



HM Fire Service Inspectorate

Performance Management Information Systems in the Scottish Fire and Rescue Service

A review of the systems the SFRS uses to collect
and report data relating to its performance



Integrity, Objectivity, and Fairness.

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All the members of the inspection team contributed to the development of this report and the quality assurance panel provided a professional challenge to the contents, assumptions and conclusions made. However, the Chief Inspector takes sole responsibility for the report, its contents and conclusions.

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1 Introduction

'What gets measured gets managed'

Peter Drucker

In this document, we use the term 'performance management' to mean the process by which the Scottish Fire and Rescue Service (SFRS) monitors and measures its success in achieving strategic objectives and priorities. Performance management is in our view fundamental to running an effective and efficient fire and rescue service.

Monitoring and measuring success requires the collection of information about inputs, activities and outcomes. For example, the SFRS will want to know how many fires occur every year, and whether the trend is down or up. How many firefighters are injured in the line of duty, and whether the number is decreasing over time. What it costs to provide a particular service, and what benefits are gained from that activity. By collecting this data in a way that is consistent with other UK fire and rescue services, the SFRS can also contribute to UK-wide reporting, and benchmark its activities against other UK services.

The SFRS, as a public body, is accountable to the Scottish Parliament and the public for the money it spends and the quality of the service it delivers. It is necessary for the SFRS to collect and publish information about its expenditure, activities, and outcomes achieved for the community, to allow its performance to be judged.

The information being collected by the SFRS also underpins the setting of objectives and targets for it to meet – and allows the assessment of whether it has successfully achieved them or not. As related in chapter 2 'About the Inspection', the Fire and Rescue Framework 2013 is explicit that performance management is a strategic priority for the SFRS. So performance management is not just about good contemporary management practice – it is part of the statutory and policy framework within which the SFRS operates. Having the appropriate systems to collect information in support of performance management is therefore, in our view, a business necessity for the SFRS.

This report is about 'performance management information'. This is intended to be a broader category than 'performance information' because it is not just about the measurement of activity, but is also about the collection and reporting of related information (such as information about risk) that provides the context for performance management.

Performance management is closely connected with the allocation of resources – both rely on the existence of robust systems to capture relevant performance data, and analysis being undertaken to align activity with strategic goals. We think, however, that the considerations applying to an assessment of the systems SFRS has in place for collecting and reporting the information that supports performance management, are distinct from an assessment of the policy decisions being made by the Service to deliver its services.

Before the SFRS came into existence, the eight predecessor services and the Scottish Fire Services College all had their own systems for collecting information in support of performance management. For the most part, these relied on their own hardware and software platforms, and were focused on performance management and reporting at the level of the individual organisations. Following fire service reform, the SFRS inherited these legacy systems, and the resulting fragmented picture of national performance.

In 2012, Audit Scotland published its report prepared for the Accounts Commission *Best Value in fire and rescue services in Scotland*. That report noted the disparities in performance management across the then eight fire and rescue services in Scotland and concluded that:

Establishing a performance assessment framework which allows better comparisons to be made across Scotland against a common set of key performance measures, but which balances local performance concerns against national priorities, will be an important task for the future Scottish Fire and Rescue Service.

Our inspection has looked at the totality of performance management information systems being used by the SFRS, and how it has risen to the challenge of bringing together the legacy systems to create a truly national performance management picture – and allow for evidence-based decisions to be made about future national fire and rescue strategy.

A summary of our findings

- The SFRS recognises the importance of having robust national information and communications technology (ICT) systems to manage its functions, including those involving the collection and handling of performance management information. Collection and reporting of data to support performance management is understood by the SFRS to be an important capability of systems even when it is not their primary function, and procurement of new systems has appropriately taken into account the requirement to be able to report performance management data.
- Overall, the ICT systems that the SFRS either has in place, or aims to have in place as a result of current projects, seem to us to be sufficient to provide a robust evidence base for strategic planning and resource allocation.
- There are some recognised issues around the quality of historical data, particularly in relation to non-domestic fire safety enforcement, and we welcome and encourage the steps being taken by the SFRS to address those issues for the future. We consider that this should include the finalisation of a robust methodology for calculating the number of ‘relevant premises’ within Scotland in relation to which the SFRS has enforcement responsibilities under Part 3 of the *Fire (Scotland) Act 2005*.
- In a number of cases, new systems for collecting performance management information require new working practices and a focus on ensuring that the relevant information is captured. Ongoing attention will be required to ensure that staff fully utilise the new systems that have been provided.
- It is fundamentally important that SFRS performance management information systems are able to report at local authority level as well as at national level, to support the SFRS’s statutory obligation to engage with local authorities in planning and performance scrutiny. This also has the additional benefit of allowing comparisons to be made between service delivery in different local authority areas. We are of the view that this is understood across the SFRS and that new systems are being designed appropriately.
- Data needs not only to be collected but to be made available to those staff who could benefit from using it. The SFRS has recognised the importance of this and has two current initiatives to make performance data available to staff who need it. The SFRS should not

overlook the importance of these projects, as the substantial investment in collecting and storing data will be wasted if the data is not readily accessible to relevant users.

- The challenges of replacing multiple ICT systems used by predecessor services with new national systems should not be underestimated, and it would not have been realistic to expect new systems to be in place on 'day one'. For that reason, the SFRS has inevitably had to manage certain of its functions, and collect and report on performance management data, using multiple legacy systems and manual work-rounds. This has had an effect on the availability of performance management information in certain areas, and the SFRS should ensure that sufficient resources are provided to finalise the transition to new, service-wide systems as quickly as practicable.
- The SFRS's new Digital Strategy recognises the key role that ICT plays in the smooth running of the Service as a whole. It is important that the corporate culture of the SFRS continues to support the direction that has been set and, particularly given the ongoing need for support to systems that have been developed in-house, that the strategy is adequately resourced.
- The SFRS is aware of the issues flagged up in Audit Scotland's report *Managing ICT contracts: an audit of three public sector programmes* (August 2012) and the projects currently ongoing to implement new ICT solutions for the SFRS seem to be managed appropriately and likely to deliver the required outcomes. We consider, however, that if for whatever reason those projects did not deliver timely or effective outcomes, there could be significant risk to the SFRS's business. We therefore encourage ongoing oversight by the Strategic Leadership Team and Board to ensure that, in particular, the HR and Payroll and Command and Control Futures projects deliver their intended outcomes within appropriate timescales.
- **Taking all of these things together, our judgement is that the SFRS understands the need for robust performance management information systems and is making good progress in their implementation. The SFRS should focus now on finalising all of this work – paying due attention to the quality and completeness of the data being inputted into the systems being used – and demonstrating how the analysis of good performance management information is driving the Service's business.**

2 About the inspection

Her Majesty's Fire Service Inspectorate in Scotland (HMFSI) is a body that operates within, but independently of, the Scottish Government. Inspectors have the scrutiny powers specified in section 43B of the 2005 Act. These include inquiring into the state and efficiency of SFRS, its compliance with Best Value, and the manner in which it is carrying out its functions.

At the outset the purpose of this inspection was stated to be:

To consider in detail the systems which the Scottish Fire and Rescue Service has in place to collect and analyse performance information. In particular we will consider:

- *The collection of performance data by SFRS and the quality of the data collected;*
- *The way in which performance data is analysed and assessed to provide information to support decision-making;*
- *The ICT infrastructure available for performance management information; and*
- *The process by which the SFRS aligns its data collection and analysis with its strategic goals, and acts as a learning organisation by reviewing its strategic goals in the light of the information collected.*

As our work progressed we began increasingly to appreciate that there was a clear distinction between the way in which data was collected, organised and made available on the one hand, and the analysis that was carried out using that data to inform strategic planning, on the other. We accordingly decided to focus this inspection on the nature and effectiveness of the SFRS's data gathering, storage and reporting capabilities.

It follows that issues relating to the way in which SFRS applies analytical methodology and professional judgement to performance management information, in order to plan strategically and review strategic goals, are outwith the scope of this inspection. The systems we have examined are used for collecting and reporting on data; there is a requirement for an additional level of technical and professional analysis in order to determine what the data means. Comment on performance management information systems in this report is focused on the way in which they are capable of supporting analysis and assessment, and no qualitative judgements about the way in which that analysis and assessment is ultimately carried out are made.

An inquiry by the Inspectorate can be self-directed or can be subject to direction by Scottish Ministers. This inquiry into the SFRS is self-directed by the Chief Inspector. The decision to carry out this inspection was based on findings from our report *An Overview of the Scottish Fire and Rescue Service* (November 2013), and the attention that Audit Scotland paid to this issue in its Best Value report of 2012¹.

