



SCOTTISH  
FIRE AND RESCUE SERVICE

Working together for a safer Scotland

# Operational Strategy 2022-32

Working together for a safer Scotland



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# 1 The Operational Strategy and Governance

## 1.1 Introduction and Vision

The Scottish Fire and Rescue Service (SFRS) Operational Strategy is a blueprint to inform and assist strategic managers shape future operational response. Informed by risk, data and research led, it is aligned with the organisation's strategic Values and Objectives.

This Strategy, will, as outlined in the SFRS Annual Operating Plan 2020/21 deliver 'a coherent strategy that details how Service Delivery will support the SFRS Strategic Plan and ...provide a greater access to specialist resources tailored to local needs and improve community resilience through partnership working and collaboration'.<sup>1</sup>

It will also align with the content of any new SFRS Strategic Plan, understanding there will be a number of SFRS Strategic Plans, during the lifecycle of the Strategy.

The Strategy is not intended to be a roadmap with definitive targets, or a fixed trajectory to an aspirational end state. The SFRS' focus will always be to meet the needs of Scotland's communities, and as such, the Service retains the flexibility to focus and amend its response model to meet new, emerging and diminishing risks.

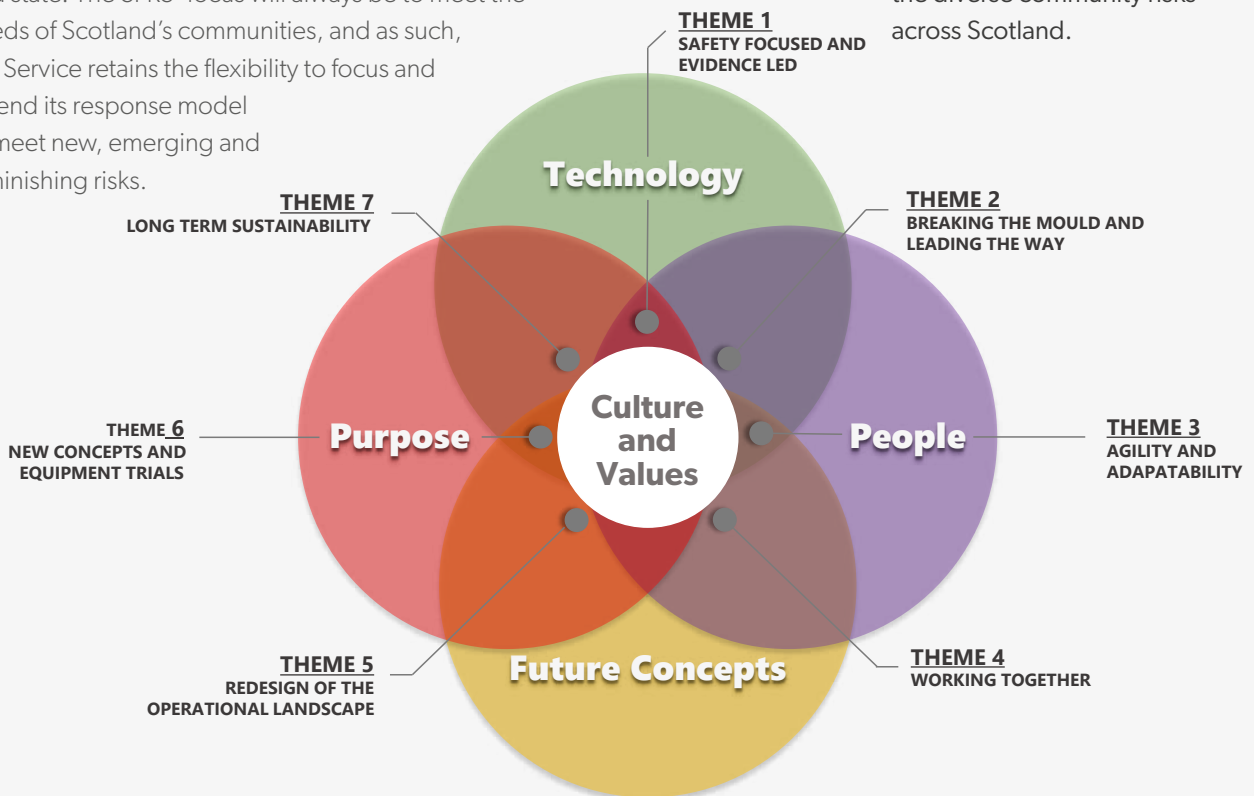
The risks we face today as a Fire and Rescue Service are not identical to those we faced a decade ago; our risk profile is constantly evolving and require us to be agile in our approach.

