

LANCASHIRE COMBINED FIRE AUTHORITY

Meeting to be held on 14 December 2020

STRATEGIC AERIAL APPLIANCE REVIEW

(Appendix 1 refers)

Contact for further information:

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Executive Summary

This report provides an overview of Lancashire Fire and Rescue Service's (LFRS) aerial appliance provision and details key drivers for change based upon our ability to manage risk in Lancashire and cognisant of learning emerging from the Grenfell Tower inquiry and other incidents of national significance.

The report provides proposals for changes to the current aerial fleet, encompassing options around Aerial Ladder Platforms (ALP), Turntable Ladders (TTL) and Water Towers (WT) which aim to strengthen our response arrangements whilst providing an effective and efficient distribution of these assets across the county.

Recommendation

The Authority is asked to approve the capital uplift of £661k required to:

- Support the purchase of a TTL to replace the 4th ALP (subject to further evaluation of 32m and 42m options);
- Approve the purchase of 2 further WT appliances aligned to scheduled replacement of 2 B-type fire engines.

Background

In 2003/04 an aerial appliance review was concluded which resulted in Aerial Ladder Platforms (ALP) being sited at:

- N12 Morecambe
- W30 Blackpool
- E70 Hyndburn
- C50 Preston

In line with our capital programme, the Service has a rolling replacement schedule which has seen 3 of the 4 vehicles now replaced, with the 4th due in the current financial year. Alongside the ALP's, aerial provision was further strengthened by the more recent purchases of 2 Water Tower (WT) vehicles (aka Stingers) now sited at E71 Blackburn and S56 Skelmersdale.

The strategic review of aerial provision (appendix 1) provides an overview of Lancashire's historic journey around aerial appliance choices and considers our current type and disposition of appliances against a backdrop of emerging risk in the built environment. The impending replacement of the 4th ALP presents a timely

opportunity to consider whether an alternative vehicle(s) may be more suitable for LFRS' future needs given a number of emerging factors, namely:

- learning emerging from the Grenfell Tower inquiry;
- learning from other incidents of national significance such as the Cube in Bolton and Bristol Premier Inn amongst others;
- the increasing attention rightly being paid to occupants of high-rise residential buildings (HRRB);
- expectation that Fire and Rescue Services (FRS) will plan for all foreseeable risks in their area;
- learning from incidents attended within Lancashire where notable successes have been achieved through technological advancements;
- and recognition nationally that the sector can no longer rely on buildings behaving as expected in fire conditions, whether that be due to poor design, poor construction, post-occupancy modifications, inappropriate construction material choices or sub-standard building management.

Grenfell Implications

The Grenfell Tower fire occurred on 14 June 2017 claiming the lives of 72 people at the North Kensington tower block. Over 70 others were injured and 223 people escaped. It is the deadliest structural fire in the UK since the 1988 Piper Alpha disaster and the worst UK residential fire since the Second World War.

Whilst the Inquiry continues, the ramifications emerging are hugely significant and their implications span the full range of LFRS prevention, protection and operational response priorities. Given our focus on organisational learning we track our progress against the various recommendations that have emerged, to ensure we remain best placed to prevent such an incident occurring in Lancashire (in line with national guidance from National Fire Chiefs Council, Home Office and Ministry of Housing, Communities and Local Government) and to ensure that we are prepared, trained and equipped to respond in the event that an incident does occur.

During the Grenfell Tower Inquiry (Phase 1) the relevance of high reach aerial assets was discussed. At the time of the Grenfell incident, London Fire Brigade (LFB) only had 32m ALP's and the Inquiry made comment that it was wholly unacceptable that LFB did not have access to 42m ladders. It questioned whether deployment of such a ladder by LFB at an earlier stage in the incident, would have contained the fire spread on the exterior of the building (GTI, p632). Subsequently, LFB have purchased equipment that can reach to 23 floors.

Whilst this is a significant shift, it should be noted that fires in high rise buildings are usually fought internally which is why a building's fire safety measures are so crucial and why the longest ladders available are rarely the most effective way of responding. Generally, rescues from fires in high rise premises are almost always undertaken by firefighters working within the building yet to fail to factor a consideration such as this into our vehicle replacement strategy would be remiss.

Hackitt Review implications

On 30 August 2017, the Department for Communities and Local Government published the terms of reference for the Independent Review of Building Regulations and Fire Safety. This independent review was led by Dame Judith Hackitt. The two main aims of the review were firstly to develop improved building regulations for the future, with a focus on residential high-rise blocks, and secondly to provide reassurance to residents that their homes are safe.

On 18 December 2017, Dame Hackitt published her initial report. She described the entire building regulatory system as "not fit for purpose" and made interim recommendations for significant change. The final report was published on 17 May 2018, outlining a number of key failings and recommendations, and regulatory change is now being progressed in the form of the Fire Safety Bill and Building Safety Bill.

Building Risk Review implications

LFRS Protection department is currently undertaking a review of all high-rise premises of 18m or above within the county as part of the second Building Risk Review requested by central government. The first review took place in 2017 and focused upon investigating the extent of 'ACM' cladding (as identified at Grenfell Tower), on high rise buildings 18m and above in the UK. All residential buildings 6 storeys and above were inspected in Lancashire as part of this first review and fire safety advice was given where required. At the time of this initial review, no buildings 18m or above were identified as having ACM within Lancashire.

There were however two buildings in Lancashire that were identified as having areas of 'ACM' cladding but both are under 18m and therefore were not in scope for the returns to central government as part of this initial review.

