



Grant for future control room services

Summary 'National Picture' of
fire and rescue authority improvement plans





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Document purpose

1. The purpose of this document is to provide a summary 'national picture' of the improvement plans proposed by the fire and rescue authorities in England in response to the Department for Communities and Local Government invitation to them to submit bids for the future controls room services funding.
2. Based on information supplied by the fire and rescue authorities, the document summarises the planned improvements, delivery timescales and projected savings. The document shows a build-up of resilience across the country resulting from specific improvements at a local level in fire and rescue control services, including additional benefits resulting from partnering with other fire and rescue authorities.

Background and context

3. Following the closure of the FiReControl project in December 2010, the Department consulted on the future of fire and rescue control services. The overwhelming response to the consultation was that the need to strengthen resilience and increase efficiency was as important today as when the FiReControl project had started in 2004, and that locally determined solutions, with central government support, were the preferred way forward.
4. The consultation led to the announcement of the grant for future control room services which was created to help fire and rescue authorities in England improve the resilience, efficiency and interoperability of their control services and secure many of the benefits that would have been delivered by FiReControl.
5. The key aims of the FiReControl project were to improve the efficiency and to strengthen the resilience of fire and rescue control services locally and nationally. This would have been achieved through improved interoperability and access to better technology for all fire and rescue authorities.
6. The purpose of the grant for future control room services is to help fire and rescue authorities improve the efficiency and strengthen the resilience of their local control services, and their ability to interoperate with each other and with other emergency services, thereby strengthening resilience at all levels. The Department has set aside £81m to help fire and rescue authorities achieve these objectives.
7. 44 of the 46 fire and rescue authorities in England submitted bids for the grant for future control room services. This document takes all these into account as well as the improvements being undertaken by London. London did not submit a bid as alternative arrangements had been agreed previously. The Isles of Scilly did not submit a bid, although Cornwall provides its control room services.

Background and context

8. Significant efficiency savings can be made, without increasing risk, by:
 - Merging control rooms and/or partnering with other authorities, which provides for:
 - Cost efficiencies while at the same time providing for the overall ability to handle emergency calls and respond to be increased
 - Existing secondary/fallback control facilities to be decommissioned as the partner fulfils this role
 - Using data to communicate, instead of voice. This improves accuracy as the margin for error is reduced significantly, e.g. through eliminating misheard information and being able to recheck easily. It is also a much cheaper way of communicating as it is virtually instantaneous;
 - Implementing technology that 'does the thinking instantly' and 'provides the right answer'. For example, once the address and type of incident have been identified and entered, the system can identify, locate and propose for mobilising the quickest available and appropriate skills and resources that are needed to deal with that incident. Technology, based on the information input, can be used to do all this in an instant.

Strengthening control room resilience

9. Fire and rescue control room resilience can be defined as:

'The continuous availability of a capability to take an emergency call and to identify and mobilise the quickest appropriate response to the exact location of the emergency in the shortest possible time'.

10. Bearing this in mind, the key areas where resilience can be improved are as follows.

Availability of control room services

- Improvements can be made to ensure that both:
 - Control room operators will always be available to take emergency calls **and**
 - Systems and technology will always be available to help them handle the calls and mobilise appropriate emergency responses in the shortest possible times.

At present, in the event of spate conditions or a major incident, a fire and rescue authority's control room may become inundated with calls. When this happens, the fire and rescue authority's calls are often transferred to another fire and rescue authority's control room.

The second fire and rescue authority is able to take the calls, but it is rarely able to mobilise an emergency response on behalf of the fire and rescue authority for which it is taking the call. Instead, the second fire and rescue authority has to contact the first using telephone, radio or fax machine and ask it to mobilise the emergency response. The need to transfer calls to another fire and rescue authority occurs on a regular basis for some fire and rescue authorities – often once a month. The process of transferring calls to another fire and rescue authority and back in this manner delays the emergency response. It can also cause significant distress to control room operators who may have taken a call where lives are at risk, but have not been able to mobilise the emergency response.

Also, while fire and rescue authorities maintain a secondary control room that can be put into operation should their main control room fail (e.g. through fire, flood, lightning strike, power or equipment failure and environmental problems, etc), the arrangements usually involve physically moving the control room operators from the primary control room to the secondary control room. During this time the fire and rescue authority's ability to handle emergency calls is usually lost. To cope in such situations, most fire and rescue authorities have an arrangement with another fire and rescue authority to take their calls and hold them until their secondary control room is up and running.

In both these examples, the emergency response is delayed due to the non-availability of control room operators supported by technology that provides for the response to be mobilised in the shortest possible times.