The Fire and Rescue Framework for Scotland 2013 makes it clear that performance management is expected to play an important role in the SFRS. The Framework sets out the strategic priority that:

The SFRS should develop a comprehensive and detailed performance management framework, including a broad suite of indicators for use in robust internal scrutiny arrangements for both local and national delivery ... It should ensure that data captured

¹ Audit Scotland, *Best Value in fire and rescue services in Scotland*, July 2012 (prepared for the Accounts Commission)

is consistent and quality assured, to facilitate both planning and reporting of local activity based around the varying risk profiles our communities experience.

One of the primary purposes of this inspection is to test how far that priority is being underpinned by the collection and management of performance management information.

In our report *An Overview of the Scottish Fire and Rescue Service* (HMFSI, November 2013) we recorded that work to establish a national performance management framework was still in development. One of the key drivers of this inspection is to test whether the SFRS's development of a coherent national performance management system is progressing adequately, given that a key component of such a system will be robust, relevant and accessible performance data.

Methodology

We commenced with a broad request to the SFRS to provide us with information about the various performance management information systems being used, or planned to be used, across the Service. We were aware at the outset that the SFRS had inherited separate performance management information systems from its predecessor services – so we asked to speak with those members of SFRS staff who were tasked with managing the rationalisation and harmonisation of those systems.

Once we had a list of the systems identified by the SFRS, we cross-referenced the response provided against our expectations of the types of systems that the SFRS would need to have in place to gather and report upon information that was critical to making the strategic decisions required for its local and national service delivery. The current and planned systems we were told about cover the full range of information gathering and reporting capability that we would expect to see in place.

We then visited SFRS premises and met with staff to view the current systems in action and to get a better idea of the scale of the work required to establish single, national systems. We had over 20 meetings with staff to discuss individual systems and in some cases see them demonstrated, and in addition we had meetings with a number of Directors with strategic responsibility in some of the areas we looked at. Overall, we believe that we were provided with a comprehensive overview of the SFRS's current and planned ICT systems that might contribute to the provision of performance management information.

To arrive at our conclusions, we made judgements about whether the ICT systems we saw in place are appropriate to support SFRS planning and performance reporting at the local and national levels. Where harmonisation work is still in progress, we considered how those projects were progressing and whether they were expected to deliver within a reasonable timeframe. As noted above, we have not made any judgements in this report about the level of analysis that is taking place based on the data available.

3 Our findings

The SFRS is divided into a number of functional Directorates, which take responsibility for managing different areas of the Service's business. These are Prevention and Protection, Response and Resilience, Service Delivery, People and Organisational Development, Finance and Contractual Services, Service Transformation, and Strategic Planning, Performance and Communications.

We structured our inquiry by considering what systems were handling performance management information relevant to each Directorate, and grouping our consideration of individual systems by Directorate. In the interests of readability we have only discussed each system in this report under one Directorate heading. In making judgements about the best Directorate heading to discuss an individual system under, we do not intend to imply that the system, or the data within it, are not also relevant to another Directorate and we do not intend to say anything about which Directorate is (or should be) the 'owner' of a given system.

We also looked at what arrangements there are, or are planned, to make performance management information available to users across the organisation. We discuss these under the Strategic Planning, Performance and Communications and Service Transformation section below.

In our inspection outline we said that we would consider data quality as part of our inspection. Where we identified issues that might affect the quality of the data held by the systems we looked at, we have set these out in this report. There are a number of areas in which the transition from systems owned by the predecessor fire and rescue services, to a single national system may have led to difficulties in comparing data over time. Examples of this included different ways of defining particular non-domestic buildings, and the fact that some predecessor services did not collect certain datasets systematically at all.

The focus of this inspection is primarily on the adequacy of current arrangements, and we understand that nationally collected data may not in some instances be directly comparable with data collected in the past by eight different predecessor services. We asked the staff we interviewed about the quality of data now being inputted into individual systems, and generally there was a good level of confidence that it should be reasonably accurate. A number of the systems described below are still in a development phase, and we considered that it was not proportionate at this stage to undertake a sampling exercise to test the accuracy of data being entered into those systems.

We note in the introduction to this report, the importance of accurate data collection that is comparable with other UK fire and rescue services, to allow for UK-wide reporting and benchmarking. Once the SFRS's new performance management information systems have bedded down, we may undertake a sampling exercise in the future to test the accuracy of data recording, if we judge that this would contribute to a better understanding of the performance data being used and published by the SFRS.

Performance indicators

In order to provide a context for the assessment of the performance management information being collected across the SFRS, we considered the SFRS's requirements for data reporting. The Fire and Rescue Framework 2013 sets out a number of performance indicators and targets for the SFRS that have been set by Scottish Ministers, and this document provides a base point for considering what performance management data the SFRS should be collecting. Also, for a number of years statistics have been published by the Scottish Government on aspects of the organisation and activities of fire and rescue services in Scotland. The raw data for those statistics is obtained from the SFRS and so we expect to see current and planned systems that will support its ongoing accurate collection.

Internal SFRS documents identify additional performance measures that the SFRS expects to track. In the interests of brevity we have not listed all relevant performance indicators: at the start of each section below we refer to some of the principal indicators and statistics relevant to the Directorate in question, in order to provide some context for our discussion of the performance management information systems we have seen. Again, some indicators will be relevant to, and influenced by the work of, more than one Directorate. Some indicators are based on information collected by one Directorate but the relevant outcomes are influenced mainly by another. The way we have grouped indicators below is for convenience only and is not intended as a statement that a Directorate 'owns' or has particular influence over a given indicator.

3.1 Performance Management Information Systems – Prevention and Protection

The Fire and Rescue Framework includes the following relevant performance indicators:

- Fire safety audits
 - Rate of audits per 1,000 'other buildings'
 - Proportion of audits conducted in FSEC high or very high risk premises
 - Hours per audit
- Community fire safety activity – rate per 1,000 households
 - Home fire safety visits
 - Full visit including advice and smoke alarm installation
 - HFSV – advice only
 - Leaflet drop
 - Rate of HFSVs conducted per 1,000 households in FSEC high or very high risk dwelling fire risk areas
 - Percentage where the referral comes from another agency

We would expect the performance management information systems in the Prevention and Protection Directorate to be capable of gathering and reporting on this information, both at national and local level.

In addition, the Scottish Government² publishes statistics annually³ on

- Home Fire Safety Visits
- Premises
- Fire Safety Audits, Enforcement and Prohibition Notices
- Alterations Notices and Prosecutions
- Risk rating on Non-Domestic Premises
- Houses in Multiple Occupation

Again, we would expect the SFRS's systems to support ongoing publication of those statistics unless otherwise agreed with the Scottish Government.

It is also important for the SFRS to understand what the effects are of its prevention work – in other words, to be able to link outcomes to outputs. This is key to the SFRS being able to make decisions about allocation of resources to prevention and protection work as compared with response activities. We considered what systems existed to support that understanding.

Our inquiries identified the following systems relevant to the Prevention and Protection Directorate, which we discuss in detail in the remainder of this section:

- **Community Safety Engagement Toolkit (CSET)** – supporting Home Fire Safety Visits and other community engagement activity
- **Prevention and Protection Enforcement Database (PPED)** – supporting non-domestic fire safety audit and enforcement activity
- **Fire Services Emergency Cover (FSEC)** – a modelling tool that is the repository of a significant amount of risk information relevant to Prevention and Protection activity. Although FSEC is not primarily intended as a performance management information system, its importance and relevance to this inspection are discussed below
- **Fire Investigation** – a database containing information from fire investigation work
- We also reviewed the SFRS's new **gazetteer**, which is intended to support the work of the Prevention and Protection, Response and Resilience and Service Delivery Directorates.

Community Safety Engagement Toolkit (CSET)

The Community Safety Engagement Toolkit (CSET) is an internally developed system, based on a system developed as an outcome of the report *Scotland Together* (2009) prepared by the Scottish Community Fire Safety Study for Scottish Ministers. It holds information, within different modules, on community safety activity. This modular based system captures information on Home Fire Safety Visits (HFSVs), Partnerships, ongoing strategic Initiatives, and specific Activities (referring broadly to Community Safety and Engagement (CSE) actions taken other than HFSVs).

² At the time of writing, the intent is that the SFRS will take over responsibility for this in the future – but the categories reported will not change.

