



LONDON FIRE BRIGADE

DMFD111 Appendix 1

Report title

Incident Command Operating System

Report to	Date
Commissioner's Board	10 February 2021
Deputy Mayor's Fire and Resilience Board	16 February 2021
London Fire Commissioner	

Report by	Report number
Assistant Commissioner Operational Policy & Assurance	LFC-0485

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Executive Summary

This report seeks approval of expenditure to procure and manage software to replace the existing Command Support System (CSS) utilised on command units for collation and storage of information at operational incidents.

The procurement of a new incident command operating system (ICOS) will allow the incident commanders and remote monitoring officers/control to have a greatly improved situational awareness of an incident.

This ICOS will enhance the decision making of incident commanders and the ability to record their decisions both writing and verbally. ICOS will also allow information to be retrieved post incident to assist with incident learning and teaching through decisions made during the incident.

Recommended decisions

The London Fire Commissioner:

1. Approves expenditure up to £2.5 million¹ to develop, implement and maintain a new incident command operating system over 10 years, after completion of an OJEU compliant procurement exercise subject to the Deputy Mayor for Fire and Resilience prior approval.
2. Approves expenditure up to £500,000¹ for the financing of the deployable IT hardware which has previously been included in the Mayoral budget submission.

3. Approves expenditure of a combined cost up to £1 million¹ for the two future ICT hardware refreshes in years four and eight of the command unit's life span.
4. Agrees to delegate authority to the Assistant Director, Technical & Commercial to award a ten-year contract for a replacement incident command operating system at a cost of no more than £2.5 million¹ to the successful bidder following the tender exercise.
5. Agrees to delegate authority to the Assistant Director, Technical & Commercial in order to carry out the procurement of the deployable IT hardware up to a cost of £500,000¹
6. Agrees to delegate authority to the Assistant Director, Technical & Commercial in order to carry out future ICT hardware refresh in years four and eight of the command unit's life span at a combined cost of no more than £1 million¹.

Introduction and Background

1. The incident command operating system (ICOS) is designed to help incident commanders at all levels within the command hierarchies to manage emergency incidents using dynamic incident information. Incident information is displayed graphically within a clear intuitive interface and can be controlled using simple touch-screen movements, or via a mouse click to create and share a Common Operational Picture.
2. ICOS provides fast, clear access to a wide variety of critical incident data – objectives, maps, video feeds and other assets – and enables this data to be collected and used within a clear Decision-Making Model.
3. The current ICOS called Command Support System (CSS), has been utilised within the London Fire Brigade (LFB) since 2010, replacing the previous Command Planning System which was introduced circa 1996.

¹ Redact

4. CSS is utilised on all Command Units (CU) at operational incidents to assist the incident commander with operational awareness and information collation and storage.
5. We are currently using Telent Command Support System (CSS) version 1.7, which is an application-based software installed on the fixed IT hardware and laptops within the command units.
6. The LFB updated CSS from the previous version 1.5 to version 1.7 on laptops carried on the CU's in January 2018 and on all CU fixed IT hardware by March 2019, which offers better reliability at incidents.
7. There is no agreed or paid for service level agreement (SLA) with Telent as they do not support version 1.7. For an interim SLA with Telent, the Brigade would need to procure CSS version 1.8. LFB have on several occasions requested Telent to supply a proposal for an upgrade to version 1.8 and associated support, but to date this has not yet been provided.

8. A decision was taken within the Command Unit Replacement Project Board (CURP) that the new incident command operating system, must also be a cloud-based solution which supports the ICT digital strategy of cloud based first.
9. The new incident command operating system will be installed and utilised on the nine new replacement command units that are in a separate procurement stream through the CURP, and due to enter service in 2022.
10. Over the last ten years, there have been many challenges with ensuring the stability of the CSS platform. These include not being able to utilise tablets and deployable cameras to give the incident commander a greater situational awareness at an incident.
11. The Grenfell Tower inquiry phase 1 report volume 4-chapter 33.17 b identified that urgent steps be taken to ensure that the command support system is fully operative on all command units and that the crews are trained in its use.
12. The Grenfell Tower inquiry phase 1 report volume 4-chapter 28.95 stated “even before the Grenfell Tower fire, the command support system had never worked at larger incidents involving more than six pumps.”
13. Following upgrades to the Brigade server housing CSS and to the computers within the command units, CSS at present, has a better stability at incidents. The new ICOS requirements offer and have fed that learning in and will make the ICOS cloud platform more stable and intuitive for the user.
14. The current ICOS (CSS) provides the following main functions to the incident commander:
 - Appliance and Officer role boards containing information on ridership and operational qualifications, taken from the LFB Staff attendance and recording system (StARS)
 - An organisational chart for the incident ground hierarchy.
 - Document and photograph storage for incident relevant information, available to all CSS users.
 - Live map with aerial overlay to allow the incident commander to manually plot resources on the incident ground.
15. The primary objective of the procurement process is to identify and purchase an incident command operating system which will fully meets or exceeds our current system (CSS), this includes:
 - All the requirements mentioned paragraph 14 and the additional requirements below.
 - GPS location and plotting of appliances on the live map, removing the need for manual interaction. This will also include senior officer location at incidents, at a later point when GPS location becomes available within their Emergency Services Network (ESN) devices.
 - Ability to view drone footage, body worn cameras or video imagery from within ICOS on the CU fixed IT hardware or a variety of portable devices.