Speed and accuracy of call handling and mobilisation

- Improvements can be made by using modern technology to help:
 - Accelerate the time it takes control room operators to validate and confirm the exact locations of incidents and their type – for example house fire, house fire with persons reported, road traffic accident with persons trapped, hazardous materials, etc;
 - Determine the most appropriate available response, e.g. pumping appliance, officer, hazardous materials unit, aerial platform, rope rescue team, etc;
 - Identify and mobilise the quickest appropriate available resources needed to fulfil the response.

Improving interoperability

11. Changes can be made to improve the way fire and rescue authorities interoperate with each other and with other emergency services. Such changes include:
 - Standardising ways of working and operating procedures;
 - Implementing common systems and technology to keep each other informed automatically with 'real time intelligence' and reduce the risk of communication errors.

Planned improvements

12. Table 1 below sets out the:

- Key areas of planned improvement; and
- Planned progress for each area across the period 1 July 2011 to 31 December 2014 (the furthest planned date for completing all the improvements).

Table 1 – Key areas of planned improvement					
Improvement planned	1 July 2011		31 December 2014		
	Total number of fire and rescue authorities	% of all fire and rescue authorities	Total number of fire and rescue authorities	% of all fire and rescue authorities	% of all fire and rescue authorities changing
(a)	(b)	(c)	(d)	(e)	(f)
Caller Line Identification	25	56%	45	100%	44%
Integrated Geographic information system	31	69%	45	100%	31%
Premise Based Gazetteer	10	22%	44	98%	76%
Real Time Incident Messaging	2	4%	41	91%	87%
Automatic Vehicle Location	15	33%	45	100%	67%
Mobile Data Terminals	41	91%	45	100%	9%
Full Voice and Data Capability	3	7%	45	100%	93%
Status Messaging	19	42%	45	100%	58%
Partnering with Automatic Failover	3	7%	38	84%	78%
Reduction in Control Rooms and/or Secondary Control Rooms	2	4%	43	96%	91%

Notes:

- i. The figures used in the table count Cornwall and the Isles of Scilly as one fire and rescue authority, which brings the total number of fire and rescue authorities in England to 45
- ii. The figures in Table 1 includes London which did not submit a bid for the grant for future control room services as alternative arrangements had been agreed previously

Benefits secured by the improvements

13. The benefits that will be secured by the planned improvements are as follows:

- **Caller line identification** will enable control room operators to confirm the caller's location swiftly. This is a critical first step in the call handling process, since the line could be 'cut' leaving the location unknown. The Enhanced Information Service for Emergency Calls technology provided by BT plc and the Automatic Location Service for Emergency Calls technology provided by Cable & Wireless allows the billing address of the phone from which an emergency call is being made to be displayed to the control room operator thereby speeding up the task of confirming the caller's location. The technology can also be used to locate the whereabouts of a mobile phone caller by identifying the network cell from which they are calling. This is particularly useful for when callers are reporting incidents on the road network and are unaware of their exact location. The technology also assists in identifying hoax callers and reducing the number of times fire and rescue authority resources are mobilised unnecessarily.

Caller line identification will improve efficiency by helping to minimise dialogue between the control room operator and the caller. It will also strengthen the 'speed and accuracy' dimension of resilience by enabling control room operators to reach the point of mobilising the response more quickly.

All 45 fire and rescue authorities are planning to use caller line identification by the end of 2014, compared with 25 on 1 July 2011.

- **Integrated geographic information system** is an electronic map with a direct interface to the call handling and mobilising system. When caller line identification technology is in use the location of the caller will be displayed instantly on the map. This will help control room operators to determine the location of an incident quickly when the caller is unable to provide the exact details of an address. When installed on mobile data terminals the map will also provide for firefighters and officers to view information relating to incidents such as site specific risks and the location of hydrants.

An integrated geographic information system will improve efficiency by helping to minimise dialogue between control room operators and caller. It will also strengthen the 'speed and accuracy' dimension of resilience by enabling control room operators to reach the point of mobilising the response more quickly.

All 45 fire and rescue authorities are planning to use an integrated geographic information system by the end of 2014, compared with 31 on 1 July 2011.

