

(PDH-10 and FORT00828240, FORT00828111,
FORT01225896)

**Pre-application meeting with design team
17/8/2013 and response to information on
the mechanical ventilation system from Max
Fordham 11/11/2013**

From: Bruce Sounes [<mailto:bruce@studioe.co.uk>]
Sent: 25 October 2013 14:18
To: Allen, John: PC-BlgCtrl; Hanson, Paul: PC-BlgCtrl
Cc: Terry Ashton; d.campbell@maxfordham.com; Grenfell
Subject: Grenfell Tower Refurbishment - Fire Strategy

Dear John and Paul,

Further to our meeting at RBKC on 17 August we are now in a position to forward your our proposed fire strategy for Grenfell Tower for comment. Please see attached fire strategy drawings, strategy document from Exova and a description of the proposed upgrade to the smoke exhaust system.

As discussed you will forward this to London Fire Brigade so that the TMO may receive a response as soon as possible. We believe that agreement on the smoke ventilation to the tower is the single biggest risk to the proposals, but we don't think it is reasonable to leave the existing system in place.

Documents attached:

1279_PL010_Existing Floor Plans.pdf
1279_PL200_Proposed Sections_Rev01.pdf
1279_SEA_(08) 100 Fire Access.pdf
1279_SEA_(08) 101 Fire Strategy.pdf
M&E - Smoke Control Proposals - Rev A.pdf
MT14634R.Iss 02 - Grenfell Tower - OFSS.pdf

There are a number of other issues in dealing with this refurbishment that need to be discussed and this is probably best done in person once you have had a chance to study the documents. Would you be able to advise availability for a meeting week commencing 4 November?

Many thanks

Bruce Sounes

For and on behalf of
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From: d.campbell@maxfordham.com <d.campbell@maxfordham.com>

Sent: 07 November 2013 15:41

To: Hanson, Paul: PC-BlgCtrl <Paul.Hanson@rbkc.gov.uk>

Cc: "M.Smith@maxfordham.com"@maxfordham.com; Terry.Ashton@Exova.com; Grenfell <Grenfell@studioe.co.uk>; Bruce Sounes <bruce@studioe.co.uk>

Subject: Grenfell Tower - Smoke exhaust LFB submission.

Paul,

Following on from your conversation with Bruce Sounes, I will try and clarify some of the points you raised regarding our draft report. My comments are in **GREEN**.

1. "...is designed .. as a natural ventilation system..." (line 2) is followed by "a mechanical supply and extract system which does not rely on natural ventilation" (Smoke Control, second para). His initial response is that this reads like we are omitting a compliant natural vent shaft. **We could just leave the 'compliant' system as it is at present, but we (and Exova) think it would be better to provide a more predictable system with mechanical supply and extract as the default mode, all as described in the 'Proposed System' part of our report.**

2. Some diagrams would be useful. **I have attached our schematic drawing and Studio E have provided the visual representation below.**



3. Principle of dual use of duct for vent and smoke okay – but not clear from document and would like some detail as to how this will be achieved.

The smoke controls and the temperature controls would all be part of the same control system

controlling the dampers and the supply and extract fans.

Under normal conditions, all the dampers would be open and the system would operate as a natural ventilation system. Temperature sensors would be located on 'typical' (say 5 No.) lobbies. If the temperature in any of these areas exceeded a pre-set comfort level, then the supply and extract fans would operate to try to reduce the temperature.

In the event of smoke being detected within any lift lobby served by the smoke control system, the fresh air and smoke dampers serving that particular lobby would remain open and the supply and extract fans would operate. The fresh air and smoke dampers on all other levels would be closed. The system would be set up such that it was 'fail-safe' with priority always being given to the fire safety operation.

If this is still unclear, I would be happy to discuss on the phone.

4. Describe sequencing of dampers shutting on alarm. I think our answer to point 3 answers this, but if this is still unclear, I would be happy to discuss on the phone.

5. Query rates of flow – m^3/s & air changes. Having discussed this with Exova, we have been unable to find a ventilation Standard which could be directly applied to the existing system or building configuration. We suggested 15 air-changes per hour as a reasonable criteria based on Building Regs. Part B5 - smoke ventilation requirements for basements being 10 air-changes per hour, albeit with sprinklers installed. As the system would only be venting one level, the flow rate would be relatively small (of the order of $0.4 \text{ m}^3/\text{s}$). It would be possible to increase the ventilation rate if that was felt to be beneficial.

6. Query how you balance the system with powered supply as opposed to powered extract only. Not sure what the query is as the system would always operate with both the supply and extract fans running. The fan duties would be such that we can ensure a negative or positive pressure set-up.

I would be happy to discuss any of the above or any other queries and amend our proposals if necessary.

Duncan.

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From: Allen, John: PC-BlgCtrl
Sent: 11 November 2013 07:59
To: Bruce Soune <bruce@studioe.co.uk>
Cc: Terry Ashton <Terry.Ashton@Exova.com>; d.campbell@maxfordham.com; Grenfell <Grenfell@studioe.co.uk>; Hanson, Paul: PC-BlgCtrl <Paul.Hanson@rbkc.gov.uk>
Subject: RE: Grenfell Tower Refurbishment - Fire Strategy

Bruce, we do not feel that the information submitted so far is adequate to enable an effective consultation with the fire authority.

Under the Building Regulations providing it can be shown that the new system is no worse than the old system this will be acceptable. If there is no data on the existing system a way forward might be to measure the flow rates of the present situation and provide information about the proposed system.

The question that needs to be proposed to the Brigade is whether the replacement smoke extract system to the residential parts will be acceptable.

A letter needs to be written that can be forwarded to the fire authority that presents information on the existing smoke extract system (Design and performance) and the proposed replacement system.

This should include the following:

Confirmation of design of existing system. Is it natural ventilation or mechanical or a combination.

Method of activation of natural/powered system and fire brigade controls

Size of natural vent shaft

Powered ventilation extract rate in m³/s

Inlet air provision (Size if natural in m² or m³/s if powered)

Confirmation of proposed system, same responses as above.

Any differences to the existing system ie that it is being used for the normal ventilation system should be indicated.

The case to justify the proposal

Please give me a call if you wish to discuss this.

John Allen
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