WITNESS STATEMENT

Criminal Procedure Rules, r27.2; Criminal Justice Act 1967, s.9; Magistrates' Courts Act 1980, s.5b

Statement of: FLIN, JAMES

Age if under 18: (if over 18 insert 'over 18') Occupation: FIRE OFFICER

This statement (consisting of 7 page(s) each signed by me) is true to the best of my 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: J FLIN Date: 22/03/2018

Tick if witness evidence is visually recorded ☐ (*supply witness details on rear*)

This is my account of the fire at Grenfell Tower on Wednesday 14th June 2017.

I will mention a number of people all of whom are in the London Fire Brigade (LFB);

Group Manager (G/M) PUGSLEY.

Station Manager (S/M) MCCLENAGHAN.

Station Manager (S/M) GREEN.

Watch Manager (W/M) GURNEY.

I will mention Grenfell Tower and the internal layout of it up to the top of the building.

I joined the London Fire Brigade (LFB) in 1994.

I underwent basic Fire Fighter training and was then posted to Ilford Fire Station. I remained there until I was promoted to Crew Manager (C/M) and transferred to Barking Fire Station. Both Ilford and Barking are busy East London fire stations.

From there in 2005 I moved through promotion to Watch Manager (W/M), as a fire safety inspecting officer to the Fire Safety Team. Whilst there, I underwent a number of training modules which dealt with a wide range of fire safety areas such as fire risk assessment, heritage buildings, building regulations and residential care homes. There are different modules which gave me the skills to carry out audits on various different kinds of premises.

As I developed in the role, I was able to be exposed to the more complex designed buildings such as the Shard in London.

I was the lead fire safety inspecting officer on the Shard project as part of the consultation process, right up until it was complete and occupied. During the project, I was naturally introduced to the fire engineering team who saw my enthusiasm for that type of work.

I spent 12 years there as I obtained those fire safety qualifications and then moved to Chelsea Fire Station as an operational W/M.

From there, I was promoted to Station Manager (S/M) when I joined the Fire Engineering Team some 3 and a half years ago.

Throughout my service, I have been subject to a number of training courses, the main ones being through promotion.

When I became a C/M I underwent a promotion course, which gave me an initial understanding of the 1st stages of leading a crew.

My W/M course added different aspects of leadership, dealing with incidents which require up to 4 appliances. My S/M courses focussed more on tactical leadership dealing with incidents which require up to 6 appliances.

As the rank increases, you are given additional levels of responsibility, along with the training modules which you need to complete. I am deemed as competent as a S/M.

Around 2012, the brigade sponsored me to attend a part time, residential, 4 year Bachelors Engineering Degree at The University of Central Lancashire in Preston. I achieved a 1st class honours degree in the subject, completing the course in May 2016.

The qualification gives me an advanced understanding of fire development, how fire reacts, what creates fire, how buildings react and what kind of measures can be implemented to support the design of the building.

So standard building designs have a very prescriptive design method.

But if a building doesn't support that method, a fire engineer can look at the fundamental issues of fire development and then put mechanisms in place to support that, in order to comply with building regulations.

For example, design guidance for a building like the Shard don't allow for a single staircase at the top of the building of that height.

As a fire engineer, I can design in things like sprinkler systems, mechanical ventilation, and a pressurised staircase, which will allow me to justify having a single staircase.

There are many other aspects to it such as physics, chemistry and maths but fundamentally, if you want to design a unique building and comply with building regulations, you employ a fire engineer to assist you with that design.

I wasn't employed by the Shard, I was part of the consultation team. In such cases, the Fire Service is a consultee and are sought for our opinion. We are not an approving authority, that role falls to the Building Control Body.

So at the time of Grenfell, I was a Station Manager on the Fire Engineering team with a degree in Engineering. My role in the fire service is to look at the building strategies and assess whether it is compliant enough for us to accept it from a fire service perspective. At present, there are probably around 150 complex cases which we are reviewing.

So I am well qualified and experienced to perform my role.

At the time of Grenfell, I was based at the fire service college in Oxford. At around 4.00am, I received a pager message from Station Manager MCCLENAGHAN asking for me as a fire engineer to assist with the incident. He had thought that I was in London so I explained on the phone to him to him that I was in Oxford, quite some distance away.

The conversation was left that he would get back to me if I was needed.

At 7.00am I received a call from Group Manager PUGSLEY who was at the incident and needed support for the Fire Investigation Team and help from the Fire Engineering Team. I told him where I was and he said that he needed me. I told him that in addition to me, S/M David GREEN, who is part of my team, was due to come on duty at 9.00am and was in London.