³ Scottish Government, *Fire and Rescue Services Statistics, Scotland*
<http://www.scotland.gov.uk/Topics/Statistics/Browse/Crime-Justice/PubFireRescue>

We considered CSET in our report *An Overview of the Scottish Fire and Rescue Service* (2013) and at the date of publication of that report, the Partnerships and Initiatives sections of CSET were still in development. We are pleased to see that implementation of these functions has been finalised, and should help to support consideration of good use of resources in that it supports reflection on the impact of the initiative/intervention against the measure of the planned or intended outcome.

It was a recommendation of the *Scotland Together* report that there should be an increased level of evaluation of community safety activities across Scotland. The coming into being of the Scottish Fire and Rescue Service facilitates that, and systems such as CSET are key to gathering the information to permit such evaluation to take place.

CSET is primarily a data recording resource, and does not itself determine areas for activity or analyse the impact of CSE on incident activity. Causal relationships between activities and harm reduction are not directly identified by this system. A comprehensive evaluation requires data from other sources, specifically incident data from IRS and financial data from TechOne (these systems are discussed later in this report). The SFRS intends that this analysis will be undertaken, and an arrangement has been agreed with Dundee University to obtain academic support for this activity.

CSET has been developed to allow a high-level pre-activity cost/benefit analysis to be undertaken under the 'Initiatives' tab. Using information from 'Cost of Fire' work carried out elsewhere, the system seeks to allow users to carry out rough costings of proposed initiatives and compare these against the projected savings to the community brought about by reducing fire events.

While it appears to us that the utility of this ready reckoner will ultimately be limited by the availability of robust figures on the cost of fire, and defensible estimates of what reduction in fire incidents might be anticipated as a result of proposed initiatives, we welcome the thinking that underlies the inclusion of this function in CSET. This demonstrates that in designing its systems the SFRS is mindful that the recording of activities is not just done for its own sake or for the purpose of producing statistics. If the cost/benefit tool becomes widely used then there will be the additional possibility of comparing its calculations against more detailed evaluations to judge the estimates of incident reduction and costs against real-world outturns.

Predefined reports are available on the HFSV module of the CSET application. These support varied reporting, such as completed HFSV by Local Authority, Ward and Station Areas, and completed HFSV by referring agency. The requirement in the Fire and Rescue Framework to report HFSVs by FSEC risk rating of the area is fulfilled by looking up the FSEC risk rating for the HFSV on a separate database. In addition, the system can interface with Qlikview to support local and strategic reporting on how prevention and protection resources are being used by LSO, local authority, ward or station areas; and this could potentially be of significant value in allowing a geographic information system (GIS; map-based) representation of CSE activities potentially overlaid on incident and casualty data.

SFRS staff we spoke to appear confident that CSET, whilst still developing (for example the Activities module is in its early stages of use), adequately meets the needs of the SFRS for collection of CSE information and carrying out a limited level of analysis (primarily, assignment of a risk rating to premises). We were advised that historically, comparability of information

has been an issue: for example, not all predecessor services had the same definition of what a HFSV was. While this may complicate comparisons of current and historical data, standard definitions have been established and training plans are in development to support ongoing consistency and quality of input.

Fire Services Emergency Cover (FSEC)

FSEC is an ICT system on a GIS platform that was provided, with data, to all Fire and Rescue Services in Scotland, England and Wales. On first consideration, we would not have expected to be discussing it in this report. That is because FSEC was developed not as a performance management information system, but as an analytical modelling tool. The concept behind FSEC is that risk information and incident records can be inputted into the system, and analysis is carried out to identify the level of risk in a given area and also the impacts that current and proposed interventions by the fire and rescue service are having on those risk levels.

Our inquiries have, however, disclosed that some information that is directly relevant to performance management is held on FSEC, but nowhere else. As noted in the description above, FSEC depends on data being inputted into it in order to carry out the analysis for which it was designed. It retains this data, which can be extracted again. It appears to us from what we have been told that certain historical datasets that are held in FSEC are not found elsewhere in SFRS ICT systems.

The two main examples are data on non-domestic premises, and data on non-domestic fire safety audits. Because FSEC works as a modelling tool by identifying all risks in the community, the 'other buildings fire module' uses information about the number and type of non-domestic premises and related fire safety information. Accordingly FSEC contains information about non-domestic premises known to the predecessor services. This information was originally obtained from the Scottish Joint Valuation Boards in 2004 and was then updated on a rolling basis from fire safety information obtained by fire and rescue service employees in the course of their work.

Whereas some predecessor services used electronic systems for recording of non-domestic fire safety audits, others relied on paper-based systems. Not only was FSEC the only source of information on premises for some predecessor services, but in some instances, it was also the only electronic record of audits that had been carried out. This is because the results of non-domestic fire safety audits were inputted into FSEC to maintain that system and allow it to provide up to date calculations of risk in an area. Consequently, FSEC provided integrated risk data that could be interrogated to find out which premises had been audited in a given time period. For those services that had a paper-based system of recording fire safety audits as they were carried out, FSEC provided a historical electronic record of those audits once they were inputted into the system.

The importance of FSEC to the SFRS's statistical reporting is highlighted by the fact that three of the indicators in the Fire and Rescue Framework referred to above reference FSEC data – the rate of audits per 1,000 'other buildings', the proportion carried out in FSEC high or very high risk premises, and the rate of HFSVs carried out in FSEC high or very high dwelling fire risk areas. These concepts are specific to FSEC and, as matters stand, the SFRS relies on FSEC to provide information about the number of 'other buildings' and the risk ratings referred to.

In our view, FSEC in its current form is not future-proof. The software on which FSEC is based is old and is not being fully supported. FSEC sits on a GIS platform which is now over a decade old, which is a significant age in ICT terms. It is outside the scope of this report to comment on the continuing value of FSEC to the SFRS as an analytical tool. However if there is data relating to non-domestic fire safety audits or HFSVs that is not held electronically anywhere else than FSEC, then we consider that the SFRS should take steps to back it up and hold it on a separate database for as long as it is likely to be required for historical, comparative or reporting purposes.

Prevention and Protection Enforcement Database (PPED)

The predecessor fire and rescue services in Scotland used a variety of different systems to manage their non-domestic fire safety enforcement work – and in two cases, these were not ICT systems but were primarily paper-based. There was accordingly a need for the SFRS to develop a system to support its non-domestic fire safety enforcement work on a national scale.

The system that has been developed has been modelled on the CSET system discussed above in terms of its software base and underlying architecture. In common with other systems implemented and planned for the Prevention and Protection Directorate, PPED has been developed in-house and uses SharePoint and proprietary database software.

PPED went live across the SFRS in May 2014. Prior to that date, fire safety enforcement officers were utilising legacy databases. Between April and May 2014 paper based records were kept and retrospectively entered into PPED. At the time we spoke to the responsible officers, there were still some teething problems being experienced both with the system and in obtaining consistency among staff in the way it is operated. We were advised that management are making particular efforts to emphasise to staff the need to enter data on non-domestic fire safety audits into the PPED system in a timely fashion after they are completed. The expectation of the SFRS is that over time, and as users become more familiar with it, the system will become more robust and the data that it is populated with will be increasingly comprehensive.

There is an issue over the way in which the performance measures and statistics discussed above are reported, that arguably PPED (and supporting systems) does not adequately address at the moment. In the same way as statistics for Home Fire Safety Visits are reported, non-domestic fire safety enforcement audits have been reported as a percentage of a total number of premises. But whereas the relevant number for HFSVs is the number of ‘households’ reported in the national census, non-domestic fire safety enforcement audits have historically been reported against a total of ‘known’ premises, that is, premises ‘known’ to the SFRS (and its predecessor services) to fall within the scope of the non-domestic fire safety auditing regime.

The predecessor services had reported some 142,000 known premises in Scotland⁴ – but work done by the SFRS to verify this figure, based on reference to third party sources of information about non-domestic premises in Scotland such as information from licensing authorities, and valuation rolls for non-domestic properties, suggests that there may be around 226,000 buildings which fall within the scope of the SFRS’s non-domestic fire safety enforcement obligations (termed ‘relevant premises’ in the *Fire (Scotland) Act 2005*).

⁴ As at 1 April 2013

In our view, a methodology should be confirmed for calculating the numbers of non-domestic premises which will provide a best estimate of the number of ‘relevant premises’ in Scotland as defined by the 2005 Act⁵. It seems to us that the use of data held by other bodies whose core business it is to collect it – such as assessors and licensing authorities – is a sensible way of performing this calculation.

It may also be better if the term ‘known’ premises is superseded by a description that retains the (necessary) meaning that the SFRS cannot be expected to have a precise, real-time understanding of exactly how many relevant premises there are, while at the same time being more ambitious about presenting a ‘best estimate’ derived from independently verifiable sources.

