



LONDON FIRE BRIGADE

Report title

Hose Layer Unit Modification & Service Life Extension

Report to

Corporate Service Directorate Board
Commissioner's Board
Deputy Mayor's Fire and Resilience Board
London Fire Commissioner

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Report by

Assistant Director, Technical and Commercial

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Executive Summary

The purpose of this report is to recommend an alternative approach to the replacement of the Hose Layer Units (HLUs). A budget of £1.1 million (including contingencies) was originally approved in LFC-0284y Specialist Heavy Fleet report. The forecast capital spend of £200K per vehicle was estimated from historic costs for this type of vehicle. Following the tender response received after market engagement, only Emergency One Limited remained in the bidding and the bid they provided was £1,553,874.70. This equates to over £100k per vehicle more than was originally budgeted for. In addition, the tender for five specialist vehicles does not appear to have attracted a bulk discount.

In light of this, FLEET are recommending that we now seek to modify these vehicles by adding an aftermarket Selective Catalytic Reduction (SCR) exhaust emission filter treatment. This has the following benefits:

- The HLUs achieve the 2021 ULEZ compliancy.
- Gives the London Fire Brigade (LFB) a longer period to review their bulk water capability in combination with the High Volume Pump (HVP) fleet.
- Deferral of capital spend for the full replacement of the HLU until 2025/26.
- The cost of modifying the emission system of the existing HLU will be significantly less expensive than a full vehicle replacement. Offering a reduction of approximately £750,000 (excluding 10% contingencies).
- It is also possible that by deferring this cost until 2025/26, the heavy vehicle market will have matured enough to be able to offer an off-the-shelf product that will comply with the Greater London Authority (GLA) London Environment Strategy plan for its GLA fleet by 2030 for zero emission capable vehicles over 3.5 tonnes.

Recommended decision

For the London Fire Commissioner

1. That the London Fire Commissioner Delegates authority to the Assistant Director Technical & Commercial to modify 5 HLUs via Babcock Critical Services Limited under the 2014 Vehicles and Equipment contract for an overall combined cost of up to £275,000.

Introduction and Background

1. The HLUs are a specialist heavy vehicle used to support large fires and deploy 90-millimetre fire hose to facilitate relay water pumping operations with minimal delay and can deploy hose up to 4 kilometres.
2. The current HLUs came into service between August 2010 and March 2011 with a 12-year life and are categorised as Euro 5, making them non-compliant against the current London ULEZ requirements which will apply to all LFB vehicles from October 2021.
3. The new HLUs were required to be in service prior to the ULEZ deadline in October 2021 which means they were going to be replaced ahead of the planned replacement cycle. Babcock Critical Services Limited formally recommended to the LFB via a procurement strategy that four suppliers were to be included in the procurement process.
4. Two of these suppliers stated that they would not be participating as HLUs are not something they particularly specialise in.
5. The remaining two suppliers were active throughout the entire tender period but one of these suppliers did not tender. There have been several communications since to try and understand their reasons for not bidding. The fundamental reason was that they could not get the response approved through their own governance processes.
6. In response to this the HLU replacement project was put on hold in September 2020 whilst the capability and options were reviewed strategically by LFB.
7. On 12 November 2020, Babcock Critical Services Limited were instructed to issue a Best and Final Offer (BAFO) to the only remaining supplier who was the only interested party left. Clear guidance was given to the bidder with a focus on cost reductions.
8. On 30 November 2020, BAFO response was received from Emergency One Limited which can be summarised as the following:
 - The prices quoted and build programme remained the same, although they have included the caveat that they have not factored in any potential Brexit tariffs.
9. Babcock Critical Services Limited maintain the front-line Hose Layer Unit vehicles for a revenue slot price of £9,000 per vehicle, per year. This is likely due to a small increase as a result of the additional maintenance and certification required for the SCR system, such as a Diesel Particulate Filter (DPF) clean required every 6 months and SIM Card to support monitoring of the SCR system. To be established on approval.
10. By keeping the same vehicle, it will also limit the training required as the vehicle will still be operated in the same manner.
11. Extending the life of the HLUs will give further time for the LFB to review its bulk water capability. The LFB currently has two bulk water capability options the HLUs and High Volume Pumps (HVPs). These two assets perform similar functions and a review into streamlining this capability was started in 2020 in response to budget pressures. This review was stopped because insufficient time was available to conduct the detailed review and develop a new bulk movement of water operational strategy in time to meet the ULEZ emissions deadline for the HLUs.
12. Extending the life of the HLUs will give the LFB five years with which to conduct a detailed review of both HLU and HVP capabilities with a view to streamlining our bulk movement of water strategy and realise future budget savings.