At 7.42am, I received a formal pager message to mobilise me to Grenfell Tower from Oxford as a fire engineer to support the fire investigation team.

I took the A40 on blue lights and two tones and arrived at the scene at around 9.05am, around the same time as S/M GREEN.

I took my first look at the tower when I turned off from a nearby roundabout and saw smoke and fire on the upper floors. I'd seen footage on the TV before I left Oxford and was expecting the fire to have calmed down by the time I arrived there. I was shocked as design engineering is my profession and I know that buildings are designed so that they shouldn't behave as it had done. I'm aware of previous fires across the world and have seen high rise fires before but not to the extent of Grenfell when I first saw it.

Cordons were in place and I struggled to find a place to park. There were members of the public and it was a scene of congestion. I parked quite a few streets away, a 5/10 minute walk from the tower.

I put my PPE on, including a radio, the traffic on which was quite intense. I put a tabard on which identified me as a fire safety officer and made my way to the command unit (CU). I remember walking past a church and there were members of the public everywhere.

At that stage I didn't know what my role was going to be. I'd been mobilised before as a fire safety officer and S/M but never as a fire engineer.

At the CU, I met with G/M PUGSLEY who said that he needed my help as a fire engineer to liaise with the fire investigation team.

S/M GREEN and myself did an external sweep of the building to look at the external facade of the building, quite a lot of which was now on the floor having fallen as debris.

We were able to get around the north side of the building and also under an undercover walkway area on the south side of the tower and near to a playground area.

I was surprised about the amount of debris on the floor. It looked like sheets of aluminium panels which had delaminated. I didn't know at the time but I now know that the panels were ACM.

ACM is made up of 2 metal panels with insulation in between them. The insulation was grey in colour and held between the two sheets of aluminium. The insulation is made up of polyethylene.

The total width of the panel is around 5/6mm, with the sheets being 1mm and the polyethylene being about 4mm. Polyethylene is a plastic based material.

There was debris all over the ground, some unburned, some clearly having been burning and some delaminated. I looked up and saw that cladding which was still attached to the building was burning.

I remember feeling confused as to how the building had done what it had done. Using my knowledge and experience, the building should not have supported that kind of external fire development.

The fire shouldn't have managed to pass through the whole of the building so effectively. From a building engineers perspective, it wasn't possible for a building of that height to have done so.

The significance of delamination occurring is that when the ACM detached from the polyethylene insulation, it exposed that polyethylene to heat and became more flammable.

Throughout my time with him, S/M GREEN took quite a lot of photos photos and I think that he has given a statement and produced them.

Having seen the exterior of the building S/M GREEN and myself were escorted into the building by Met Police Officers using riot shields above our heads to protect us from any falling debris.

Once inside I saw the ground floor reception area. As I came in, I saw the ventilation grills on the front face of the building above the reception area.

There was a dry riser inlet to my left which was being used to supply water up into the tower. There was a door on the left being used as a staging area for the Breathing Apparatus (BA) teams and just past that was a ventilation panel.

The fundamental role of a building ventilation system is to protect the staircase, to remove smoke from the lobby area to ensure it doesn't get into the staircase.

Where Grenfell had been renovated, the lower floors were different to the upper floors. There was a lobby area and two ventilation shafts either side, one with a set of vents high, one with a set of vents low.

My initial thoughts at the scene were that one was an extract shaft and one was an inlet shaft. So the air would be drawn out from low and would be expelled out high, that's how generally ventilation works.

On the lower floors, where the building had been renovated, a new system had been installed with a different strategy. So I was trying to establish what system was being used and what pathways were in place for the air to flow.

I think that the new system operated on the lower floors, perhaps up until the 3rd floor where the original system took over. Further investigation by others will be required in order to establish this.

A fire will only start in one place and so the idea is for a ventilation system to only work on the floor of origin. The smoke is potentially coming out of the flat of origin, into the lobby area and the system is designed to extract that smoke before it affects the staircase.

So if there is a fire in a flat, the front door of the flat is opened and smoke is released into the lobby. A detector will sense that there is a fire on one of the floors. The detector will cause a ventilation shaft on that floor to open up. That will cause fans to begin operating, extracting smoke from that floor, leaving the staircase unaffected.

That's the design of most residential developments. This can be done either naturally or mechanically.

My initial visual observations were that this system was a mechanical one.

A key issue is that such a ventilation system is only designed to operate on one floor, that is the floor of origin. What you don't want is more than one vent open. If that happens, you have smoke being drawn up and then instead of going out through the roof, it will be able to get into other floors.