The second part of the Building Risk Review is focused upon identifying which other external wall systems are present upon all residential buildings 18m and above within the UK, and the scope and extent of any remedial works required to external wall systems that are combustible. This review is not focused upon one cladding type (e.g. ACM) but whether the whole of the external wall system from the outer wall or rain skin to the inner wall, could promote fire spread.

To date six premises 18m and above in Lancashire have been identified as having unsafe external wall systems (none of which are ACM) requiring interim measures, which include a wakeful watch and a move to a simultaneous evacuation strategy. Similarly, 3 timber-framed blocks of flats have had the same interim measures introduced due to their poor construction.

Whilst the current focus on combustible cladding or external wall systems is focused solely upon residential type buildings of 18m or above, there are significant numbers of lower rise residential buildings and low and high-rise non-residential buildings in Lancashire that may be fitted with combustible cladding or external wall systems. These are key considerations when considering the evolution of LFRS aerial appliance fleet and in evaluating possible options for future vehicle procurement.

ALP or TTL?

LFRS has a history of ALP preference, but given the opportunity to reflect on sector learning, we must now consider whether an alternative aerial asset, such as a TTL, would best serve our communities' needs based upon our recognition of the risk that does exist within Lancashire's building stock. The Service notes the availability of both 32m and 42m TTL options and evaluations conducted by other FRS (such as GMCFRS) as to their benefits and limitations. Nonetheless, the Cube incident in Bolton, provided evidence of one of the key benefits associated with use of a TTL; the time taken to deploy it. During the Cube incident, an individual was rescued from an upper floor balcony. The rescue was captured on CCTV, showing that in less than 2 minutes after the rescue, the room adjacent to the balcony became fully involved in fire. Although anecdotal, the crew acknowledged that the reach of the TTL, and the swift nature in which it can be set up and deployed, was vital to effecting a swift rescue from height.

Aligned to this first consideration, the review also reflects upon the role played by WT's within the fleet. LFRS acquired the first vehicle in 2017 and following evaluation proceeded with purchase of a second. The WT successfully operated as a B-type fire appliance and achieved acceptable response times. A number of notable incident outcomes have resulted and are cited within the report, but broadly the clear benefits to the Service, our communities and businesses can be summarised as:

- Speed of knock down of the fire (highly impactful);
- Fire damage reduced and buildings saved (due to speed of intervention);
- Incident durations reduced (due to speed and weight of attack on the fire);
- Number of appliances reduced (due to higher pump capacity);
- Reduced appliance numbers providing greater resilience in fire cover across other areas of the county;
- Improved firefighter safety by facilitation of remote WT operation, allowing firefighters to work away from the fire front.

The purchase of 2 WT vehicles whilst innovative was considered to form part of a longer-term strategy which would see the disposition of such vehicles potentially increase (aligned to the B-Type fire engine replacement strategy) over the medium term.

The strategic review concludes with a series of options which are considered viable and which offer the optimum blend of appliance types and capabilities to best position LFRS to respond to the changing life and property risk in Lancashire, based upon a distribution which will balance speed and effectiveness of response against the corresponding capital uplift required.

Business Risk

High – Changes to legislation and regulation of the built environment are significant. Similarly, the emergence of new learning from incidents nationally prompts the Service to consider our current appliance capabilities and disposition. The ability to respond quickly and effectively to life risk incidents in low and high rise premises in

Lancashire is a significant priority and failure to do so may present high reputational risk to the Authority.

In the residential or commercial setting, LFRS has a proven ability to deliver an efficient and effective operational response to larger fires and these proposals seek to ensure that risk arising from such incidents does not increase.

Environmental Impact

Low – replacement of fleet assets may have a slight impact although this is dependent upon any overall uplift in appliance numbers.

Equality and Diversity Implications

None

HR Implications

None

Financial Implications

Option 1 – 3 ALP, 1 TTL, 6 WT

There would be an associated approximate maximum uplift in capital spend of £1.237m (total spend £1.827m).

This assumes that each Water Tower would cost an additional £288k (4 x £288k = £1.152m) and an additional £85k for a 42m Turntable Ladder.

If an ALP or 32m TTL was selected, then the existing ALP replacement budget of £590k would require an uplift of £10k representing a total uplift of £1.162m (total spend £1.752m).

Option 2 – 3 ALP, 1 TTL, 4 WT (Recommended)

There would be an associated approximate maximum uplift in capital spend of £661k (total spend £1.251m).

This assumes that each Water Tower would cost an additional £288k (2 x £288k = £576k) and an additional £85k for a 42m Turntable Ladder.

If an ALP or 32m TTL was selected, then the existing ALP replacement budget of £590k would need uplifting by £10k representing a total uplift of £586k (total spend £1.176m).

Option 3 – 4 ALP/TTL and 2 WT

There could potentially be an estimated capital uplift of £85k if it was deemed that the 42m TTL vehicle was the most appropriate replacement.

If an ALP or the 32m TTL was selected then the existing budget of £590k would be broadly sufficient.

There is no scope to utilise existing capital reserves to meet these additional costs.

As such the Authority would need to either:

- increase the annual revenue contribution to capital, this currently stands at £2m and therefore there is limited scope to do this;
- reduce the existing capital programme to provide additional funding for this, however the existing programme already has a significant shortfall and therefore there is limited scope to reduce it sufficiently to fund this expenditure;
- take out additional borrowing to meet the cost, with each £1m of borrowing equating to a revenue charge of approx. £110k per annum over 12 years.

**Local Government (Access to Information) Act 1985
List of Background Papers**

Paper	Date	Contact
Reason for inclusion in Part II, if appropriate:		