- A **premise based gazetteer** is a database containing up to date address details for the vast majority of premises, along with other information such as data relating to motorways, streets, towns, villages, and other points of interest. The data will:
 - Improve emergency response accuracy by enabling exact address information to be relayed to firefighters and officers at the time of mobilising (a significant proportion of fire and rescue authorities currently only mobilise to a point in a road or a district which has limited accuracy, e.g. when roads are long);
 - Provide for a wide range of valuable information to be held alongside address details and points of interest (e.g. address-specific risks, plans, key holder details, road closures, etc) all of which can be included in system-generated mobilising messages;

- Help reduce the risks faced by firefighters attending incidents, e.g. by providing them with information on the dangers they are likely to encounter at specific locations;
- Help mitigate the risk of communication errors by providing a set of common address information for control room operators to use when working in partnership or providing assistance to another fire and rescue authority, or when communicating with firefighters and officers attending emergencies;
- Facilitate and improve the ability of fire and rescue authorities to interoperate among themselves and with other emergency services by providing a common set of address information.

A premise based gazetteer will improve operational efficiency and contribute significantly to strengthening the 'speed and accuracy' dimension of resilience by increasing mobilising accuracy.

All 45 fire and rescue authorities are planning to use a shared premise based gazetteer by the end of 2014, compared with 10 on 1 July 2011.

- **Real time incident messaging** will enable fire and rescue authorities to exchange incident information in real time both between themselves and with other emergency services and agencies. This will help reduce delays, duplication, and communication errors. The ability to do this will be provided using the Direct Electronic Incident Transfer protocol which is a developing technology.

Real time incident messaging will improve interoperability and strengthen the 'speed and accuracy' dimension of resilience by enabling fire and rescue authorities and other emergency services and agencies to co-ordinate their responses to incidents more efficiently and effectively.

41 of the 45 fire and rescue authorities are planning to use real time incident messaging by the end of 2014, compared with 2 on 1 July 2011.

- An **automatic vehicle location system** will provide for the exact location of individual fire and rescue vehicles to be identified. This will enable the mobilising system to propose the nearest available appropriate vehicles for mobilising to an emergency.

An automatic vehicle location system will improve efficiency as the mobilising system will know the exact location of vehicles with no human intervention. It will also strengthen the 'speed and accuracy' dimension of resilience by enabling the quickest appropriate resources to be identified instantaneously.

All 45 fire and rescue authorities are planning to use an automatic vehicle location system by the end of 2014, compared with 15 on 1 July 2011.

- **Mobile data terminals** are computer terminals in fire and rescue vehicles. Some are fixed and others are demountable. They will provide a wide range of information to firefighters and officers such as maps and route information, known risks and hazards associated with specific premises and locations, building plans, chemicals information (including how to handle them safely), vehicle information (e.g. design features and how to cut them open safely).

Mobile data terminals can be installed to operate in a standalone mode or can be configured, provided other technology has been implemented (e.g. a call handling and mobilising system that is able to transmit/receive data to/from mobile data terminals and a radio network that is able to transmit the data), to provide for data-based mobilising.

Mobile data terminals will improve efficiency and the operational effectiveness of fire and rescue authorities by providing firefighters and officers with the information they need to deal with emergencies. They will also improve the ability of fire and rescue authorities to respond and data transmission improves the accuracy of messages received, so strengthening the 'speed and accuracy' dimension of resilience.

All 45 fire and rescue authorities are planning to have mobile data terminals configured for data-based mobilising by the end of 2014, compared with 27 in October 2009, the majority of which were not using them for true data-based mobilising.

- **Full voice and data capability** is the provision of a capability to communicate over the Airwave resilient radio system by voice and data, instead of voice only. Data is a far more efficient way of communicating both in terms of speed and accuracy. The capability to communicate using data will enable fire and rescue authorities to maximise the benefits of modern technology, by providing for them to configure their systems to 'do the thinking' and 'transmit the answers' instantaneously.

The capability to communicate using data will improve efficiency and strengthen the 'speed and accuracy' dimension of resilience. As the Airwave radio system is highly resilient in terms of its performance and availability, it will also strengthen the 'availability' dimension of resilience.

All 45 fire and rescue authorities are planning to implement a full voice and data capability by the end of 2014, compared with 3 on 1 July 2011.

- **Status messaging** will provide for firefighters and officers to transmit updates to their control rooms using data, e.g. to inform the control room that their status has changed from 'mobile to incident' to 'arrived at incident'.

Status messaging will improve efficiency, both in terms of time and cost, by reducing radio voice traffic and avoiding delays caused by call congestion during busy periods – a regular occurrence.

All 45 fire and rescue authorities are planning to use status messaging by the end of 2014, compared with 19 on 1 July 2011.

- **Partnering with automatic systems failover** means that:
 - Two or more fire and rescue authorities will be working in partnership to provide their control room services; and that
 - The system or systems they use are able to failover to a fallback system automatically with no interruption to service in the case of a system failure.