- ICOS is to be a cloud-based solution which supports the ICT digital strategy of cloud based first and allows for ease of multiple users. A hybrid solution will be installed on the CU to cover if there is a loss of data communications.
- ICOS will be viewable from a variety of devices within the Brigade through a web-based application, to allow for maintenance to skills of personnel and the remote monitoring by senior officers.
- Ability to update and view ICOS from various handheld portable devices including an App for Android/IOS devices.
- The integration of current and new risk assessments to include Analytical and Environment risk assessments. Also, any other required documents that the LFB wish to utilise at incidents in the future.

Alternative Options Considered and Consultation

16. An alternative option is to maintain the use of CSS and upgrade to the latest version 1.8. However, CSS also does not have the ability to receive imagery from drone or body worn cameras.
17. There is an uncertainty as to whether further updates of CSS will be available and in what format they will be cloud or vehicle based. This would cause uncertainty going forward with knowing whether the existing CSS platform would be updated/upgraded to meet the needs now and in the future for the LFB.
18. LFB would not have a roadmap going forward for the implementation of the points mentioned within paragraph 15 of this document.

Objectives and Expected Outcomes

19. The objective of this report is to replace the existing CSS with a new ICOS that will integrate with existing Brigade systems and pave the way for the use of many new functions at the incident ground.
20. The ICOS tender will have an optimal ten-year contract to tie into the command unit replacement vehicle procurement which have an expected twelve-year life span. This will allow for the LFB to then look to at new developments and systems that come onto the market, or to extend the contract further. Through procuring a cloud solution, the ICOS platform will be very agile and the LFB will receive regular updates and upgrades to the software through annual licencing. CSS at present, the LFB would be required to pay for upgrades if they were available.
21. The ten-year contract will also include an ongoing 24/7/365 support package and initial training by the supplier for the LFC personnel required to use it.
22. The initial training by the ICOS provider will be for up to three hundred personnel to include but not limited to:
 - Command unit personnel
 - Babcock's Training trainers
 - Babcock Critical Services CU IT technicians
 - LFB IT support staff

- Control operator trainers
- Chosen operational officers.

23. Through the LFB procuring a cloud-based solution, this will reduce the impact on the Brigade's servers by the software central server being hosted within the cloud.
24. All issues/defects will be passed directly to the software suppliers via a call centre for resolution under the service licence agreement. This will reduce the impact and downtime on LFB ICT department trying to resolve issues that may occur within the software. At present any faults with CSS are dealt with by the LFB ICT department for resolution.
25. The access and interrogation of information within ICOS, as required for post incident reviews, will be through the LFB information access team following completion of the required data release paperwork.
26. Information and decisions recorded within ICOS can be played back during an incident. They can also be used at a performance review of command of the incident, to assist in the feedback and personal development of officers that attended the incident.
27. The use of deployable technology across the incident ground to give real time information updates within the ICOS on the command unit, which will include cameras and portable devices utilising a data connection.

Finances

Capital

28. At an extraordinary meeting held on the 22 January 2021, the decision was made to procure the nine new command units and fixed IT hardware, project code RV127. This has been progressing and contract award is about to be signed. The capital budget for this has already been agreed and does not include the financial expenditure for the ICOS procurement or the two combined IT hardware refreshes in years four and eight. The life span of these new command units will be twelve years before they are replaced.

Revenue

29. Table 1 provides the breakdown of expenditure requested for the replacement of the incident command operating system and the costs of the initial and combined future IT hardware refreshes.
30. Through the bids received in the OJEU compliant procurement process, the 10-year contract for the ICOS software and support costs fall within the £2.5 million¹ revenue budget that we are seeking approval for.

