

used by the 3 emergency services and other public safety users in the UK. This will replace the existing Airwave Tetra radio system, which has been in place since 2003/4. Rather than using a dedicated technical solution, ESN will be based on EE's commercial mobile phone network with dedicated capacity/segregation for the emergency services.

There are multiple reasons given for the change, Airwave is reaching the end of its life with regard to technology and is becoming costly to maintain. The capability of Airwave to allow the use of data rather than voice is limited and very expensive to use compared to 4G data costs on mobile phone systems.

The estimated costs for the project from the National Audit Office report from September 2016 was £1.2 billion. Projected cost savings on a like for like service against Airwave is £500 per device per year, LFRS currently have 116 devices. As well as cost savings, the availability of broadband speed data to the device will be an enabler for the adoption of data centric technologies such as body worn video and wearable technology.

4.2. **How ESN Impacts LFRS:**

The ESN programme is planning for a phased transition process from Airwave to ESN. The key areas of change from a tangible aspect for LFRS will be:

1. **A revised Integrated Communication Control System (ICCS) for fire control.** This work is currently in progress by LFRS's current ICCS supplier (Systel) and is based on specifications provided by the Home Office via their technology partner Motorola. All ICCS suppliers are provided with regular "feature packs" which allows them to stage and test their development of the ICCS to the required standard.
2. **Replacement Devices.** Both handheld and vehicle devices will be changed as part of the project. The invitation to tender process for handheld devices run by the Home Office is now complete and there was only one supplier who was successful and will be included in the purchasing framework. Samsung was the successful supplier and will be providing a dedicated Android based handset based on a ruggedised version of one of their handsets (Galaxy S8) which meets the specifications set out as part of the selection-process.

The invitation to tender process for vehicle devices is currently being reviewed by the Home Office and the expectation is this will be issued to the market in April for potential suppliers to respond to. There will be no support under ESN for Cross band repeater functionality (the ability to link the Airwave service with the localised fire ground radio system). This has been highlighted as a risk in the project for LFRS as there is a potential for essential communication at an incident to be missed. Therefore, an operational review is being held to understand the impact and review potential mitigation strategies. One potential solution is additional ESN devices for use in the fire ground and this has been included in a supplementary funding application to the Home Office.

3. **Training.** To underpin the change of ICCS & devices a comprehensive training programme has to be devised. Vincent Hyde from LFRS is acting a regional training lead for East Midlands and has carried out a training needs

analysis on behalf of the programme. The outcomes of this will be fed back to the Home Office and a formal training plan will be created once all relevant systems and devices are available for review.

4. **Financial Impact.** The cost of ownership of ESN is projected to be significantly less than Airwave for the emergency services. Specific data is not yet available, but a cost of ownership model is expected from the Home Office in March. One key difference between ESN & Airwave is that under ESN there will be no charge to send voice traffic to all radios that are switched on that is currently the case with Airwave.
5. **Trials & Pilots.** As part of the rigorous testing process a Trials and Pilots phase in the project begins in spring of 2018. At this point, an amount of ESN devices will be available for the Service to review the hardware and also conduct some coverage testing on the EE network. EE are contractually bound to provide a service level that matches that of Airwave and a review will be planned and carried out in Leicestershire once the devices are available.

4.3. The move to ESN is currently planned as a zero-change process, that is, on day one as they do today a fire fighter will have the same ability to use a device to transmit a voice message to Control and vice versa. The technical foundation for ESN is significantly different to that of Airwave and will allow the emergency services to use this revised architecture to develop apps and additional services that use the broadband data capability of the ESN. The National Fire Chiefs Council (NFCC) have recognised this potential and have appointed an ESN representative to their R&D team to review how ESN could provide additional benefits to fire services.

4.4. **The work LFRS need to undertake to gain compliance for the ESN Code of Connection Standard.**

As part of the ESN adoption process there is a requirement to meet the ESN Code of Connection Standard to ensure that a service is operating in a secure manner. This is the same certification principal for Airwave that LFRS currently hold.

No formal standards document has yet been received from the Home Office for the ESN Code of Connection Standard however, an independent IT health Check was carried out in 2016 and a Remediation Action Plan (RAP) was prepared on the findings of that process. LFRS have been carrying out work against that RAP and in November 2017 the Home Office reviewed the RAP and advised all FRS's to concentrate on their Control Room systems and associated infrastructure whilst the strategy for the elements outside of that scope are considered.

Approval to continue work on the ICCS replacement and associated control room aspects has been requested from and approved by the Home Office and a detailed planning session is scheduled for early March with Systel.

As part of the programme, there is a requirement to get a dedicated secure communications link (DNSP) between the Control room and Motorola's core network. This work is currently in progress and is scheduled to be completed by the end of March 2018.

4.5. **The funding arrangements for ESN.**

The funding for the ESN programme is based on two Section 31 grants:

Transition Funding. This is an annual grant for the region and once the costs for the regional programme manager are taken out, the remainder is then split equally across the five services (Leicestershire, Derbyshire, Nottinghamshire, Lincolnshire & Northamptonshire). This funding is primarily for staff costs for managing and facilitating the transition process.

The following amounts have so far been allocated to LFRS:

Budget Year	Amount
2016/17.	£51,863
2017/18.	£116,724

In addition to the transition grant, there is a grant to carry out key infrastructure change and activity. This is for items such as the DNSP, ICCS replacement and RAP activity. The amounts are:

Item	Amount
DNSP	£55,096
ICCS	£212,078
ITHC/RAP	£746,696

In addition to these grants, the Home Office have agreed to fund the replacement of existing Airwave devices on a like for like basis. We have provided information to the Home Office of the existing device population for LFRS.

As also mentioned earlier and additional request has been made to cover additional devices to mitigate the issue of cross band repeater no longer being supported. This is expected to be circa £45,000.

4.6. **The project timescales and intended implementation date.** The original implementation date that was projected for this work was September 2019. Due to delays from central government, the programme is currently going through a significant re-plan by the Home Office and they are hoping to have a revised programme plan during summer 2018.

Based on the current projection, the expectation is that the project will be fully implemented for LFRS during 2020.

5. **Report Implications / Impact**

5.1. **Legal (including crime and disorder)**

Not applicable

5.2. ***Financial (including value for money, benefits and efficiencies)***

Detailed within section 4.5 of this report.

5.3. ***Risk (including corporate and operational, health and safety and any impact on the continuity of service delivery)***

Risks for this project are managed through the Project risk register. Where appropriate risks are escalated as corporate risks or up to the ESN programme.

5.4. ***Staff, Service Users and Stakeholders (including the Equality Impact Assessment)***

Not applicable

5.5. ***Environmental***

Not applicable

5.6. ***Impact upon Our Plan Objectives***

Not applicable

6. **Background Papers**

None

7. **Appendices**

None