In understanding this, the SFRS will, within this Strategy, go further to deliver on the SFRS' commitment to 'transform the Service to do more for Scotland... and adapt to the changing nature of risks facing communities'.

The SFRS Operational Strategy Framework, published earlier this year, signposted the Strategy as an ambitious programme designed and developed through step changes.

This document delivers on our Framework and aligns with the, **Service's Strategic Outcome 2: Response** Our flexible operational model provides an effective

emergency response to meet the diverse community risks across Scotland.



<sup>1</sup> Scottish Fire and Rescue Service Annual Operating Plan 2020/21, SO2 Action 1 - Purpose

# SFRS Operational Strategy Vision

An Operational Strategy, built on 7 key themes, that places operational response, aligned to innovative thinking, at the forefront of the Service, working with partners and utilising the latest technology and techniques, to deliver long term benefits to Scotland's communities.

## 1.2 Our Approach

The Operational Strategy is a vehicle for identifying, developing and implementing future operational response and driving transformation in a changing world.

For our Strategy to be effective, a balance of short and medium term defined and focused objectives, blended with identified and flexible projects with longer term outcomes, is key.

Incident response is dynamic, as risks evolve or emerge as new threats. An organisational plan singularly based on fixed goals and with a narrow field, will prove less relevant as time goes on. In recognising this, the Operational Strategy will provide an iterative model which will be used to develop a series of Strategy Implementation Plans (SIPs). Through the use of SIPs, we will identify new processes and use these to adapt to emerging risk.

The utilisation of SIPs will assist all parts of the Service to fully support the implementation of the Strategy. This will allow effective financial planning, procurement of resources, and identification of operational processes and associated training to drive future operational response.

The application of effective corporate governance ensures our Strategy remains relevant and serves the needs of the organisation, Scottish Government and the communities of Scotland.

Within this Strategy there are areas of research and evaluation identified for both long-term concepts, and more defined projects with a shorter-term implementation date.

This is both intentional and necessary as our organisational risk profile will evolve over time and pose new challenges for the Service. At the same time, rapid advances in technology will also provide options and benefits for operational response that at this time are not available.

A balance of focus and flexibility, whilst a simple concept to convey, requires high levels of organisational co-operation, collaboration, accountability and communication across Directorates to ensure that:

- Short-term projects are brought to fruition (0-3 years);
- High quality trial and evaluation projects are resourced in the medium-term (3-5 years); and
- Research to break new ground and access opportunities to introduce new technologies and techniques that will enhance response in the future are supported. These can be qualified as long-term (5-10 years).

The SFRS has the resources and the vision to achieve this and be a leader in world Emergency Service response. In summary, our Strategy is a ten-year rolling plan which we will review annually. To implement our Strategy, we will take account of:

- Existing and foreseeable organisational and community risks identified by evidence and data led programmes such as the Service Delivery Model Programme (SDMP); and
- Understanding what we need to do to work more closely and effectively with our partners to meet the needs of the communities we serve.



## 1.3 Shaping our Strategy - What We Will Achieve

Evolution and a bold approach to operational response has been part of our strategic direction since the inception of the SFRS as a National Fire and Rescue Service.

Our approach as an organisation to operational response is shaped by three aspects:

- Where we have come from as a Service;
- Where we are now; and
- What is achievable through understanding risk, driving change and harnessing innovation.

Operational response, and by default, operational strategy, inherited by the SFRS, from the amalgamation of legacy Fire and Rescue Services in 2013, was predicated on eight variations of a response model that were effectively pulled into a single model by the new national Service.

A collegiate and strategic approach to risk and response saw a programme for standardisation and equitable access to resources set the course for operational strategy at this time.

At this stage, the SFRS adopted the approach to develop local solutions to address local risks. This commitment to evolve operational response was shaped by the understanding that the risk profile of the remote rural north west of Scotland is different to the profile of large, industrialised and populated cities such as Edinburgh and Glasgow.

Utilising the Service's risk profiling capability, this Strategy looks to continue that evolution and to place at the heart of the programme, an increased focus on developing and expanding the model of local solutions to meet local risks.

Working with Local Senior Officers (LSOs) and other stakeholders we will determine where to locate resources so that they can be deployed in the most effective way.

Commensurate with this approach, is the understanding that the Service needs to retain standardisation for identified areas of operational response e.g. Water and Rope Rescue, in line with a risk-based approach, where stations may come together to form a team for specialist rescue.

Additionally, equipment for core activities, particularly those that pose the greatest risk to Firefighter Safety will continue to be underpinned with robust procedures across the Service.