Partnering with automatic systems failover will significantly strengthen the 'availability' dimension of resilience. It will also improve efficiency as each fire and rescue authority will effectively have a larger pool of control room operators to handle emergency calls with fewer numbers overall.

38 of the 45 fire and rescue authorities, compared with 3 on 1 July 2011, are planning to have entered into a partnership arrangement with another fire and rescue authority by the end of 2014, using systems that will automatically failover to a fallback in the case of a system failure.

Annex A provides an illustration of the proposed arrangements for partnering between fire and rescue authorities. It should be noted that some fire and rescue authorities, e.g. Kent, are setting up partnering arrangements with other emergency services.

- **Reduction in control rooms and secondary control rooms** will be achieved by:
 - Merging control rooms; or
 - Outsourcing control room services to another fire and rescue authority; or
 - Partnering with one or more other fire and rescue authorities and using a shared call handling and mobilising system. (While this may not reduce the number of primary control rooms and systems, it will enable the fire and rescue authorities to decommission their existing secondary/fallback control rooms/systems or close down their control room at certain non-peak times.)

Each of the above changes will improve efficiency and generate significant cost savings. They are also likely to strengthen the ‘availability’ dimension of resilience. None of the changes will compromise the ability for a fire and rescue authority to handle calls and respond to emergencies in the shortest possible times, i.e. they will not increase risks.

43 of the 45 fire and rescue authorities are planning to have implemented one of above changes by the end of 2014, compared with 2 on 1 July 2011.

Financial benefits that are forecast to result from the improvements

14. Table 2 below sets out the collective savings (in £m), which fire and rescue authorities have forecast to result from the planned improvements, across the financial years 2011/12 to 2020/21.

Table 2 – Financial benefits resulting from the improvements (excluding London) (£M)											
Financial year	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	Total
Saving	1m	4m	13m	15m	15m	16m	16m	16m	16m	16m	128m

Timescales for completing the improvements

15. Table 3 below sets out the date by which the fire and rescue authorities (including London) are planning to complete all the improvements outlined in their plans.

	Date planned for completing improvements			
	31 March 2013	31 December 2013	31 March 2014	31 December 2014
Number of fire and rescue authorities	3	11	13	18
% of fire and rescue authorities	7%	24%	29%	40%

How do the benefits compare with FiReControl?

16. It is difficult to compare the proposed plans with the theoretical benefits that would have been delivered by FiReControl if the project had not encountered the repeated problems and delays that led to its termination in December 2010. If FiReControl had been successful, it would have provided a single, resilient, national system, underpinned by common ways of working and operating procedures, which would have resulted in significant efficiencies in terms of reduced numbers of control room operators and no local fire and rescue control rooms. However this needs to be weighed up against the running costs of FiReControl and any risks associated with a single national system.
17. In terms of the ‘availability of control room services’ and the ‘speed and accuracy of call handling and mobilisation’ dimensions of resilience, the vast majority of fire and rescue authorities are planning to procure systems and functionality that are likely to equal the resilience that would have been provided by FiReControl. Indeed the technology they have or are intending to install is, in many cases, similar.
18. It is fair to say that many of the benefits FiReControl would have delivered will now be delivered by the fire and rescue authorities themselves by using modern technologies and working in partnership with each other and the communities they serve.

Conclusion

19. The proposed plans will significantly:
- **Improve the efficiency of fire and rescue control rooms;**
 - **Strengthen local resilience, thereby strengthening the essential building blocks of national resilience.**