13. Please note that the HLUs without ULEZ being a factor would have been replaced in 2022.

Project Cost Summary Table

LFC-0284y Specialist Heavy Fleet

Project code	Project & Payment description	Staged payment £	No. vehicles	Total per vehicle £	Total for project £	10% contingency £	Total project value £
RV140	Hose Layer Unit Stage 1	£80,000	5	£200,000	£1,000,000	£100,000	£1,100,000
	Hose Layer Unit Stage 2	£120,000					

Emergency One Limited BAFO

Project code	No. vehicles	Total per vehicle £	Total for project Value £
RV140	5	£310,774.94	£1,553,874.70

Proposed Modification

Project code	No. vehicles	Total per vehicle £	Total for project £	10% contingency £	Total project value £
RV140	5	£50,000	£250,000	£25,000	£275,000

14. A 10% contingency to allow for the price risk due to current economic climate will be applied to the total of £250,000 As such an approval to spend up to £275,000 has been requested. This contingency will only be used for unforeseen rises in costs.

Lead times

15. Babcock Critical Services Limited anticipate a lead time for the parts of 8 – 10 weeks from the point of order.

Modification Details

16. The main modification will be to achieve certified 2021 ULEZ compliancy via the Selective Catalytic Reduction (SCR) route. This is an advanced active emissions control technology system that injects a liquid-reductant agent through a special catalyst into the exhaust stream of a diesel engine.

- A pre-assessment of the vehicle is required to be carried out prior to the installation of the retrofit system. The pre-assessment should include, but not be limited to, an engine out smoke test, a performance test of the AdBlue system and a check to ensure the AdBlue lines are clear. Details of this will be provided before installation.
- Additional lighting inside the hoppers (storage compartment for the hoses) and high-level lighting to show objects which could strike the operatives within the hoppers such as trees or street furniture.

- Improvement to Direct Vision Standard to make it compliant with 2021 directive.
17. At the beginning of the asset replacement programme for the LFB heavy vehicle fleet exhaust modifications were considered as a way of potentially extending the life of older vehicles. This was discounted on the grounds that the technology was in its infancy and at that time the suppliers in the market could not guarantee achieving Euro 6 compliance. Equally an exhaust modification that extended the life of the wider, heavily used, aging appliance fleet would have been likely to have led to significant additional maintenance charges and was not considered cost effective.
 18. Subsequently the market has matured, and the suppliers of this service are able to meet the Euro 6 standard. The HLUs, whilst approaching their end of life, are comparatively infrequently used, are a smaller fleet of vehicles and are better suited to having their working life extended with the SCR modification.

Alternative Options Considered

19. Re-engage with Emergency One Limited and pay uplift in costs for new HLUs totalling £1,553,874.70. This equates to over £100k per vehicle, which is more than expected and reported in the LFC-0284y Specialist Heavy Fleet.
20. No modification and extend the life of the HLUs until the heavy vehicle market delivers an off-the-shelf product for the 2030. This will not deliver a compliant vehicle for the 2021 ULEZ and would attract charges from TfL.
21. Whilst the LFB can choose to adopt a long-term strategy of paying ULEZ charges on these vehicles until their replacement in 2026 the LFB are not recommending this for the following reasons:
 - a. Colleagues in GLA Air Quality team have made it clear that there is an expectation on the LFB, as a member of the GLA family, to lead by example. As such the LFB should be making every effort to meet its environmental responsibilities under the ULEZ scheme. An active decision by the LFB to ignore this directive would be damaging to both the reputation of the LFB and the GLA.
 - b. The LFB does have a Memorandum of Understanding (MoU) with TfL which provides us with an ULEZ exemption for a small number of vehicles until October 2021. We are currently in negotiations to see that extended to April 2022 to mitigate delays caused by Covid. However, colleagues at TfL have made it clear to the LFB that the purpose of the MoU is to support the transition of fleet users' vehicles to lower emissions standard vehicles, it is not to grant long term exemptions. Therefore, it is likely that any request for a long-term exemption for HLUs would be rejected.
 - c. The ULEZ charge would be levied on the HLUs everyday they leave their base station. This would incur a £100 charge on each occasion. HLUs are required to leave their base stations for a number of reasons such as to attend operational incidents, training events and servicing events etc Over the course of the proposed life extension for HLU, as a result of exhaust modification, these vehicles would only need to leave their stations approximately 70 times per year (once every five days) for the cost of the ULEZ charges to exceed the cost of the modification. 70 ULEZ charges per year per HLU at £100 per charge would equate to £35K per vehicle over five years, equal to the cost of the exhaust modification element of the proposed recommendation.