Fire Investigation

Fire Investigation information and data is managed via manual input to spreadsheets, titled ‘FI Attendance Incident Log’. This system holds information which can also be found on the UK-wide Incident Recording System (IRS) discussed later in this report. However, the focus is on incidents resulting in fatalities and so additional contextual information such as contributory factors is held. This information is fundamental to an understanding of what is causing fire fatalities and so, how they may be reduced. For this reason, although the sensitivity of the information means that the system cannot be openly accessible to all comers, it is significant in terms of the SFRS’s business.

Although the current system is tried and tested, it is heavily reliant on manual input and is not set up to provide useful reports on the data held without time consuming identification of relevant data by staff. There are also issues caused by the fact that predecessor services all had their own Fire Investigation recording protocols, and while efforts have been made to bring these together, there are still separate recording systems for the three Service Delivery Areas (SDAs). For that reason we would expect the SFRS to be actively seeking to provide a national Fire Investigation recording system, with rather more functionality than is provided by the use of spreadsheets.

We were advised that development of a national system is now in progress. The intent is to provide a national Fire Investigation database based on proprietary SharePoint software. Reporting will be facilitated via Qlikview, removing the need for manual calculations and data extraction. The Engagement Team within the Prevention and Protection Directorate will also utilise the Qlikview interface for reporting on casualty figures, and the Fire Investigation team are also seeking access to run reports direct from IRS rather than having to go through Data Services. This will improve efficiency and also avoid possible conflicts in numbers of fatalities being reported which can currently arise from different reporting criteria between teams. The new system will also allow timely reporting of any trends or issues discovered in the course of fire investigations, to inform and direct CSE activities and Prevention and Protection strategic objectives and direction.

In our discussions with SFRS staff it was reported to us that while the Service had turned its attention to the development of a Fire Investigation recording and reporting system, there was a perceived trade-off between this and further development work on PPED owing to pressures on SFRS ICT staff. This raises two points.

⁵ While the emphasis in non-domestic fire safety enforcement falls on buildings, the definition of ‘relevant premises’ is wider than buildings alone.

Firstly, we observed that the performance management information systems discussed under the 'Prevention and Protection' heading above have all been developed 'in-house' by the SFRS and the predecessor Strathclyde Fire and Rescue. This is in marked contrast to other Directorates, which have been able to acquire off-the-shelf proprietary systems or 'resource-pool' with other fire and rescue services in the UK (for example over IRS).

While UK fire and rescue services have collaborated (with the benefit of government funding) on systems like IRS and FSEC, the same has not been the case for systems under the Prevention and Protection Directorate. It is to the credit of the SFRS and its predecessor that the need to develop such systems has been identified, and the fact that they have been developed in-house provides the advantages of being tailored to SFRS and Scottish Government reporting needs.

With this advantage, however, comes the responsibility to manage the development and, no less importantly, the maintenance of the new systems. The SFRS has recently inaugurated a Digital Strategy, including the setting up of a Digital Steering Group which includes in its remit the prioritising of demand on SFRS ICT resources. We suggest that when considering the future levels of ICT support likely to be required, the Digital Steering Group should explicitly take into account that the Prevention and Protection Directorate's performance management information systems were developed in-house. Consequently they require an ongoing level of in-house ICT support to keep them running efficiently – in contrast to other systems that have been acquired from commercial providers, which benefit from vendor support to deal with issues when they arise.


Secondly, the SFRS is experiencing pressures on recruitment and retention in the ICT Department, arising from market conditions in the ICT sector. This is currently being addressed by the SFRS's Pay and Reward project, and we understand that the outcomes of that work will take into account market pressures on wages in certain sectors, including ICT, from which the SFRS needs to recruit. On that basis we have been advised that it is the SFRS's hope that the current issues will only be temporary in nature.

It is encouraging that through its Digital Strategy the SFRS has acknowledged the key importance of ICT in delivering a modern, efficient Service. Now that this strategy has been set, it is important that the corporate culture of the SFRS continues to support that direction and, particularly given the ongoing need for in-house systems support referred to above, that the strategy is adequately resourced.

Gazetteer

In connection with the SFRS's planning towards a national command and control ICT system, the need was recognised for a national gazetteer for the SFRS to provide a single point of reference for geographical locations in Scotland where the SFRS might be required to provide service.

The creation and maintenance of a gazetteer on this scale is a significant task. In discussions with relevant SFRS staff it was clear to us that the critical importance of getting gazetteer information right was recognised. As the gazetteer will be used to inform the dispatch of an emergency response to incidents, it needs to be highly accurate.



The SFRS has created its gazetteer based on information obtained, on a commercial basis, from the Ordnance Survey. This appears to us to be an appropriate decision, based on the Ordnance Survey's long involvement and high reputation in mapping and geographical services in Scotland.

Significant additional work has been required to cross-reference the data in the new gazetteer with existing information known to the SFRS, for example held within individual control rooms. The specific needs of the SFRS and the predecessor fire services mean that this information can build and improve on the data obtained commercially.

One area in which the gazetteer is not able to support SFRS service delivery is in identifying the numbers and locations of relevant premises for non-domestic fire safety enforcement purposes. This is because, while the gazetteer identifies properties by reference to a Unique Property Reference Number (UPRN), the UPRN is a geographic designator, not a description of use. While it is possible to add a description to each property for which there is a UPRN – and this has by and large been done – this information was added by third parties (before it came into the hands of the Ordnance survey, from which the SFRS acquired it) – and it can be both limited and of uncertain accuracy.

There are in excess of 2.3 million UPRNs in the gazetteer, and the scale of the work required to turn this into an accurate and verified record of the number of relevant premises would, in our view, be beyond what could reasonably be expected of the SFRS. We would, however, encourage the SFRS to give some further consideration to whether the work suggested above, to establish a robust methodology for identifying the number of relevant premises across Scotland, could be related to the gazetteer and possibly designed to enhance the usefulness of the gazetteer in this area.

3.2 Performance Management Information Systems – Response and Resilience and Service Delivery

Many of the performance indicators and targets in the Fire and Rescue Framework relate to the activities of the Response and Resilience and Service Delivery Directorates. Performance indicators include the number of:

- Deliberate fires
- Accidental fires
- Fire casualties
- Non-domestic fires
- Special services
- All road traffic collisions attended by the SFRS
- False alarms

All of these indicators are further broken down into sub-categories.

Associated targets are:

- Reduce the rate of fire fatalities and casualties per million population by 5% a year
- Reduce the rate of casualties and fatalities per million population in special services incidents, each year
- Reduce the rate of accidental dwelling fires per 1,000 households by 10% each year. Support the target with a measure of 'life risk accidental dwelling fires'
- Reduce the rate of non-domestic fires per 1,000 in other buildings from the previous year

We acknowledge that many of the figures above are more heavily influenced by the activities of the Prevention and Protection Directorate than by Response and Resilience or Service Delivery activities – for example, the occurrence of fires is reduced by prevention work, not response work. But the data in question are collated based on incident information provided within the Service Delivery Directorate and for that reason we discuss them under this heading.

The Scottish Government publishes statistics⁶ on the following matters relevant to Response and Resilience and Service Delivery:

- Fires by type and location
- Casualties, fatalities and rescues
- False alarms
- Special service incidents
- Motive of fires – deliberate or accidental
- Cause, source of ignition and spread of fires
- Discovery method – smoke alarms
- Time of call and number of appliances attending fires


Again, as a minimum we would expect the performance management information systems maintained within the Response and Resilience and Service Delivery Directorates to support tracking and reporting on the above measures at a local and national level.

The systems we identified as supporting these and other measurements relevant to the Response and Resilience and Service Delivery Directorates are:

Incident Recording System (IRS) – the UK-wide Incident Recording System used by all fire and rescue services and which underpins the bulk of reporting of response activities

Command and Control systems – these are not primarily performance management information systems. However, their very close relationship with IRS (described more fully below) means that an appreciation of command and control system architecture is important to an assessment of the robustness of the data being inputted into IRS (and by necessary implication the data that can subsequently be retrieved from IRS)

⁶ Scottish Government, *Fire and Rescue Services Statistics, Scotland*
<http://www.scotland.gov.uk/Topics/Statistics/Browse/Crime-Justice/PubFireRescue>



Retained Duty System (RDS) availability management system – collects information about the availability for callouts of Retained Duty System staff, along with certain personnel information such as absences and qualifications. Primarily this system provides information about which RDS stations have sufficient crew, at a given time, to respond to an emergency incident.