¹ Redact

Table 1

<u>ICT Costs</u>	Unit Costs	Units	Initial Stage	Yr. 4	Yr. 8	Total

Description	£,000s		£,000s	£,000s	£,000s	£,000s
Software Solution	2,500 ¹	1	2,500 ¹			2,500 ¹
Initial IT hardware costs	500 ¹	1	500 ¹			500 ¹
Hardware Refresh	56 ¹	9		504 ¹	504 ¹	1,008 ¹
ICT Sub Total			3,000 ¹	504 ¹	504 ¹	4,008 ¹

31. The current implementation plan is to go live with ICOS in line with the first new command unit in April 2022. To be able to achieve this deadline, contract will need to be agreed and awarded by 28 June 2021. The licence fee is due annually and the support costs for ICOS will be paid on a monthly basis.
32. ICT further seeks approval to spend the £500,000¹ on the ICT Capital Programme for 2021/22 for the deployable command unit IT equipment which has previously been included in the Mayoral budget submission.
33. This document seeks approval to spend up to £2.5 million¹ for the procurement of a new ICOS solution to replace the existing CSS.
34. There will be two fixed IT hardware refreshes on the command units and deployable IT hardware in years four and eight of this project at approximately £500,000¹ each. These costs will be incorporated into the future budget process.
35. The revenue finances are required in advance of the ICOS go live within the new command units to allow the successful bidder and the LFB to integrate and test the software with data received from Brigade systems such as the Brigade mobilising system (Vision), the operational risk database, hydrant location database and the StARS. Until ICOS is integrated, we will not be able to carry out effective training on the software.

Impacts

36. If authorisation to award the contract is not provided, the Brigade will be reliant upon an incident command system (CSS) that needs upgrading, without guarantee that it can be. Also, a system which has no formal support contract in place, and the costs of rectifying these are currently unknown.

¹ Redact

37. CSS does not allow for the use of imagery such as drone or deployable cameras to be fed back to the command unit within the software, reducing the situational awareness of the incident commander at an incident.

Equality Impact

38. 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 taking decisions. This, in broad terms, involves understanding the potential impact of policy and decisions on different people, taking this into account and then evidencing how decisions were reached.
39. 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 taking decisions. This, in broad terms, involves understanding the potential impact of policy and decisions on different people, taking this into account and then evidencing how decisions were reached.
40. 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.
41. 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, Sexual orientation.
42. The Public Sector Equality Duty requires us, in the exercise of all our functions (i.e., everything we do), 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.
43. 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 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.

44. 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.
45. 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 to the need to—
- (a) tackle prejudice, and
 - (b) promote understanding.
46. There have been some negative impacts on equality that have been identified within the impact assessment process, by the introduction of a new incident command control system. The project team are working with the disability working group, neurodiversity and wellbeing champions to understand these impacts and to work to alleviate/mitigate them.

Procurement and Sustainability

47. A procurement was carried out utilising the OJEU restricted process. An advert was published on 23 November 2019 with a return date for completed supplier questionnaires of 14 February 2020. 43 expressions of interest were received and by the deadline for responses, ten supplier questionnaires had been received. During the evaluation period one supplier withdrew from the process. All the remaining nine suppliers were invited to submit a tender.
48. By the deadline for receipt of tenders, six responses were received. The evaluation is being carried out in two stages.
- Stage one is the evaluation of the method statement and tender. The evaluation consists of mandatory pass/fail criteria in relation to the security of the system. The price element is weighted at 30 percent, the quality element is weighted at 60 percent, and sustainability/social value is weighted at 10 per cent.
 - Stage two is the user acceptance testing of the proposed solution and is weighted at 60%. This section includes a presentation and demonstration from the top two scoring suppliers. Members of the evaluation team will then test the system to confirm if it has all the functionalities set out in the user acceptance testing spreadsheet published with the tender documents.
 - When all the evaluations have been completed the scores will be collated and the winning bidder identified.
49. Opportunities for collaboration were investigated very early on in the project, however none were found since most other FRS's at that point in time did not use an incident command system. For those that did, it was discovered that collaboration was still not possible as it was not utilised in the same manner and certainly not to the same scale.
50. It was a requirement during the tender process that all bidders submit documentation to show that they are compliant with and have a policy in place that covers modern slavery.