Employing a risk-based approach enables the Service to retain flexibility and agility to review existing appliances and equipment disposition and deployment models and modify operational response as necessary.

We will review operational assets and may deploy them in a new way to address local risks more effectively.

Within our Strategy, there are opportunities to review current deployment models and locations of assets including specialist capabilities. This will supersede any previous and legacy arrangements and provide a more proactive approach to the deployment of assets.

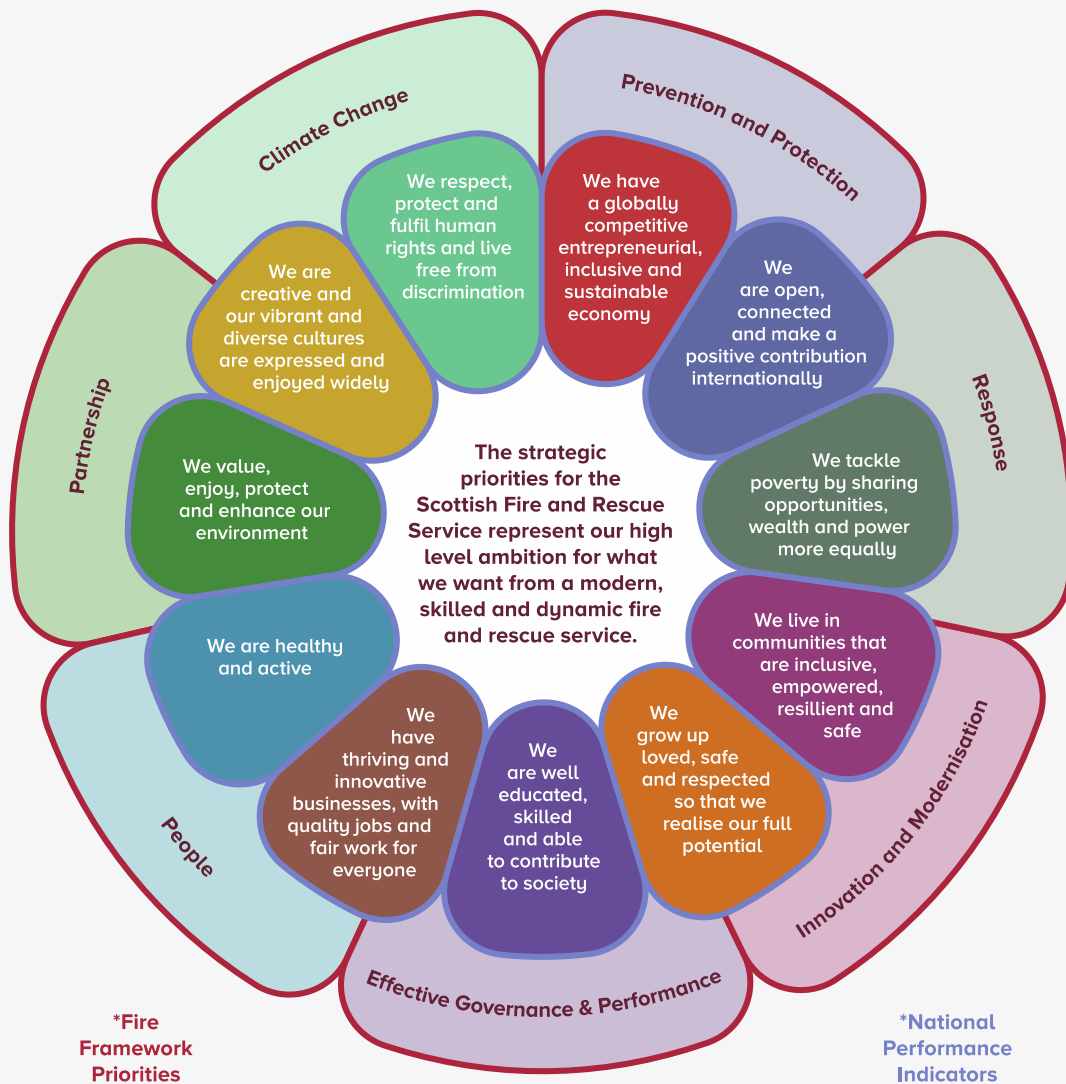
What can be achieved over the next decade and beyond will be a significant enhancement of operational response. An ambitious Strategy, supported by the ever-increasing pace of technology and a commitment to develop options to reshape the way we respond to incidents will provide an opportunity to redesign the operational landscape.

A more sustainable and environmental approach with the continuing journey away from a 'one size fits all', to a more risk-based approach, underpinned by partnership working, are the foundations on which the future will be built.