Objectives and Expected Outcomes

22. The objective of this proposal is to seek the approval for the Assistant Director, Technical and Commercial to be authorised by the London Fire Commissioner to place orders under the 2014

vehicles and equipment contract with Babcock Critical Services Limited for the modification of the 5 HLUs at a cost of up to £275,000.

23. To extend the life of the HLUs therefore deferring full replacement costs to FY2025/26. By deferring this cost until 2025/26, it is hoped that the heavy vehicle market will have matured enough to be able to also offer an off-the-shelf product that will comply with the GLA London Environment Strategy plan for its GLA fleet by 2030 for zero emission capable vehicles over 3.5 tonnes.
24. The GLA London Environment Strategy plan for its GLA fleet is for all heavy vehicles greater than 3.5 tonnes to be fossil fuel-free by 2030. This will also allow for a complete operational review of the LFBs current bulk movement of water capabilities including HLU and HVP.
25. LFB will ask Babcock Critical Services Limited to modify the existing HLUs to make them ULEZ compliant (Oct 2021) via the SCR filter route with a view in achieving certification of the 2021 ULEZ compliancy.
26. Once approval has been given, LFB and Babcock Critical Services Limited will modify the current fleet of HLUs and then run a full procurement exercise of these vehicles in 2025, which gives the fossil fuel free HGV market a further 4 years to mature.

Equality Impact

27. The London Fire Commissioner and decision takers are required to have due regard to the Public Sector Equality Duty (s149 of the Equality Act 2010) when exercising our functions and taking decisions.
28. It is important to note that consideration of the Public Sector Equality Duty is not a one-off task. The duty must be fulfilled before taking a decision, at the time of taking a decision, and after the decision has been taken.
29. The protected characteristics are: Age, Disability, Gender reassignment, Pregnancy and maternity, Marriage and civil partnership (but only in respect of the requirements to have due regard to the need to eliminate discrimination), Race (ethnic or national origins, colour or nationality), Religion or belief (including lack of belief), Sex, and Sexual orientation.
30. The Public Sector Equality Duty requires us, in the exercise of all LFC functions (i.e. everything the LFC does), to have due regard to the need to:
 - a. Eliminate discrimination, harassment and victimisation and other prohibited conduct.
 - b. Advance equality of opportunity between people who share a relevant protected characteristic and persons who do not share it.
 - c. Foster good relations between people who share a relevant protected characteristic and persons who do not share it.
31. Having due regard to the need to advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it involves having due regard, in particular, to the need to:
 - a. remove or minimise disadvantages suffered by persons who share a relevant protected characteristic where those disadvantages are connected to that characteristic;

- b. take steps to meet the needs of persons who share a relevant protected characteristic that are different from the needs of persons who do not share it;
 - c. encourage persons who share a relevant protected characteristic to participate in public life or in any other activity in which participation by such persons is disproportionately low.
- 32. The steps involved in meeting the needs of disabled persons that are different from the needs of persons who are not disabled include, in particular, steps to take account of disabled persons' disabilities.
- 33. Having due regard to the need to foster good relations between persons who share a relevant protected characteristic and persons who do not share it involves having due regard, in particular, to the need to—
 - a. tackle prejudice, and
 - b. promote understanding.
- 34. Officers from the Technical and Commercial department have completed an Equalities Impact Assessment (EIA). The modification will offer no change to the current use of the vehicle.
- 35. In addition, the Babcock Critical Services Limited contract requires Babcock Critical Services Limited and any sub-contractor they may engage, to conform to equality legislation and LFB equalities protocol. Babcock Critical Services Limited also assess all of their providers' approaches to equality and ensure they are satisfied that they meet appropriate protocols, prior to them listing those companies as approved providers. Therefore, it is considered that there is an appropriate approach to equalities right through the supply chain in respect of this procurement.
- 36. The provision of additional lighting inside the hoppers (storage compartment for the hoses) and high-level lighting will improve accessibility and ease of use for operational staff.
- 37. The extension of the life of the HLU will give LFB the time to explore further additional mechanical assistance to reduce the manual handling demands on end user.