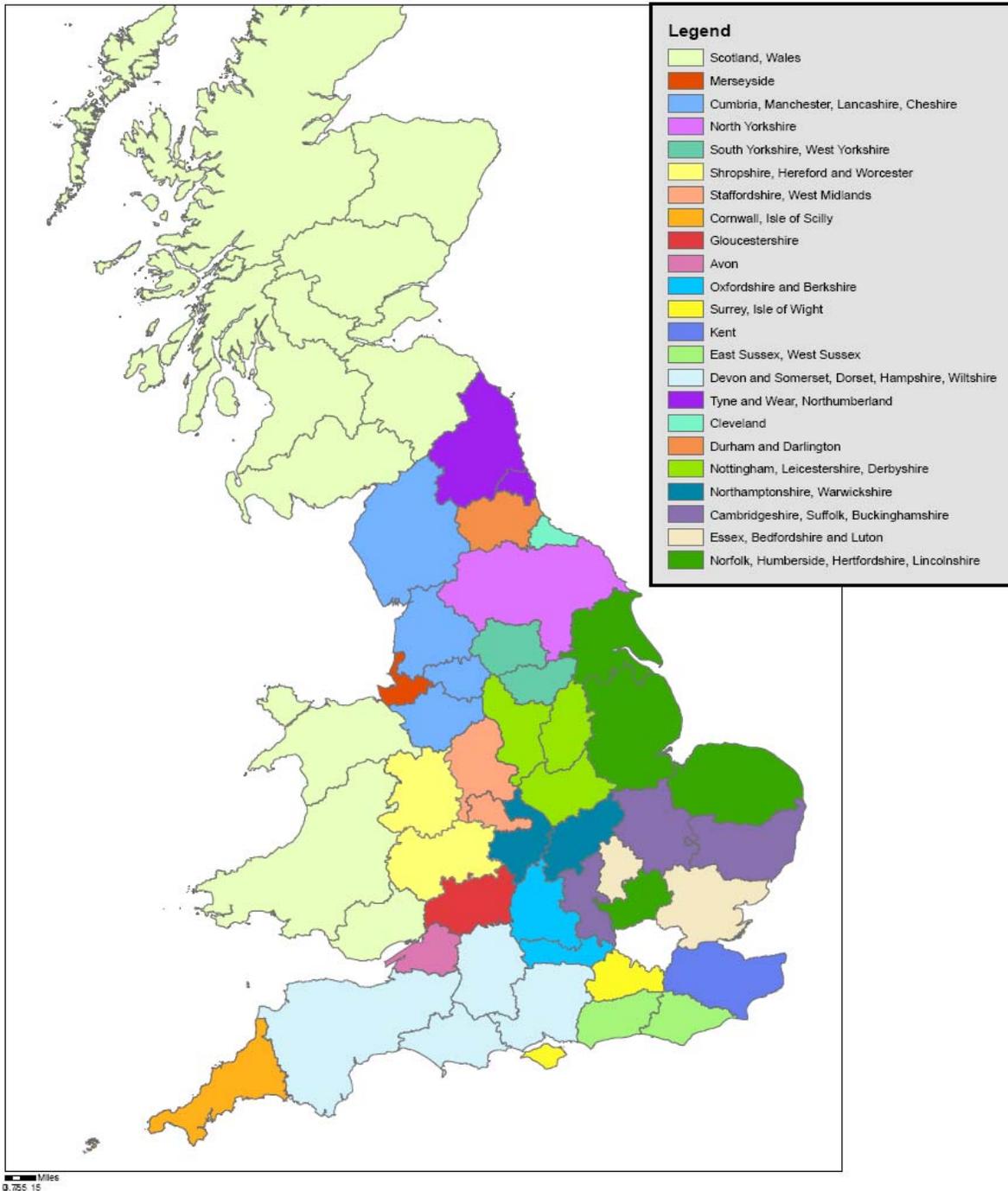
20. They will also:
- **Result in financial savings that fairly quickly outweigh the cost of the investment;**
 - **Improve the ability of fire and rescue authorities to interoperate with each other and with other emergency services and agencies;**
 - **Provide a platform for further strengthening and improvement.**
21. The proposed plans are at varying stages of development. A number are at an early stage and further planning and confirmation is needed – including on delivery timescales – while others are underpinned by detailed plans and in some cases already underway. A number may change once they have been firmed up, but few are likely to alter to the extent that the benefits outlined in this paper will not be realised. The proposed plans provide sufficient information to show that the resilience benefits are worth pursuing, especially when viewed alongside the efficiency savings.

28 February 2012

Proposed Arrangements for Partnering between fire and rescue authorities



Fire and Rescue Authority Control Room Bids



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Proposed arrangement for partnering between fire and rescue authorities

Fire and rescue authority control room bids

Scotland, Wales

Merseyside

Cumbria, Manchester, Lancashire, Cheshire

North Yorkshire

South Yorkshire, Hereford and Worcester

Shropshire – Hereford and Worcester

Staffordshire, West Midlands

Cornwall, Isle of Scilly

Gloucestershire

Avon

Oxfordshire and Berkshire

Surrey, Isle of Wight

Kent

East Sussex, West Sussex

Devon and Somerset, Dorset, Hampshire, Wiltshire

Tyne and Wear, Northumberland

Cleveland

Durham and Darlington

Nottingham, Leicestershire, Derbyshire

Northamptonshire, Warwickshire

Cambridgeshire, Suffolk, Buckinghamshire

Essex, Bedfordshire and Luton

Norfolk, Humberside, Hertfordshire, Lincolnshire