Incident Recording System (IRS)

The Incident Recording System is a UK Fire and Rescue Service initiative dating back to 2009 in its current electronic form (centralised incident reporting has been around in one form or another for a long time). It is a database that is populated by individual fire and rescue services and contains substantial amounts of information about individual incidents, including time, date and location; what resources were sent and how long they took to arrive on scene, and detailed information about the type of incident and the actions taken to resolve it.

The IRS also holds information about attacks on firefighters at incidents – which is required for statistics currently published by the Scottish Government and referred to in the section on People and Organisational Development below.

IRS is central to the SFRS's ability to report on many of its key performance indicators, including all of the indicators, targets and statistics set out at the start of this section. IRS is a comprehensive system that adequately meets the SFRS's needs for data in these categories, but its architecture pre-dates the coming into being of the SFRS and it is not an SFRS-owned system. For that reason it is important for the SFRS to have reviewed how it inputs information into IRS; how it can extract information out again; and how IRS interfaces with other SFRS systems, particularly those in place to support fire control.

Prior to April 2013, each predecessor fire and rescue service in Scotland had one 'presence', that is to say, one identity, in IRS, with the exception of the former Strathclyde Fire and Rescue. This is because IRS as originally developed placed a limitation on the number of fire stations a service could show on the system, and Strathclyde exceeded that number. Instead, Strathclyde set up 10 presences on the system, reflecting its regional structure.

Strathclyde's approach to entering information into the national IRS system also differed from the other predecessor services. Most services had their control systems, which manage the process of call receipt and dispatch of resources, set up so that they could partially pre-populate the IRS record, which would then be completed and submitted by staff. For technical reasons Strathclyde had its own IRS system, which was effectively an intermediary between incident information input by staff, and the national IRS system.

The inherited legacy systems provide a rather cumbersome mechanism for the SFRS to manage its incident data nationally and upload it to the UK IRS. The UK IRS is currently being overhauled and the restriction on the number of stations a service can show is being removed, so eventually there should be no technical obstacle to the SFRS being one single presence on the new IRS.

In our view, any practicable steps that can be taken to streamline and improve the ease of uploading data to IRS and the quality of data that can be extracted, should be taken. SFRS may therefore wish to review whether it is achievable to reduce its presences on IRS pending

the introduction of the new command and control system. We understand that the interface between IRS and the new command and control system is at the forefront of the relevant project team's thinking and so we do not need to make any comment in that regard.

One additional issue arising from the limitations of the old IRS system is that volunteer stations in the former Highlands and Islands Fire and Rescue Service were not shown on IRS, as that would have exceeded the maximum possible for that service. That limitation will disappear under the new IRS and we are advised, and would expect, that SFRS will take steps to have those ex-Highlands and Islands FRS stations shown on IRS as soon as possible.

Command and Control Futures

A fundamental step in creating a single national fire and rescue service is the harmonisation of the different systems used by the predecessor services for command and control. By this we mean the systems in place for receiving emergency calls, identifying the appropriate assets to dispatch, managing the incident from a logistical point of view (command management is typically provided by an incident commander on scene), and managing the information flow and resultant data collection coming out of the incident.

All modern fire and rescue services in developed countries have command and control systems of this nature and so there is a well-established market for the SFRS to procure a new system from. A major project is currently in existence to manage the tender process for a new system and implement it, while at the same time bringing about the SFRS's strategic intent in relation to control room rationalisation.

We note above that the relationship between command and control systems and the national IRS is well understood, and as a result of meetings we have had with the relevant project team, we are assured that the necessary consideration has been given to this relationship, and that it will be fully covered within the tender process for the new national system.

The existence of a single national command and control system, linked with the UK national IRS system will streamline the collection and recording of incident data, and will tend, in the long term, to improve and harmonise the quality of the data finding its way into the IRS system. It follows that we welcome the SFRS's continued endeavours to progress the implementation of this system within the content of the Command and Control Futures project.

In our view, the Command and Control Futures project is the most challenging project, in terms of the physical and technological changes required, that the SFRS is currently managing. We do not intend any criticism of the dedicated project team when we observe that it is clear that this project will require ongoing attention by senior management and the Board of the SFRS, in order to ensure that it is adequately resourced and brought to a successful and timely conclusion. That is in line with recommendations 1 and 2 of the 2011 report *FiReControl: Learning the lessons*⁷, to which we expect that the Command and Control Futures project board has had regard.

⁷ Scottish Government, 2011, <http://www.scotland.gov.uk/Resource/Doc/254432/0121316.pdf>

Retained Duty System (RDS) Availability Management System

Over 80% of Scotland's 350+ fire stations are wholly or partly staffed using the Retained or Volunteer Duty Systems⁸. These systems rely on alerting firefighters, who are at their home or place of work, to come to the fire station to crew an appliance to respond to an emergency.

As a general rule, the SFRS requires that there be a minimum crew of four persons on a fire appliance when it responds. Because SFRS staff working the retained duty system may have other work or home commitments, it may be the case that a minimum crew of four is not available. As a matter of policy the SFRS has decided that if a minimum crew is not available at a particular station then no alert will be sent to the crew of that station, and instead a neighbouring crew will be dispatched.

In order to manage this policy the SFRS requires real-time information about the availability of its RDS crews. Currently two systems are in use, providing the facility for crew members to schedule their availability in advance, and to advise remotely if they unexpectedly become available or unavailable.

Additional functionalities of these systems include leave management and other HR reporting functions, including reporting on whether RDS staff (who are contracted to be available for a set number of hours per week) are providing their contractual hours of availability. They are also able in some cases to interface directly with Control Room ICT systems to advise that an appliance has become unavailable due to lack of crew, whereas in other cases Control Room staff have to manually interrogate the availability system and update their own systems accordingly.

For performance management purposes, the critical aspect of the RDS availability systems is their ability to report accurately on whether minimum crewing levels are being maintained at RDS stations. This involves both accurate provision of information by RDS staff, and a user-friendly and responsive way for staff to update the system in real time to take account of unexpected changes in their availability.

The SFRS intends to replace the two different systems currently in use with a single system by the end of 2015. In order to address relevant linkages and requirements for compatibility, consultation has taken place with staff involved in the Command and Control Futures and HR/Payroll projects. While it will be necessary to maintain momentum in order to achieve an end-2015 rollout for the new national system, the information provided to us suggests that it is in principle possible.

Our overall impression is that information relating to RDS availability is currently being managed appropriately, and that this will continue after the introduction of a single national system. One anomaly we are aware of, however, is that while an availability management system is used to track the availability of RDS stations across Scotland, the same is not true of stations where staff are on Volunteer contracts.

⁸ *Scottish Fire and Rescue Service Fire Safety and Organisational Statistics, Scotland, 2013-14*, Scottish Government, February 2015 and unpublished information from the SFRS on the number of wholetime stations that also have an RDS staffing component

We have already observed in our report *Equal Access to National Capacity*⁹ that the distinctions between the Retained and Volunteer duty systems are diminishing and in some cases of doubtful relevance. If it is important to the SFRS – as we believe it is – to know when a station is available with sufficient crew to respond to an emergency incident, this is no less important because the station is a volunteer station than it would be for an RDS station. There is at least one location where the volunteer station is the sole firefighting resource on an island of around 700 permanent population with a seasonal population often exceeding twice that. Not only might the SFRS need to know if that station is available or not, but the volunteer crew may be assisted by an availability management system to self-roster to maximise station availability.

To be clear, this is not intended as a comment on the employment arrangements of different stations, nor are we advocating any changed obligation on volunteer staff individually to provide minimum hours of availability. But we cannot readily see an argument for depriving the SFRS, and the volunteer crews themselves, of a system that would allow visibility of individual and volunteer station availability, and we would hope that this is given careful consideration as the new national availability management system is rolled out.

3.3 Performance Management Information Systems – People and Organisational Development

Performance indicators in the Fire and Rescue Framework that relate to the activities of the People and Organisational Development (POD) Directorate include:

- Health and Safety
 - Attacks on firefighters
 - RIDDOR injury occurrence
- Work force monitoring
 - Percentage of gender within each type of staffing
 - Percentage of ethnic minority within each type of staffing
 - Percentage staff recorded as disabled within each type of staffing

Relevant targets set for the SFRS are:

- Reduce the rate of injuries per staff member (including volunteers)
- Increase attendance – reduce number of days lost to sickness to at least the average of the four best-performing predecessor services

⁹ HM Fire Service Inspectorate, May 2014

The Scottish Government publishes statistics covering a number of areas relevant to this Directorate¹⁰, including:

- Number of Staff
- Gender
- Age
- Ethnicity and Disability
- Attacks and Personnel Injured

We found a number of performance management information systems relevant to the work of the POD Directorate which we discuss below:

PDRPro: a firefighter learning and development recording system

iTrent: a system that is intended eventually to combine payroll, HR, and staff training and development systems. The SFRS is currently using a number of systems inherited from predecessor services to carry out these functions

Rivo Safeguard: a Health and Safety Management System.