It needs to be a sealed chimney from the floor of origin so that the smoke can only go up through to the roof.

If the system works, which happens daily throughout the country, then the staircase remains clear of smoke and people can either escape or stay put and allow fire fighters to use the staircase to put the fire out. However if there are multiple fires on different floors, the system is not designed to operate in that

way and will therefore remove the ventilation protection from the lobby which protects the staircase. This may create a route for smoke to enter other floors.

When I looked at the control panel, it looked like that the system had been operating but I was unclear as to what floor it had operated on. S/M GREEN took a photo of the panel so he may be able to help as to what floor it was indicating. I remember that it was showing perhaps an upper floor but I can't say for sure without looking at the photo.

When Grenfell Tower was built dry risers were required in buildings that were below 60 meters in height. The brigade connect into the dry riser on the ground floor and via a fire appliance outside, which pumps water into the riser and up into the building.

Each floor has an outlet, which crews can use to plug hoses into and take pressurised water from in order to fight fires. The outlets at Grenfell were in each of the lobby areas and as far as I was aware, the dry riser was charged and supplying water.

A dry riser is only really designed to take one or two hoses from it and I believe that the brigade had run an additional temporary riser up the stairs in order to supply more water.

There appeared to be a fire fighting lift in the building but I am not aware if it was being used or not.

On the ground and 1st floors there were some commercial areas with a gym, a child nursery and a community room. Each of those had their own stand alone fire alarm systems which I'd expect in a building which has a mix of residential and commercial.

In the entrance lobby, the stairwell had a glass staircase onto a mezzanine floor. That led into the 2nd floor where there were a number of flats and from then on, the climb was via the original staircase.

I was comfortable with the design and layout of the mezzanine level of the staircase.

Nothing on the lower floors gave me any cause for concern in terms of the layout and design.

When I came to the original staircase, there was water flowing down with hose lying on the floor.

We went up to the 4th floor via the only staircase. At that time the staircase was clear of smoke but the building was ventilating on every floor. The bridgehead was on a floor above us but I'm not sure as to exactly what floor it was on.

Windows had popped out and so on the upper floors, smoke was being drawn through the windows into individual flats.

So in order to get to the 4th floor, I didn't need BA as the air and conditions up to that floor were breathable. I stopped at every floor up to the 4th in order to get an understanding of the layout of the building.

I saw that the gas supply went through the common stair and came out into the residential lobbies and supplied gas on alternative floors. I was unsure as to why that was. I've been shown a sketch plan of the tower, which includes individual flats (JAF/1). I've marked on it where I saw the gas supply.

At some stage I became aware that gas engineers were on site, outside, dealing with the gas supply.

There was a notable change as I reached the 4th floor. The design was older, there were 6 flats off of each lobby area, there were lifts, a refuge space and I noticed the ventilations grills were high and low either side of the lobby area.

The communal area of the 4th floor had fire damage and there were fire investigation teams there. I made myself familiar with the layout, looking at the fire door and ventilation arrangements. I can't go into detail about what I saw as S/M GREEN was taking pictures of the whole scene. He can give a more in depth recollection of what we saw as he has the photos.

So at that stage, there were people working and I didn't go into the flat of origin.

There were still operational crews working and so S/M GREEN and myself came down the stairs, left the building, went back to the CU and spoke with G/M PUGSLEY.

It had taken us a couple of hours or so, S/M GREEN was allocated to some other tasks and I was then asked to work with the fire investigation team and the Met Police.

I was asked to support the Fire Investigation Team, the Met Police and their 3D scanner on the 4th floor and in particular the flat of origin of the fire.

The Met have a 3D camera. The camera is a laser system which is placed in a room and records a 3D perspective of it. It's a visual evidence gathering tool. It's basically a mapping system which sits on a tri pod, spins round and records what it sees.

It produces a 3D digital picture of what the scene looks like.

I've never used one before and so W/M GURNEY and I spoke to officers from the Met Police just outside the CU and they taught me there and then how to use it. They explained that it an expensive bit of kit which couldn't get wet. I remember thinking that that wasn't helpful due to the amount of water inside the building.

They showed me how to operate the system, where it needed to be located and timings.

I don't know who the Met people were nor what unit they are attached to.

W/M GURNEY and myself were to go inside the building to the flat of origin and operate the system to capture the digital footage. It was just him and me with no Met officers as it was a live operational fire scene and they were technical officers who were not trained nor equipped to be in the building.