51. All bidders were required to show proof at the beginning of the procurement process that they adopted processes and procedures to reduce their environmental impact. This includes certification to independent environmental accreditation scheme such as ISO14001.
52. Through use of a cloud based ICOS solution, the Brigade is looking at reducing its carbon footprint by:
- Training on the new ICOS could be conducted remotely by the ICOS supplier, it will then fall as part of the acquisition training by all personnel who wish to obtain the qualification to ride the command unit by Babcock Training.
 - Refresher courses will also be programmed within agreed timescales by Babcock Training. Day to day familiarisation will be held at station level by those personnel who are trained to use ICOS.
 - The cloud hosting will reduce the environmental impact of the Brigade hosting an ICOS system on its server infrastructure.
53. Appendix 1 shows the remaining ICOS procurement process.

Strategic Drivers

54. Contained within the Grenfell Tower Inquiry Phase 1 report volume 4-chapter 33.17 b, that urgent steps be taken to ensure that the command support system is fully operative on all command units and that the crews are trained in its use. The procurement of a new ICOS package will ensure longevity of the system and support going forward.
55. Transformation Delivery Plan Strategic Pillar to delivering excellence through constantly improving the effectiveness of our service.

Workforce Impact

56. Consultation around all aspects of the CURP was carried out with varying members of the Brigade at the beginning of the project including CU qualified personnel, all senior officers above the rank of station commander and personnel through the operational sounding board. Ongoing discussions are being held with the representative bodies throughout the project.

Finance comments

57. This report seeks approval of expenditure to procure and manage software to replace the existing Command Support System (CSS) at a cost of £2.5m¹ over a 10-year period, with effect from October 2021. The budget submission to the Mayor included a growth bid of £250k annually for this with effect October 2022. If the recommendation in this report is agreed that growth bid will be revised to have effect from October 2021 in the final March 2021/22 Budget Report. The £2.5m cost will be contained within that budget.
58. There is also a recommendation for a further £1,000k¹ of spend for ICT hardware refreshes which would be spent in Year 4 and Year 8. This is included in the capital programme.
59. There is currently £500k¹ within the Capital Programme that has been allocated to ICOS for deployable command unit IT equipment.

60. This will incur annual capital financing costs of £125k¹ for the provision to repay debt (Minimum Revenue Provision) based on a 4-year asset life and £12.5k¹ for interest per annum at a forecast rate of 2.5%. This cost would then be repeated in each four period in relation to the refresh.

¹ Redact

Legal comments

1. This report seeks to approval of funding for software to replace the existing Command Support System.
2. 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.
3. Section 1 of the Fire and Rescue Services Act 2004 ('the 2004 Act') states the Commissioner is the fire and rescue authority for Greater London.
4. 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.
5. 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"). In particular, 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...". The decision to procure new software to replace the existing Command Support System as set out in the recommendation of this report far exceeds this value, therefore, this report to the Deputy Mayor fulfils the aforementioned requirement in the direction.
6. Section 7 (2)(a) of the FRSA 2004, requires that the Commissioner must secure the provision of personnel, services and equipment necessary to efficiently meet all normal requirements for firefighting. Section 7(2)(b) of the FRSA 2004 further requires that the Commissioner must secure the provision of training for personnel.
7. The development and procurement of a new software system to replace the existing Command Support System falls within the duties and powers of the Commissioner. The body of the report confirms the Procurement Department will be engaged in the tender process to ensure compliance with the requirements set out in the Public Contract Regulations 2015 and LFC standing orders.

8. The proposed recommendation for the London Fire Commissioner to delegate authority to the Assistant Director of Technical and Commercial to deal with all contract awards in connection with the replacement of software on the existing Command Support System is permitted under Part 4 of the LFC's Scheme of Delegation.

Milestone	Start Date	End date	On/Off Target
ICOS Procurement product acceptance testing	18 December 2020	26 February 2021	Some Risk of delay
ICOS Procurement product Evaluation	26 February 2021	5 March 2021	Some Risk of delay
ICOS Procurement tender recommendation	5 March 2021	5 March 2021	Milestone
ICOS Procurement approval and award, reporting	12 February 2021	14 May 2021	High risk of delay
ICOS Procurement Alcatel period (Standstill)	14 May 2021	28 May 2021	On Target
ICOS Procurement closure.	11 June 2021	2 July 2021	
ICOS Planning and implementation	2 July 2021	Going forward	High risk of delay

9. Following an Equalities Impact Assessment, there are equality implications which need to be mitigated. General Counsel's Department further notes that work is ongoing by the project team to establish ways in which these negative impacts can be mitigated.

List of Appendices

Appendix	Title	Protective Marking
1.	ICOS Procurement Timeline	None

Appendix 1

ICOS Procurement Timeline