## 2 A New Approach to Response

Our Operational Strategy has been developed to align with Scottish Government direction and the SFRS Strategic Plan and Values. Within the Fire and Rescue Framework for Scotland 2022, Scottish Government acknowledges that the SFRS is on the journey to realise the 'vision which the SFRS has embraced in adopting an outcomes-based approach when formulating proposals on the future role of the Service.'<sup>2</sup>

Scottish Government also gives further direction and, 'advocates further evolution, because the context in which SFRS operates and the challenges that it faces are continuing to evolve'<sup>3</sup> and that 'central tenets of empowering of shared systems that focus on prevention, and of equitable partnerships still hold true but they are yet to be delivered in full'.<sup>4</sup>



The National Outcomes will help to achieve

**Our Purpose:**

To focus on creating a more successful country with opportunities for all of Scotland to flourish through increased wellbeing, and sustainable and inclusive economic growth.

2, 3 & 4 The Fire and Rescue Framework for Scotland 2022, Ministerial Foreword

Our Operational Strategy aligns with this direction and sets out a plan to drive forward, and do more for the communities of Scotland, while adapting to the changing risks across Scotland.

The Fire and Rescue Framework lays out 7 strategic priorities for the SFRS which are outcome focused. These clearly set out the aims and objectives for the SFRS to contribute to the delivery of National Outcomes derived from, and set out in, the National Performance Framework.

Our Operational Strategy embodies this vision to evolve operational response. Reflecting the close relationship with the other strategic priorities, this Strategy brings a focus and a future direction to Strategic Priority 2 – Response.

As well as linking directly with Priority 2, our Strategy also indirectly links with other Strategic Priorities, and is one of a number of Service strategies which support the delivery of SFRS Strategic Priorities.

## Strategic Priority 2

### Response

In conjunction with effectively addressing risk, SFRS should ensure that the capability of its assets and staff, combined with technological improvements, enable it to respond to incidents with the right resources at the right time across communities in Scotland.

The Service should embrace a flexible, innovative and inclusive approach to its service delivery and resilience planning, ensuring its response resources and crewing arrangements are aligned to current and future risks.

Our Operational Strategy looks forward with a risk based approach and is based on the following:

### A Flexible Delivery Model

The SFRS's delivery model must be flexible to reflect the differing needs of local communities. LSO plans should present profiles which reflect the risks to the specific local authority area, as well as setting out local solutions to local issues and detailing local activity whilst ensuring there is a clear link to SFRS strategic aims.

### Utilising Technological Advances

The SFRS will ensure the capability of its assets and staff and combine these with technological improvements.

The Service will review at appropriate intervals its operational resources and working practices considering emerging issues, equipment, programmes and practices against UK and international best practice and advances in technology.

New technologies offer the SFRS huge potential to improve how it delivers Fire and Rescue services. The use of technology in society sets new expectations about services the SFRS provides, how data from technology is appropriately accessed and its levels of transparency in making use of data in improving outcomes for communities.

Digitisation also offers significant opportunities to streamline our internal processes, manage risk more effectively, revolutionise how SFRS reduces risk and improve safety outcomes.



## Reducing Exposure to Contaminants within Operational Response

Worldwide research into the potential effect of contaminants on firefighters continues to provide evidence that exposure may put those responding to, or attending incidents, at an increased risk of related future health issues. It has been established that unburnt products of combustion produced by fire are a major source of contaminants, some of which have proven to be carcinogenic.

The SFRS is committed to mainstreaming behavioural, cultural and organisational change to ensure the protection of our personnel and has developed initiatives such as 'clean cab' appliances and established a cross-Directorate SFRS Contaminants Group.

We will continue this work, incorporating within our Strategy, all opportunities to embed this change within procurement processes, User Intelligence Groups, research and development and operational procedures.

## New and Emerging Challenges

New challenges and risks continue to emerge for SFRS. The threat from terrorism, Climate Change and the impact of an ageing population are of particular note.

The nature and sophistication of the terrorist threat to the country continues to evolve. SFRS crews are prepared to respond appropriately to prevent harm to life or infrastructure. The SFRS will continue to ensure appropriately trained and equipped crews can be deployed as part of a co-ordinated multi-agency response to such attacks.

Over the last few decades Scotland has experienced the effects of Climate Change including shifting rainfall patterns and rising sea levels. The nation's warmest years on record have all occurred since 1997 with the average temperature in the last decade around 0.7°C warmer than the 1961-1990 average.

Scotland's population is continuing to age, with a 50% increase in over 60s projected by 2033. This changing demographic means that the SFRS must work with partners to protect and respond to groups most likely to experience unintentional harm and risk of fire (people over 65 or under 5 years of age), particularly within Scotland's most deprived communities.