Procurement and Sustainability

- 38. FEP2237, the 2014 vehicles and equipment contract with Babcock Critical Services Limited provides for the capital replacement of fleet and equipment throughout the contract period of 21 years. Under the contract, Babcock Critical Services Limited procure the new vehicles and equipment.

Strategic Drivers

- 39. The modification of the existing HLUs is consistent with the LFBs requirement to serve and protect the people of London, by providing an effective bulk movement of water capability and also minimise the environmental impact of the LFB's operational fleet In line with the GLA London Environment Strategy.

Workforce Impact

- 40. There are no implications on workforce matters arising from the recommendations within this report that would necessitate consultation with recognised Trade Unions. The HLU will reach the end of its serviceable life by 2022 and the modification to the HLU will be the same in operation for which the LFB has in place an extensive training program.

Finance comments

- 41. This report recommends the for the Modification of HLUs at a cost of up to £275,000. The Capital Programme currently anticipates the replacement of HLUs at a cost of £1,100,000 which includes a 10% contingency, this was approved in the Specialist Heavy Fleet report LFC-0284y.

42. The report also requests that the reduction in spend and hence lower budget requirement in the Capital Programme is delayed until a future year on the HLUs, meaning £825,000 would be slipped from 2021/22 to a 2025/26.
43. The estimated costs of the modification in this report are £250,000 with an additional 10% contingency of £25,000, which has been added to take in to account the price risk associated with the current economic climate.
44. The cost of the modification which already has budget allocated in the Capital Programme will incur annual capital financing costs on the revenue budget of £25,208, with £18,333 of this provision to repay debt (minimum revenue provision), based on a 15 year asset life and £6,875 for annual interest, at a rate of 2.5%.
45. Annual Capital financing costs of £100,833 have already been included within the approved revenue budgets (£73,333 provision to pay debt and £27,500 for annual interest), It would mean that the remaining £75,625 of capital financing costs would occur in 2025/26 which the anticipated remaining capital spend would occur.
46. The running costs of the HLUs will be covered by the slot price in the current budget for the vehicle.

Legal comments

47. Under section 9 of the Policing and Crime Act 2017, the London Fire Commissioner (the "Commissioner") is established as a corporation sole with the Mayor appointing the occupant of that office. Under section 327D of the GLA Act 1999, as amended by the Policing and Crime Act 2017, the Mayor may issue to the Commissioner specific or general directions as to the manner in which the holder of that office is to exercise his or her functions.
48. Section 1 of the Fire and Rescue Services Act (FRSA) 2004 states that the Commissioner is the fire and rescue authority for Greater London.
49. By direction dated 1 April 2018, the Mayor set out those matters, for which the Commissioner would require the prior approval of either the Mayor or the Deputy Mayor for Fire and Resilience (the "Deputy Mayor").
50. Paragraph (b) of Part 2 of the said direction requires the Commissioner to seek the prior approval of the Deputy Mayor before "[a] commitment to expenditure (capital or revenue) of £150,000 or above as identified in accordance with normal accounting practices.
51. The Deputy Mayor's approval is accordingly required for the Commissioner to modify the current HLUs at a cost of up to £275,000.
52. The statutory basis for the actions proposed in this report is proposed by section 8 of the Fire and Rescue Services Act 2004 under which the Commissioner must make provision for rescuing people in the event of road traffic accidents in its area; and must secure the provision of personnel, services and equipment necessary to efficiently meet all normal requirements.
53. The General Counsel also notes that the proposed procurement will be conducted through the Babcock Vehicles and Equipment Contract.

List of Appendices

Appendix	Title	Protective Marking
1.	None	