PDRPro

PDRPro is a recording system for firefighter learning and development, and skills currency based on operational exposure. It is linked with the SFRS's computer-based training system, LCMS (Learning Content Management System). PDRPro pre-dates fire reform in 2013, and was used by the predecessor fire and rescue services across Scotland. For that reason it is a well-embedded system within the SFRS and its use is mainstreamed within the Service.

We have noted in a previous report¹¹ the challenges faced by retained duty system (RDS) and volunteer staff, particularly those in remote locations where access to good internet connectivity is not assured, in using PDRPro. In speaking with relevant staff in the course of this inspection, we received feedback to the similar effect that where user issues were raised about PDRPro, they tended to be speed and connectivity issues and not complaints about the system as such.

PDRPro allows a wide range of reporting against training and operational activities undertaken, and as such is both a valuable management tool, and a good source of performance management information at a service-wide level. For that reason, we welcome the assurances we received that efforts continue to achieve 100% usage of PDRPro even in remote RDS and volunteer locations. We underscore what we said in our report on *Equal Access to National Capacity* that this requires appropriate support from the SFRS in terms of system hardware, and training for users.

¹⁰ Scottish Government, *Fire and Rescue Services Statistics, Scotland*
<http://www.scotland.gov.uk/Topics/Statistics/Browse/Crime-Justice/PubFireRescue>

¹¹ HM Fire Service Inspectorate, *Equal Access to National Capacity*, May 2014

For the purposes of performance management and strategic planning, it is necessary to have a good appreciation of the numbers of people who will require initial and refresher training in given roles, and the resource that will be required to deliver this in a timely fashion so as to maintain the competence of staff. What is lacking from PDRPro at the moment is an interface with the scheduling systems used in the three SFRS Service Delivery Areas to identify who is in need of training (particularly, refresher training) and schedule their attendance at it. We discuss this issue in greater detail in relation to iTrent in this section. While it would be possible to interface scheduling software with PDRPro, it is reasonable to seek to achieve the same results through iTrent.

We are encouraged to see the continued use of PDRPro as a powerful tool for individuals to manage their own learning and development, and for front-line and middle managers to track the competence and currency of their staff. We look forward to further integration of PDRPro with SFRS HR and training scheduling systems to provide a comprehensive and accurate view both of the current levels of training of staff, and the prospective training needs of the Service as a whole.

iTrent

The SFRS inherited a variety of human resources and payroll systems when it came into being. In most cases, the predecessor services each ran more than one payroll system, and the SFRS currently runs 19 payrolls each month, as well as having to access multiple different systems in order to track and report on HR data.

This situation was recognised at the outset as needing to be addressed, and the SFRS has plans in place to unify its payroll system using a proprietary solution, iTrent. This combined payroll and HR system is in widespread use in the public sector in the UK, including in one of the predecessor fire and rescue services in Scotland. In the course of our inspection we have had the iTrent system's capabilities explained to us and have seen a demonstration of it in the context of Training and Employee Development. It appears to us that the system is fit for purpose and benefits from being a solution that is already well-tested in the marketplace.

Currently, people information relevant to reporting against the statistics and indicators described above (for example, information on attendance management) is collated centrally, based on information provided by the staff who are operating the legacy HR systems that are still in use. It is manually recorded in a central spreadsheet which is used for national reporting as required. While this system allows the SFRS to meet the requirements for it to report personnel data, it involves a measure of double-handling of data, requires staff resource to be dedicated to managing the central spreadsheet, and allows the possibility of error to creep in when data is entered manually based on returns from staff around the country.

It has been explained to us that the work involved in bringing the different payroll and HR systems together is substantial, and there is an understandable view that this work should not be rushed, and that payroll and HR services should be transferred across to the single system in manageable stages. In the course of our inspection we were advised that the work required to transfer personnel data to iTrent should be complete by the end of 2015, and (after it has been used to report end-of-year statistics for 2015-16) the central spreadsheet referred to above should be retired in mid-2016. We note from project documentation that we have seen that this date represents a slippage from the original target completion date of mid-2015.

We have been told that the rollout of iTrent is not dependent on the agreement of national terms and conditions of service, which is a distinct process. Given the fundamental importance of having a single national HR system for the SFRS, and the disadvantages inherent in the current setup, SFRS strategic managers may wish to satisfy themselves on an ongoing basis that the revised timeframes will be achieved and that undue further project slippage does not occur.

It was a recommendation of our report *Risk-based Decision-making in the Scottish Fire and Rescue Service*¹² that '[t]he SFRS should continue to develop a national training needs analysis and national systems to allocate training and skills maintenance ...'. We have seen a demonstration of the capabilities of the iTrent system, taken together with a scheduling tool that has been developed in-house by the SFRS, which shows that the technology for the SFRS to implement this recommendation already exists. Once iTrent's HR capability is rolled out across Scotland, then the reports it can generate can provide a straightforward way of estimating the number of training courses that will be required for a given forward planning period. The scheduling tool then calculates the most efficient way of running those courses with the instructors available, and iTrent can allocate places on those courses to staff who need them.

We are encouraged that the implementation of our recommendation is feasible using the systems intended to be in place country-wide. Again, it is important to the efficient management of the SFRS's workforce and training and development needs that a national system is in place as soon as possible, and this is another reason why it would be of value for strategic managers to stay sighted on whether the milestones for completion of this project, both in relation to payroll and other personnel information management, are being achieved.

Electronic Health and Safety Management System (Rivo Safeguard)

Rivo Safeguard is an externally hosted electronic health and safety management system which is operational across the SFRS having formerly been used in the predecessor Strathclyde Fire and Rescue. The Safeguard system supports SFRS personnel recording of health and safety assessments, substance control, event recording, tasks and audits. Specifically, it provides a platform for recording any event with a health and safety implication, and tracking actions taken in response such as investigations. Its other functions allow a national picture to be maintained of health and safety audit activity, and compliance information to be provided if required. Safeguard allows reporting on supplementary indicators such as vehicle accidents and equipment/property damage.

Safeguard has over 4,000 users across the SFRS with permissions dependant on individual roles and responsibilities. This is overseen by local based managers and the national health and safety team to support quality and accuracy of reporting.

Specific reporting on health and safety incidents, type and causation, acts of violence against staff, and trends can be provided from the system, and additionally it can support reporting on subjects such as the comparison of locations and a view of events in date order. The health and safety team continues to develop performance reports for the national health and safety

¹² HM Fire Service Inspectorate, November 2014

committee, SDA and local management teams, and reporting on Scottish Ministers' indicators. Information can be reported by Local Authority area if required to support local management of health and safety. The team is also working towards an 'infographic' visual representation style of reporting, to enhance the current performance reporting framework.

We were advised of some accuracy issues with figures prior to 2013, reportedly due to differing interpretations of health and safety legislation across predecessor fire and rescue services – for example in relation to what a Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR)-reportable incident was. The importance of data quality and accuracy is recognised, and it is intended that the development of standard definitions and training for staff new to the system will secure future data quality and accuracy.

The Safeguard system does not integrate with any other SFRS ICT system at present. Manual cross-referencing is undertaken with relevant systems such as Tranman and IRS to ensure that figures reported are consistent across the organisation.

We were advised by SFRS health and safety managers that this system is fit for purpose and provides all the information the SFRS needs to gather to support compliance with legislation, track issues with implications for firefighter safety, and support the SFRS in its future decision-making. The team noted that the current licence runs until 2016, following which a tender process may be required for the future national system. The health and safety team is alert to ensure that the functionality provided by the system would be preserved in the course of any future tender process.

3.4 Performance Management Information Systems – Finance and Contractual Services

The Fire and Rescue Framework sets out two performance indicators relating to SFRS costs:

- Cost per head of population
- Cost per hectare

It is notable that the Framework takes a 'light touch' approach to financial performance reporting. This is explained at least in part by the rigorous public financial reporting requirements imposed on the SFRS as a national publicly funded body. Audited accounts are published annually by the SFRS.

Of course, robust systems are required to underpin that financial reporting. And in addition, the Service needs to keep track of its assets in order to be able to monitor their condition and usage and theoretically, work out what return on investment is being achieved from various different assets.

The Scottish Government publishes a number of statistics¹³ relevant to the Finance and Contractual Services Directorate including:

- Number of Fire Stations
- Type of Equipment

Relevant systems that we saw in the course of our inspection, and discussed in detail below, included:

Technology One (TechOne): a financial management system

Tranman: a fleet management system

A **property management system** provided by Technology Forge.