## Partnership Working and Supporting the Scottish Ambulance Service

The SFRS has the opportunity to significantly contribute to improving a wider range of community outcomes. Working closely with its people, partners and staff representative bodies SFRS will consider how it is able to contribute to saving more lives in different ways.

The SFRS will explore expanding the use of its extensive and strategically placed resources across all communities in Scotland and identify collaborative opportunities to better support partner organisations, in particular, the Scottish Ambulance Service (SAS) and the wider National Health Service (NHS).

The SFRS has the opportunity to increase life chances in numerous ways including responding to Out of Hospital Cardiac Arrest (OHCA) and other emergency medical events.

## 3 How We Will Change

### 3.1 Our Operational Approach - Flexible and Risk Based

A consistent and interwoven thread throughout the Fire and Rescue Framework for Scotland 2022, our Strategic Plan 2019-22 and within our **Strategic Priority 3 - Innovation and Modernisation**, is for the SFRS to continually modernise and do more to improve outcomes for communities.

#### Strategic Priority 3 Innovation and Modernisation

SFRS should continually improve and modernise the service it provides so that it can do more to improve outcomes for communities across Scotland.

Modernisation proposals should be considered, developed and delivered using sound evidence and should include but not be limited to ensuring SFRS is using its people, assets and financial resources in the most efficient and effective manner and that the role of firefighters is modernised to allow the Service to address new and emerging risks in our communities.

From its successful integration into a single national Service, the organisation has explored innovative approaches to flexible public service delivery whilst maintaining its core services.

Within operational response, our Strategy, will take bold steps and commit to modernisation proposals to ensure the 'SFRS is using its people, assets and financial resources in the most efficient and effective manner, and that the role of firefighters is modernised to allow the Service to address new and emerging risks in our communities.'

The Fire and Rescue Framework identifies opportunities for modernisation of the Service, these include:

- How the Service responds to changing community risks;
- The breadth of SFRS support to communities in pursuing improvements in their safety and wellbeing;
- The use of new technology in both operational and support functions;
- More modern and fit-for-purpose facilities shared with other public partners;
- Improving how, why and when SFRS engages and communicates with the public; and
- A full contribution to the Scottish Government's Net Zero emissions targets.

Our journey to modernisation, can be summarised as:

'The SFRS should ensure it fully evaluates what has worked well and consider stopping or changing what does not work; so, utilising those experiences, and integrating them into new ways of working.'<sup>5</sup>

The Fire and Rescue Framework for Scotland identifies themes for the SFRS to broaden the role of the firefighter to contribute to positive outcomes in Scotland's communities.

These themes are incorporated within our Strategy:

#### Research and Development

Advances in technology mean that new and innovative solutions are being developed which greatly improve firefighting and rescue operations. These will help the Service pursue improved levels of safety.

The SFRS will research and develop, and where feasible, introduce new technology and ways of working that improves firefighter and public safety.

<sup>5</sup> The Fire and Rescue Framework for Scotland 2022 - Strategic Priority 3, Innovation and Modernisation

In considering innovation, the SFRS will work with manufacturers, suppliers, academics, universities and fire engineering experts.

As one of the largest Fire and Rescue Services in the world, the SFRS will introduce a greater emphasis on global horizon scanning, testing the market to see what innovation it can offer in terms of new technologies. In this, we will lead the way, break new ground and be a leader for other organisations.

## On Call

On Call firefighters play a vital role in ensuring communities are safe and protected outside our major towns and cities.

In recognition of the ongoing challenge of recruitment and retention of On Call firefighters, the SFRS has already carried out significant work in this area.

The SFRS will link this work with its wider modernisation objectives to continue to address these challenges. Through the On Call Improvement Programme, we will ensure future operational response is aligned with our On Call model.

## Modernisation and Expansion of the Firefighter Role

The SFRS will continue to consider all options on how the Service can deliver better outcomes in communities, including developing the skills and abilities of the workforce to meet present and future risks and threats.



## 3.2 Placing Response in the Digital Age

In March 2021, Scottish Government published their new digital strategy, *A Changing Nation: How Scotland will Thrive in a Digital World*.

In this Digital Strategy, Scottish Government committed to transforming Scotland's public services to realise the opportunities of digital ways of working.

The stated aim was to implement 'digital thinking' as well as digital technology and collaboration across the public sector.

In addition, it sought to underpin a digital service culture and a commitment to common standards that promote interoperability.

As a Service, the SFRS recognises that collaboration across the public sector and any future re-design of operational response must be underpinned by a digital service culture and a commitment to common standards that promote enhanced partnership communication and information sharing.

