In the evidence presented at the last hearing in my opinion there was an unfortunate conflation of events relating to two separate fire suppression (mist or sprinkler) systems that were installed in the building. Clarification of the issues surrounding the mist suppression systems may assist.

Executive Summary
In summary, there was a fire suppression system in place in the building, 95% installed from 2014 and capable of functioning, that could have been commissioned very easily to provide fire protection all through the works undertaken by Kier from 2016 onwards. It was not commissioned and was ripped out, even though the building was occupied by GSA staff and contractors, and even though the building was known to be at a high risk from fire, because of its construction. A new system was then installed much later, with that work starting 18 months after commencement of Kier’s works on site.

If it was felt appropriate to replace the system installed in 2014 with a new system with greater functionality, the new and old systems could have and should have been run in parallel to provide coverage of the building site until the new system was ready to be commissioned, at which time the old system could be removed or taken off line. Such action would be in accordance with the Joint Fire Code and would have saved the building on 15 June 2018, either by inhibiting its spread until such time as SFRS could attend, or by extinguishing it.

Main Text
It is recorded that in 2008 the recommendation from experts was to put a fire suppression system into the Mack Building. This work was designed in 2012 and the installation of a mist system was instructed. The system installed in 2013-2014 was near completion (reported as 95% complete) when the first fire occurred, on 23 May 2014. This was a High-Pressure mist system. Information on the extent of its installation is shown on drawings in the Glasgow City Council planning portal. Drawings prepared for this by Harley Haddow Engineers dated October 2012 show how extensive this first High-Pressure mist system was. It provided full coverage of the building and it was provided with a tank and pumps under the central main entrance. It is recorded on these drawings that there was a different system to be installed for the archive stores. These drawings were included in a Listed Building Consent application dated 23 March 2013.

After the first fire, which was restricted to the West wing, mostly on the upper floor and at the library end, Page/Park Architects produced drawings showing the building as it existed thereafter. In those drawings the water tank for the system is shown installed under the main entrance steps. It is recorded in the earlier Harley Haddow Engineers drawings that the pumps were located in the centre of the building, close to the tank. None of this area was damaged by the first fire.

Harley Haddow Engineers produced a drawing showing the intended extension of the existing High-Pressure mist system into the part of the building that was to be repaired, where it had been destroyed in the 2014 fire. This was included in a Harley Haddow Engineers drawing dated 3 December 2015 and was included in the first of two planning applications made after the first fire, dated 20 April 2016. Therefore, it is recorded that the existing system remained fully functional and capable of commissioning, after the 23 May 2014 fire, subject to replacement of a small part of the system pipework on the top floor of the west wing.

The Design Statement dated 26 August 2016 prepared by Page/Park for Phase 2 of the work after the first fire indicates the intention as follows- “The Phase 2 works includes the replacement of all the electrical, mechanical, water and fire suppression mist system services and a new lift.”
In the evidence submitted to the Committee by Page/Park, it is recorded that “Following a review of the events of the fire and a continuous process of working with the insurers, and wider expertise, the main fire safety upgrades for the building were proposed as follows… Provide an enhanced, automatic, low-pressure mist fire suppression system.” This shows that a decision was made between April and August 2016 to replace the near complete High-Pressure mist system with a Low-Pressure mist system. The drawings prepared by Page/Park Architects show that the new system required the installation of a new larger water tank in the East wing, in a new room to be created by digging down into the basement area just to the east of the main stairwell.

It is reported that the new tank had been installed and the pumps for the new system had been delivered to site in the days preceding the second fire, which occurred on 15 June 2018. It is also reported that the work on this new system was 60% complete at the time of the fire.

In the document entitled “Fire Prevention on Construction Sites”, subtitled “The Joint Code of Practice on the Protection from Fire of Construction Sites and Buildings Undergoing Renovation”, (known as the Joint Fire Code), the following is stated at 9.1:

“The client, designers or principal designer should ensure, so far as reasonably practical, that the project is designed and planned in conjunction with the contractor and their programming of the works to achieve the early installation and operation of… automatic sprinkler and other fixed firefighting installations where planned…”

The existing High-Pressure mist suppression system could have been activated during the Kier works commenced on 8 August 2016, protecting the Mack Building during construction. Although a new system was to be installed, it would have been normal practice for the existing system to be retained in tandem with the new system to protect the building until such time and the new system could be commissioned. The two systems could have coexisted, running through the existing ducts and voids, because their tanks and pumps were in different locations. The centre and East wing of the building, occupied by the GSA, could have been protected by this existing mist suppression system from late 2016 onwards, and the upper part of the West wing could have been protected thereafter.

It is reported that it was not until October 2017 that the design for the new Low-Pressure mist suppression system was accepted by the GSA’s insurers. The system was not operational at the time of the 2018 fire because the installation was incomplete.

When asked by the Committee about whether a mist fire suppression system should not have been the first thing to be done in the reconstruction, the response from Liz Davidson on behalf of the GSA was that “… putting in place the suppression system would have been the first thing to be done in terms of building management.”

In response to the Committee, Muriel Gray stated: “… we took every possible step above and beyond the standard in specifying the contract terms, including fire precautions, for the Mackintosh building restoration project.”

The commissioning and use of the recently-installed High-Pressure mist suppression system on a temporary basis until the new system was commissioned, would have complied with the “early operation” requirement under the Joint Fire Code. This fully operable system was not commissioned, and it was ripped out, even though the building was occupied both by contractors and Art School staff, and even though it was known to be at a high risk from fire. This left the building unnecessarily unprotected from August 2016 through to the fire on 15 June 2018. If the original system had been commissioned, the building would have been saved, either by the High-Pressure mist system inhibiting the spread of the fire until such time as SFRS could attend, or by extinguishing it.