Technology One (TechOne)

During the development work leading up to the full inauguration of the SFRS in April 2013 it was identified that a single finance system would be required for the new Service, to replace the systems being used by the predecessor fire and rescue services.

An understanding of financial data and how they relate to outcomes is important to performance management within the SFRS – not least because at a time where budgets and expenditure come under close scrutiny, it is necessary to be able to identify where expenditure within the organisation is making the biggest contribution to achieving performance targets.

Following a tender process, a system supplied by Technology One UK Ltd, and referred to in the SFRS as TechOne, was adopted as the new system for the Service. TechOne is a proprietary financial reporting system which manages all information relevant to the finance function, and supports budget planning.

The TechOne system was implemented within relatively tight timescales – the tender process commencing in January 2012 and work started on the system in the summer of that year. The licence for the system includes an enterprise report writer which allows for delivery of financial reports to every desktop in the organisation should there be a business need for this.

The system is flexible to permit changes in financial reporting structures and these changes can be made in-house without having to incur further development costs. Linkages have been made between the TechOne system and existing payrolls, asset management and fleet management systems. The format of the reporting provided is adaptable depending on the role of the person for whom the reports are produced, and they are made available in an easy-to-manage dashboard format.

The TechOne system provided the information on which the SFRS's first annual accounts were produced. There was significant involvement by internal and external auditors in reviewing those accounts and reporting on the accuracy of them, and for that reason we believe that there is a substantial level of assurance that the information being inputted into TechOne, and the reports it generates, are robust and fit for purpose.

¹³ Scottish Government, *Fire and Rescue Services Statistics, Scotland*
<http://www.scotland.gov.uk/Topics/Statistics/Browse/Crime-Justice/PubFireRescue>

The implementation of the TechOne system demonstrates the ability of the SFRS to acquire and implement new national ICT solutions relevant to performance management information and reflects well on those responsible for its procurement and roll-out.

Tranman

In order to manage the SFRS national fleet, a procurement exercise was undertaken to acquire a system suitable for the Service's needs. The successful tenderer was the supplier of the Tranman system, that had been in use in the former Strathclyde and Tayside Fire and Rescue services. This is a widely used fleet management system that is primarily aimed at ensuring compliance with the legal obligations of fleet management, but which can also record and report on a number of relevant incidental datasets including, for example, road traffic accidents involving the fleet, age profile, and running cost per mile for vehicles.

The SFRS breathing apparatus stock will also be monitored for maintenance and age profile purposes through Tranman.

As an established commercially available system, it appears to us that Tranman is an appropriate choice for SFRS fleet management. What is important is to ensure that those planners and decision-makers who could benefit from the data that Tranman is able to report on, are aware of and have access to it.

Property Management System

The SFRS has procured a web-based asset management system from providers Technology Forge. This system holds data about the SFRS's property assets, and can monitor budgets, maintenance schedules and the like.

Reliable information about the SFRS estate is important to planning for future service delivery, as well as for understanding what the costs to the SFRS of building maintenance, repair and upgrading will be into the future. Similarly to Tranman, there are no obvious concerns about the functionality of the system itself and the requirement will be for SFRS to ensure that the information it holds is incorporated into decision making and planning for the future.

We noted during our discussions on the system that there was additional work that could be done to integrate it more closely with the TechOne finance system; given the close links between estate management and financial expenditure and planning, that seems to us to be a logical area for development and we welcome recent advice provided to us by the SFRS that this work is already planned.

Asset management

The SFRS has identified the need to manage its asset portfolio in accordance with BS ISO 55001:2014 *Asset management – Management systems – Requirements*. Our understanding is that the SFRS intends to manage its non-property asset portfolio through a combination of the TechOne and Tranman systems. There are two outcomes of asset management that are particularly relevant here: the first, for the SFRS to know what assets it owns and be able to account for them from a financial point of view; and the second, to be able to track required maintenance and replacement cycles, and to ensure that safety-critical maintenance (such as on breathing apparatus systems) is carried out at the appropriate times.

TechOne is aimed towards the first of these goals; Tranman towards the second. The SFRS appears comfortable that it can manage its assets adequately using these systems and we are aware of no reason to doubt that. There is limited relevance to performance management, although of course an understanding of the lifecycles of equipment and the costs involved in its maintenance and replacement is relevant to the future financial planning the SFRS will have to undertake.

3.5 Performance Management Information Systems – Strategic Planning, Performance and Communications and Service Transformation

These Directorates were established in order to provide a central point of co-ordination for Strategic Planning, Performance and Communications, and Service Transformation, respectively. The Service Transformation Directorate has a need for data from all parts of the SFRS to support its delivery of the SFRS's detailed transformation programme, which is designed to help strengthen the Service and support its transition from eight regional fire and rescue services into one national organisation. The Strategic Planning, Performance and Communications Directorate is focused on strategic planning activities, performance monitoring and reporting mechanisms, and communication and engagement systems. We discuss its work here in the context of facilitating the outputs and outcomes of other Directorates through its organisation and dissemination of performance management information across the whole of the SFRS.

There are two initiatives in particular that underpin this central data dissemination function:

Qlikview

Data Marketplace

and in addition the Directorate is responsible for the management of the SFRS's **Information Governance System**.

Qlikview

Qlikview is a proprietary data reporting solution that the SFRS has acquired in order to allow it to share performance data across the organisation in a targeted, user-friendly fashion. Supplied by QlikTech UK Ltd, Qlikview can be set up to draw on a wide variety of different sources of data and then present them in a user-friendly graphic 'dashboard' configuration. An advantage of Qlikview is its ability to provide links so that, if a user is particularly interested in a given piece of data on the dashboard display, she can click on it and be linked to further, more detailed data that underpins or explains the displayed graphics.

Qlikview can also be linked to a GIS display so that data can be presented on a map rather than in graph or tabular form. This is of particular value when considering, for example, whether there are clusters of incidents such as domestic fires or wilful fire-raising; and if there are, whether preventative work is similarly clustered and being delivered in the same locations as the observed incidents.

Our observation of Qlikview is that it presents data in a readable way and can provide good functionality to users in terms of the 'click-through' capability. We are advised that to optimise its usefulness it requires to be set up for individual job functions and preferences which in turn represents a workload for the SFRS ICT department. Additionally, the SFRS requires licences for all users of the system. For these reasons it is not possible within current constraints to provide Qlikview to all SFRS managers.

Ultimately it is a matter for the SFRS to consider the cost/benefit balance in making tools such as Qlikview widely available: as a method of making data readily available to managers, and providing analytical assistance such as map views, we welcome it as an initiative.

Data Marketplace


Another way in which the SFRS is hoping to make relevant data more widely available is through an initiative called the Data Marketplace. This is a web-based initiative having the appearance of an internet page, which will publish a selection of datasets that are judged to be of value or interest to a wider audience. Unlike Qlikview this is not a proprietary software product and does not require a licence, and in theory it will be available to all SFRS staff. There might also be scope in the future to use the Data Marketplace as a public-access library of leading statistics on SFRS performance, in order to provide a point of reference for information requests and potentially reduce the Freedom of Information request burden on the Service. There will be the option to limit access to certain data, for example data that contains confidential or personal information, to groups of named users with a business need to see it.

The Data Marketplace is a straightforward and easy-to-use method for making SFRS data widely available throughout the organisation. Its usefulness will of course depend on the amount of data that it is possible to publish; the extent to which this is kept up to date, and the continued commitment of staff who control SFRS data to have it published to the site. Judgements will also need to be made about access rights (what data is relevant for people to see), and there will need to be criteria established for identifying data that will be helpful to staff in undertaking their roles. Assuming that the SFRS is able to manage those issues we would see the Data Marketplace as being a useful source of organisational data to the whole workforce, although the more targeted and in-depth facility provided by Qlikview will probably be of more use to staff with a specific local or national strategic planning function.

Information Governance System

The SFRS implemented an Information Governance System (IGS) in order to manage its compliance with the *Freedom of Information (Scotland) Act 2002* and the *Data Protection Act 1998*. This system was developed internally and uses Microsoft Dynamics software; it is essentially a case management system. The system was established to support timely reporting on a quarterly basis to the Information Commissioner on Freedom of Information and Data Protection requests, and requests under the *Environmental Information (Scotland) Regulations 2004*. Information on complaint numbers is recorded on the IGS and capable of being reported upon, but there is no current reporting requirement in place.