The Fire and Rescue Framework provides clear guidance that the 'SFRS should keep its digital strategy under review to ensure its systems and information technology is making best use of the technology and innovation which is available....'

Cyber resilience is central to SFRS delivering a secure and resilient service... In considering how it should develop its systems and services, SFRS should take into account the Scottish Government's Digital Strategy, "A Changing Nation: How Scotland will thrive in a digital world."<sup>6</sup>

To embed this approach, our Operational Strategy will align with the SFRS Digital Strategy to provide a data-driven approach to better understand options for adoption of digital technology which informs Service design for future response.

By accessing future solutions, using data capability and technology to transform how we gather and share information, a 'digital first' approach to response will support a safe and sustainable next generation response model.

Existing major programmes including Command and Control Futures, the Emergency Services Mobile Communications Programme and the People, Training, Finance and Assets Systems Programme will support response activities through digital solutions to inform strategic decision making and incident ground communication.

A 'digital first' approach will also better utilise asset resources to create more flexible operating models using new vehicle and asset technologies.

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<sup>6</sup> The Fire and Rescue Framework for Scotland 2022 - Strategic Priority 3, Innovation and Modernisation

### 3.3 People and Culture - How we Develop and Implement Strategy

A significant change in our Operational Strategy is the SFRS' commitment and move to a development and implementation model involving personnel from all Directorates, departments, roles and duty systems across the Service.

After an extensive staff engagement exercise, the Service have identified personnel, predominately from Service Delivery, that have volunteered to support the Strategy and form project teams.

This approach completes the move away from a traditional headquarters model for strategy development, to one, 'by the end user, for the end user'.

This approach aligns with SFRS Strategic Outcome 3 - We are a great place to work where our people are safe, supported and empowered to deliver high performing innovative services.

An example of how our new model will work will see the User Intelligence Group process reviewed in regard to long-term planning, phasing and the embedding of trial and evaluation.

We will utilise subject matter experts, with a focus on our operational practitioners, in all stages of research and evaluation of new equipment, techniques and the procurement of vehicles.



# 4 Concepts of Operations

## 4.1 Areas of Operational Response

The Strategy includes six Concepts of Operations:

- Appliances and Equipment
- Firefighting
- Height
- National Fire Resilience (Scotland)
- Operational Communications
- Wildfire

These six key elements of operational response have supported the review of our current SFRS response model for the purpose of informing Strategy development.

The Concepts of Operations, whilst allowing related areas of response to be reviewed independently, come together to form a single overarching programme.

There are a number of key aspects to the programme:

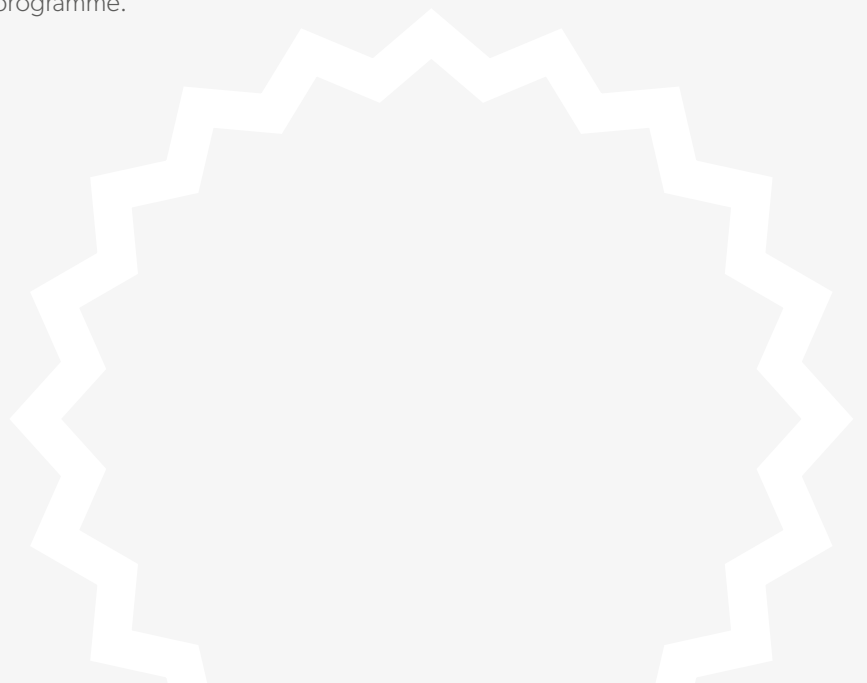
- The programme will evolve and be revised as required. The Service retains the ability to change the direction of operational response and reflect the needs of Scotland's communities.