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So W/M GURNEY and myself made our way back to the tower with the equipment. Nothing had changed around the building nor the operations that were being conducted. Conditions hadn't changed.

We got to the 4th floor and the flat of origin. There was a fire investigation team inside and we had a discussion and they agreed to let us have the flat whilst we used the camera. They said that they thought the seat of the fire was in the kitchen area.

The internal walls of the flat had been destroyed by the fire and so it was fairly open plan when we got there. I did a quick visual survey of the flat to establish how many points we needed the images from.

The flat was made up of a hallway, a bathroom, 2 bedrooms, a front room and a kitchen.

We started by the front door and did 5 scans to get the whole picture.

I've marked on the plan (JAF/1) where I remember each of the rooms to be and have marked with a circled cross where we took each of the 5 scans from. The 6 cross with a circle is next to the window and indicates the fridge carcus.

So we captured from the hallway, inside the hallway, the bedroom, the lounge and the kitchen.

My understanding that the seat of the fire was near to a fridge which I've marked on the sketch as "Fridge Carcus".

Each scan took 2/3 minutes, a few of which I had to re take as there was some movement during the taking of the image.

During my time in the flat I saw that it had been subjected to a significant amount of fire damage. The ceilings were down, plaster had come off of the walls and internal walls had been destroyed. It had clearly been exposed to extreme heat.

I've been exposed to fire scenes in my career so it wasn't anything that I was shocked by, it was a serious fire scene.

So once we had finished the scans, W/M GURNEY and I left the flat and returned to outside the CU where we met up with the police. I handed the equipment over to them as they needed to examine the footage and process it. They needed to ensure that the images that we captured on the 3D equipment were correct.

I waited there for some time whilst they did so as they needed to make sure that everything had worked correctly, they needed to construct the image and ensure that we didn't need to revisit it.

I didn't know what I was looking at so I left that task to them. It took several hours for them to process the images and during that time, I walked the fire ground again. I didn't have a specific task but wanted to revisit what I had seen outside so that I was clear in my own mind as to what had happened.

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Once the police were satisfied that the images were of a sufficient standard, I was released from the scene at around 3pm. I returned to Oxfordshire and completed the next two days of my course.

I subsequently returned to Grenfell on three separate occasions, the first was on the 17th June. The purpose of that visit was to gather information for a fire safety report and to establish the ventilation arrangements of the building.

I had understood the ventilation arrangements on the lower floors but I had been unable to get up to the higher floors. I was looking for the layouts of the flats, the staircase protection. I gained access to the tower on the 17th June and the higher up I got, the less evidence there was due to fire damage.

From the 10th floor upwards, things were different. There was more smoke damage, the staircase doors were more affected and I was able to get to the top of the staircase where I saw an open ventilated grill, which was what I was expecting.

I was still unclear as to how the ventilation had functioned during the fire but I understand that a company called BRE has been investigating that.

My view was that once the fire had taken hold and was affecting more than one floor, any ventilation system would have been overwhelmed. They're not designed to deal with fires on multiple floors.

The TV pictures on the night show that smoke and flames were engulfing the whole building. There was no fresh air for the system to use to clear the internal smoke.

The fire investigation team will have completed an investigation into the internal doors and windows.

My other two visits back to the tower were with colleagues from BRE in order to support the Met Police investigation and do some investigation into the facade. However our visits were stifled as the integrity of the building was compromised and we were not allowed into or near to the tower. So I never did any of that work.

Just looking at the building in the aftermath, it's amazing that having been subjected to such intense heat for such a long period of time, that it didn't collapse. It's a credit to the original design that it didn't do so. Internally it's devastated but it's main core and structure remain intact.

The building was correctly constructed and is designed to keep a fire in the flat of origin. The ventilation system was appropriate for the building but once the fire was on more than one floor, the system was overwhelmed. I don't know of a current system that would have coped with the Grenfell fire once the fire had spread as it did.

I've been asked about the stay put policy. In high rise buildings such as Grenfell, a fire should be contained within the flat of origin.

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The building is designed so that the fire is contained within a single flat allowing the brigade to attend and put out the fire.

It's designed not to evacuate so that you haven't got the whole building evacuating down a single staircase.

The facade on the outside shouldn't be a method of fire spread. There shouldn't be combustible material in the cladding on a building of that height. So the fire should have been contained enabling residents to safely stay put in their flats until the brigade arrived and put the fire out.

From my time at Grenfell, I have since authored a Seniors Fire Safety Officers Report. It's dated 18th June 2017.

I produce the report as exhibit JAF/2.

I produce the sketch of the flat that I wrote on as exhibit JAF/1.