The SFRS has a policy about collecting information on compliments, but the information we were given is that this policy is not always complied with. We were advised that compliments are received from a diverse range of sources and to different locations within the SFRS, and



information received centrally about compliment numbers is likely incomplete. Complaints and compliments are a useful ‘soft’ indicator of organisational performance and there may be benefits in giving more prominence to reporting them both internally and externally.

Internal reporting of IGS data takes place quarterly to the Head of Performance and the Director, Strategic Planning, Performance and Communications; and annually to the Local and Stakeholder Engagement Committee of the SFRS Board. Information can be extracted at national, SDA, LSO, local authority or ward levels, although the absolute numbers involved do not indicate a need to report this information regularly at a local level. It is however possible to report specific issues, for example a run of complaints about a given topic, to LSOs if required.

3.6 Overall Conclusions

Returning to the quote cited in chapter 1 of this report,

Establishing a performance assessment framework which allows better comparisons to be made across Scotland against a common set of key performance measures, but which balances local performance concerns against national priorities, will be an important task for the future Scottish Fire and Rescue Service.

We consider that the findings discussed above provide evidence that the SFRS has or is putting in place adequate systems to underpin this framework. Put another way, the raw data will be collected, and the systems collecting it will be able to report on it, in such a way as to support such a framework. The systems also appear to us to be adequate to support reporting against the criteria set out in the Fire and Rescue Framework.

The legislative arrangements within which the SFRS works require it to plan at a local authority level, and that implies the ability to identify local performance targets and report against them. In the case of each system that we viewed where reporting would be relevant to the local fire and rescue plan, we asked for and were given assurances that reporting at local authority level was feasible. We are reassured by what we have been told that the SFRS’s performance management information systems have the capability to provide reports at local authority level and in some cases, at more detailed levels than that.

For several of the systems we encountered, they were new to a significant proportion of the staff who were now using them. This raised issues of consistency of use and training for those who were new to the systems. The overall picture we gained was that managers were aware of these issues and that relevant training was being planned and scheduled.

We also encountered issues relating to the comparability of historical data in a number of systems. These often arose where different predecessor services had differing definitions of activities, events or things that led to inconsistencies in what was recorded between services.

The work done within the SFRS to harmonise data recording has, we believe, largely identified these inconsistencies, and processes have been put in place to address them and ensure consistency of reporting in future. It will need to be borne in mind by data users in the future that there may be discontinuities in series of data and historic data may not be directly comparable with contemporary figures.

In more than one instance we encountered the view that progress on implementation of new systems would be accelerated if more resource could be applied to the projects in question. The nature of the resource required varied from developers and system designers in the case of certain systems being built in-house, to data entry and support staff in the case of systems where large amounts of information had to be transferred across from legacy systems.

We understand the competing needs for resources in the SFRS and the environment of budgetary constraints within which it has to operate. We consider nonetheless that there would be scope for the SFRS executive to review the current projects in progress, and to obtain current information to inform a decision on whether it would be beneficial to apply extra development or support resource to enable projects to be closed.

In relation to the ICT projects that are still in progress, we looked for evidence that the responsible staff including project managers and SROs are aware of *Managing ICT contracts: an audit of three public sector programmes*¹⁴ and have specific measures in place to address the concerns raised in that report. We were advised by one senior staff member with a presence on the two most significant project boards – those for the iTrent and Command and Control Futures projects – that these considerations have been specifically taken into account.

On that assurance we do not consider it proportionate – and nor is it strictly within the scope of this report – to examine those projects in more detail. We have noted in the text of the report above, and wish to flag again, that both of these projects and specifically the Command and Control Futures one are complex and present a significant risk to the SFRS if they fail. On that basis alone we would support specific ongoing scrutiny of these projects, including a clear focus on milestones and completion dates, by the SLT and SFRS Board: as noted above that is in line with recommendations 1 and 2 of the 2011 report *FiReControl: Learning the lessons*¹⁵ to which we expect that the Command and Control Futures project board has had regard.

¹⁴ Audit Scotland, 2012

¹⁵ Scottish Government, 2011, <http://www.scotland.gov.uk/Resource/Doc/254432/0121316.pdf>

4 Issues for the SFRS to consider

The 2005 Act requires that the SFRS must have regard to this report and, having done so, must take such measures (if any) as it thinks fit in relation to the report. We are therefore confident that where we have expressed a view on particular issues, SFRS will consider what we have said and will take it into account in its forward planning. In order to assist with this, we have gathered together below some comments on issues raised in this report that we consider the SFRS may wish to focus on.

- a) **The SFRS should focus now on finalising its work to consolidate performance management information systems – paying due attention to the quality and completeness of the data being inputted into the systems being used – and demonstrating how the analysis of good management information is driving the Service’s business.**
- b) If there is data relating to non-domestic fire safety audits or HFSVs that is not held electronically anywhere else than FSEC, then we consider that the SFRS should take steps to back it up and hold it on a separate database for as long as it is likely to be required for historical, comparative or reporting purposes.
- c) A methodology should be confirmed for calculating the numbers of relevant non-domestic premises which will provide a best estimate of the number of ‘relevant premises’ in Scotland as defined by the *Fire (Scotland) Act 2005*. It may also be better if the term ‘known’ premises is superseded.
- d) We would encourage the SFRS to give some further consideration to whether the work to establish a robust methodology for identifying the number of relevant premises across Scotland could be related to the gazetteer and possibly designed to enhance the usefulness of the gazetteer in this area.
- e) Any practicable steps that can be taken to streamline and improve the ease of uploading data to IRS and the quality of data that can be extracted, should be taken. SFRS may therefore wish to review whether it is achievable to reduce its presences on IRS pending the introduction of the new command and control system.
- f) When considering the future levels of ICT support likely to be required, the Digital Steering Group should explicitly take into account that the Prevention and Protection Directorate’s performance management information systems were developed in-house, and require an ongoing level of in-house ICT support to keep them running efficiently. The SFRS may wish to consider whether the risks, if in-house systems are not adequately supported, are fully reflected in the relevant Corporate and Directorate Risk Registers.
- g) In relation to the SFRS Digital Strategy, it is important that the corporate culture of the SFRS continues to support the direction that has been set and, particularly given the ongoing need for in-house systems support referred to above, that the strategy is adequately resourced.
- h) The Command and Control Futures project will require ongoing attention by senior management and the Board of the SFRS in order to ensure that it is adequately resourced and brought to a successful and timely conclusion. The SFRS may wish to consider whether the risks associated with the Command and Control Futures project should be explicitly reflected in Corporate and Directorate Risk Registers.

- i) SFRS should take steps to have ex-Highlands and Islands FRS volunteer stations shown on IRS as soon as possible. Careful consideration should be given to including Volunteer Duty System stations on the future national Retained Duty System availability management system.
- j) Given the fundamental importance of having a single national HR system for the SFRS, and the disadvantages inherent in the current setup, SFRS strategic managers may wish to satisfy themselves on an ongoing basis that the revised timeframes for the HR and Payroll project will be achieved and that undue further project slippage does not occur.
- k) We consider that there would be scope for the SFRS executive to review the current projects in progress and to obtain current information to inform a decision on whether it would be beneficial to apply extra development or support resource to enable projects to be closed sooner than would otherwise be the case.
- l) Planners and decision-makers who could benefit from the data that Tranman is able to report on, should be aware of and have access to it.
- m) Complaints and compliments are a useful 'soft' indicator of organisational performance and there may be benefits in giving more prominence to reporting them both internally and externally.

Glossary and abbreviations

Throughout this report, at the risk of some repetition, we have minimised the use of abbreviations in the interests of readability. There are some exceptions, particularly where an abbreviation is used so widely within or outside the Scottish Fire and Rescue Service that spelling it out on each occasion would look unnatural. An example is 'SFRS' for Scottish Fire and Rescue Service. An explanation of abbreviations and terminology used can be found below.

CSE	Community Safety and Engagement
FRS	Fire and Rescue Service
GIS	Geographical information systems: map-based software applications allowing a visual representation of geographically-based data
HR	Human Resources
HFSV	Home Fire Safety Visit
ICT	Information and communications technology
LSO	Local Senior Officer: there is a LSO for each of the 32 local authority areas in Scotland.
Predecessor services	The eight fire and rescue services in Scotland, and the Scottish Fire Services College, that were combined into SFRS.
SDA	Service Delivery Area
SFRS	Scottish Fire and Rescue Service
SLT	Strategic Leadership Team of the SFRS; the senior executive officers and Directors.
UPRN	Unique property reference number; a number that identifies each property in Scotland and can be linked to a map reference
2005 Act	The Fire (Scotland) Act 2005



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