Political and organisational drivers, and factors such as, changing budgets or significant incidents and events that necessitate a change of approach and policy, may require an adaptation to the programme.

- Future design of the operational landscape, and the change activities within the Concepts of Operations are identified as short, medium and long-term objectives to inform strategic decision making.
- Short term options within the Strategy are defined, prioritised and based on the risk analysis as understood and informed by organisational risk registers, SFRS Operational Assurance processes and National Operational Learning (NOL), as well as research and professional opinion of subject matter experts.

These options may have more context than medium and long-term projects within the Strategy. This is intentional for two reasons:

1. After a period of time, set at three years within this programme (the lifespan of the SIP), but understood to be fluid, the risks and priorities of the organisation may change; and
2. Potential for development of new technology and innovation may be exponential and cannot at this time be defined. A Strategy containing concepts and objectives of more than 3 years may no longer be best value or be best practice.





## 4.2 Appliances and Equipment

Appliances and Equipment form the key foundations of SFRS operational response and give our personnel the confidence and ability to operate in a wide range of operational environments.

From providing transportation and access for personnel, through to the equipment required to safely and effectively resolve incidents, the provision of modern appliances and equipment is fundamental to ensuring the safety of our staff, partner agencies and the public.

The Future Vision for Appliances and Equipment is one where the SFRS can access the best resources and assets to meet the challenges of operational response based on local risk profiles and needs.

Recognition that a 'one size fits all' approach is not the best way forward, and a response model tailored to meet local outcomes and varied and diverse risks, informed by a continuous improvement ethos, is the best way to keep our staff and communities safe.

### Our Objectives

#### Powered Rescue Equipment

The SFRS remains committed to investing in Powered Rescue Equipment with a view to Firefighter Safety and we will continue with our programme of de-risking Hydraulic Rescue Equipment and its replacement with this new technology.

#### Low Carbon Emission Appliance Project

This multi-agency group will explore, develop and introduce the first SFRS Low Carbon Fire Appliance.

The group will oversee the tendering, procurement and deployment of the prototype Low Carbon Fire Appliance and report on its performance and potential future deployment opportunities for the Service.

#### Investment in our Frontline Fleet

We will review and evaluate the equipment our frontline appliances carry and develop an options based model enhancing how we deal with local community risks.

We will look at frontline appliances that best serve communities and have a smaller carbon footprint, such as medium weight appliances and equip our appliances employing a flexible and tailored approach to response.

#### Introduction of an Effecting Entry hierarchy using modern equipment and techniques

We will develop an SFRS Effecting Entry strategy for gaining entry to lockfast premises. This strategy will provide our frontline appliances with a range of techniques and tools and allow crews to utilise new equipment and techniques in a hierarchical risk based approach to resolve incidents and support our partners.

#### Second Generation Rapid Response Units

During 2018/19, 34 Rapid Response Units were strategically located across Scotland. The use of these vehicles, which are smaller and lighter than traditional appliances, resulted in significant savings in the volume of fuel that is used when responding to incidents and a reduction in CO2 emissions.

These vehicles, equipped with Ultra High Pressure Firefighting Lances, provide a valuable tactical option to Incident Commanders and future deployment of new models will enhance operational response.

## Next Generation Breathing Apparatus Set

In 2022, the SFRS are in Year 7 of a 10 year contract for BA Sets. We will identify opportunities to enhance safety using research and innovation to inform the procurement of our next generation BA Set.

Next generation Thermal Imaging technology  
We will trial and evaluate new technology Thermal Imagery to inform future Service direction.

## Bariatric Care Equipment and Techniques

We will review mutual support arrangements, the provision of equipment and training for crews to support our partners and protect our communities. This important area of response is identified later in the Strategy within one of our areas of focus for redesign of the operational landscape.

## Large Animal Rescue

The SFRS has long attended such incidents in a humanitarian capacity in recognition of the difficulties involved and the unique capabilities of the Service.

There exists an opportunity to create a fit for purpose capability that is tailored to meet the needs of animal rescues across Scotland whilst acknowledging that operational personnel may also encounter risks from animals within other areas of operational response.

## Road Traffic Collision Equipment Deployment Models

We will adopt a risk based range of deployment models for Road Traffic Collision equipment, utilising an approach to look at strategically placing resources with options for enhanced disposition models, informed by historic and predicted future operational activity.



## 4.3 Firefighting

The SFRS has broadened its skill set over the last 20 years as we have transformed to a Fire and Rescue Service, and incidences of fire have reduced year on year with education and technology.

Despite this, the Service is committed to raising the bar on Firefighter Safety for what is still, our most hazardous operational activity.

