipework solutions proposed.
- 19 Surveys are provided to the Design team who work with the Pre-Construction Site Manager to produce a compliant design. The design will include a hydraulic model (produced in Gasworks 10<sup>1</sup>), supplemented with standard designs from the MOB's Design Booklet, which provides high levels of design detail. On complex projects a full 3D BIM Model is used. To ensure this facility was always available where needed, tRIIO employed BIM technicians who moved to Cadent in April 2020.

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<sup>1</sup> At the time of the fire, tRIIO used version 9 of 'GASWorkS™'. This was updated to version 10, which became available in June 2017. The graphics within this updated software give much better context to the pipe route by showing it in relation to the building layout by allowing the insertion of a 2D building image.

- 20 The MOBS Design Booklet was developed with a view to providing simple, accessible, clear and compliant design solutions that account for the applicable regulations, standards and guidance and include all the information the Design and Construction teams need in order to carry out installations uniformly across all projects.
- 21 In light of the conclusions that have been reached by the Inquiry's gas expert on the gas replacement works at Grenfell Tower, the MOBS Design Booklet addressed the following (by reference to the latest version in Appendix 2):
- (a) Valves (see pages 4, 5, 6 and 16- 20);
  - (b) Firestopping to penetrations (see pages 22-24);
  - (c) Temporary firestopping (see page 24);
  - (d) Fire protection ducting (see pages 25-27);
  - (e) Ventilation within ducting (see page 29); and
  - (f) Thermal cut-off valves (**TCO**) (see page 19).
- 22 An additional compliance check was added, in that designs are not issued to the Construction team without consideration and sign-off by the Designer, Pre-construction Site Manager and the relevant Project Manager.
- 23 Once signed-off, the Construction team is notified that the project file, including the design, is ready. This triggers a handover from the Project Manager to the Site Manager.
- 24 The Project Manager assembles and issues the construction pack via 'e-Pack'. e-Pack brings together documents including:
- (a) Pre-construction documents, including access to the survey, design information, the MOBS Design Booklet and design risk assessment;
  - (b) Construction documents, including the fire and emergency plan, emergency co-ordinator checklist, fire stopping evidence log, site induction log and site specific risk assessment; and
  - (c) Other documents, such as the Construction Phase Plan.
- 25 The Construction Phase Plan for MOBs is a consistently formatted document which includes, amongst other sections, a description of the project, key project risks, fire and emergency arrangements and arrangements for controlling significant health and safety risks. The detail and contents have been updated a number of times since 2017. An improvement since the fire is that the Construction Phase Plan is included on e-Pack, which provides easy access to the underlying information. This means all relevant individuals in the construction team have easy access to the most up-to-date and site specific information about a project. At the time of tRILIO's work at Grenfell Tower, the construction pack was in paper hard copy format only.
- 26 Since the fire, a new inspection and test checklist, known as "Permission to Commission", was implemented to check that the installation accords with the design before gas is introduced into any newly installed riser. The procedure applies to all buildings and involves a detailed review on site of the completed installation against the design, IGEM/G/5 and other regulatory

requirements. All main elements of the installation are reviewed (for example, risers, laterals, valves, etc) and recorded on e-Pack.

#### Part D: Training

- 27 Since the fire certain elements of training were introduced. I have reviewed tRIIO's training records and summarise as follows:
- (a) tRIIO arranged for training on Fire Safety of the Building Regulations: Part B to be provided by the Chartered Institution of Building Services Engineers (CIBSE) in November 2017. This training was completed by members of the Design, Construction Management and Health & Safety teams;
  - (b) Training was provided by an internal fire safety specialist to the MOBS team on fire safety, with an emphasis on the Regulatory Reform (Fire Safety) Order 2005 (RRO), in January 2020. This training also covered the design, installation and use of fire-stopping and fire resistant ducting and other materials;
  - (c) Training on the design, installation and use of fire-stopping and fire resistant ducting and other materials was provided to the Design and Construction teams (including tRIIO employees and sub-contractors) by an internal fire safety specialist and by the external manufacturer of fire stopping materials specified in the MOBS Design Booklet on dates in September and November 2019 and November 2020;
  - (d) G5 - Multi-Occupancy Building Awareness Training was delivered by a specialist consultant (who was a member of the IGEM/G/5 panel) to individuals from the Design, Planning and Construction teams on various dates since September 2017;
  - (e) The CITB Site Manager Safety Training Scheme (SMSTS) course was introduced in 2017 for all Managers to provide a baseline in site management and health and safety requirements;
  - (f) Two individuals from the Health and Safety team completed NEBOSH Fire Safety and Risk Management training; and
  - (g) All Project Managers were briefed on the MOBS Design Booklet by the Design team when changes and improvements are made as part of regular discussions and co-ordination meetings.
- 28 Other training was in place prior to the fire and was enhanced, including the following (amongst many other training courses provided by tRIIO):
- (a) CDM Principal Designer Training was provided to members of the Design team by an external training company specialising in construction and infrastructure;
  - (b) CDM Reducing Risk by Design training was provided to members of the Design and MOBs teams by an external training company specialising in construction and infrastructure;
  - (c) CDM 2015 training was delivered to individuals from tRIIO and its sub-contractors by the same external training company mentioned above; and

- (d) Fire Warden / Marshal training was delivered to individuals from tRIIO and its sub-contractors by St John's Ambulance. Some individuals had this training before working with tRIIO and provided a certificate.

#### Conclusion

- 29 In summary, tRIIO carefully reviewed its practices following the tragic fire at Grenfell Tower. Where it identified that changes were needed or lessons could be learnt tRIIO believes it took the appropriate steps in conjunction with the other organisations it worked with, so that learning could be shared. I understand from MES that it has taken this learning forward and will continue to use it on new projects where it applies.
- 30 tRIIO is committed to participating actively and constructively in the Inquiry's important work with a view to assisting the Panel to fulfil the Terms of Reference.

**Appendix 1**

**Appendix 2**