The SFRS will continue on its pathway to reduce the risks to operational personnel when involved in firefighting operations, particularly firefighting in buildings.

We will commit to further exploring innovative techniques and firefighting media that reduce the exposure and hazards to personnel, whilst investing in equipment and training, and will do this in an environmentally friendly way.

### Our Objectives

#### Next Generation Breathing Apparatus Sets

Central to an effective operational response, is a state of the art Breathing Apparatus Set (BA Set) which has the confidence of the workforce.

As the single most risk critical and identifiable item of equipment used to ensure the safety of the Firefighter within the risk area, the modern BA Set must be high performing, simple to use and enable SFRS personnel to make effective interventions to save life and resolve incidents.

The SFRS will pro-actively, and at an early stage, commit resources to research and understand the most effective technologies to inform the procurement of the next generation of BA Sets.

Areas for research include biotelemetry, integrated safety systems, thermal imagery and enhanced BA Sets for specialist response.

#### Tactical Ventilation

We will review the disposition, level of user competence and provision of Tactical Ventilation resources across the Service and provide options to balance these assets using a risk based approach.

Additionally, we will develop an SFRS strategy and review current deployment levels and adopt new techniques and equipment, such as Smoke Curtains.

We will also research and evaluate new technology for alternative operation methods for Positive Pressure Ventilation equipment, such as battery power.

#### Firefighting Hose and Branches

We will trial and evaluate new technologies for firefighting hose and branches and identify options for future fluid management equipment and techniques.

We will develop disposition models for provision of firefighting media, hose, hose stowage and transportation including lay flat hose that reflect local risks and operational requirements.

## Wetting Agents

We will research and evaluate wetting agents to develop options and recommendations to supersede foam as a firefighting media. These future wetting agents will be environmentally friendly.

## Marine Firefighting

Building on the SFRS Standard Operating Procedure - Marine Response, we will review and identify options for training and equipment provision and identify options for enhanced Marine Response and Tactical Advisers.

We will explore further partnership working opportunities with the Maritime Coastguard Agency (MCA) and Port Authorities across Scotland in regard to operational response, site visits and joint training.

## Foam

We will identify as a priority, a plan for the Service to phase out its firefighting foam and environmentally dispose of existing stocks.

## Ultra High Pressure Firefighting Systems (UHPFS)

We will review our UHPFS disposition and identify options for strategically locating these resources within or nearby built-up urban areas and look at new incident types where we can improve outcomes through the deployment of UHPFS.

We will develop options for fitting UHPFS to new and existing SFRS appliances alongside Rapid Response Units and explore options for a response model where UHPFS is more widely embedded and deployed across Scotland.

## High Rise

We will continue the review of our High Rise procedures to embed Grenfell Enquiry outcomes and SFRS/peer learning from incidents and training.

We will research and trial High Rise tactics and equipment utilising new technology such as Smoke Hoods and Smoke Curtains.

We will develop options for transporting hose and equipment to a Bridgehead to ensure effective response. Memoranda of Understanding with Local Authorities to provide access for local crews to High Rise housing stock for joint training with partners will also be further explored.

## Firefighting Tactics, Techniques and Leadership

We will review existing operational tactics for firefighting and search and rescue.

We will create and embed a Leadership Doctrine in conjunction with colleagues from People and Organisational Development and Training, Safety and Assurance to enhance and further develop leadership on the incident ground.

## 4.4 Height

Height, as a key theme within the Operational Strategy, not only looks to review and develop options for the future SFRS High Reach Appliance strategy.

We will also continue to develop and evolve our existing High Rise procedures whilst embedding all learning from the Grenfell tragedy.

This Concept of Operations also identifies options for future deployment and disposition of our next generation of Safe Working at Height (SWAH) equipment and our Line Rescue capability.

The SFRS must be prepared to carry out rescues from height or below ground level. The development of this Concept of Operations will help to ensure that our firefighters continue to be able to effectively and safely deal with a diverse range of incidents.

The large number of High Rise buildings across Scotland ensures that a focus on this type of incident will be a priority of Service operational response.

### Our Objectives

#### High Reach Appliance Provision

The Operational Strategy provides an opportunity for the Service to review its current disposition and deployment model of High Reach Appliances (HRA) whilst continuing with the asset refresh of dedicated HRA across Scotland.

Utilising the Community Risk Index Model, the SFRS will make an assessment of current and predicted community risks to inform the Service in shaping a future HRA strategy, understanding and taking cognisance of the more complex operational landscape post-Grenfell.

This will include a review of the combined HRA model against other available response models, including the use of dedicated High Reach vehicles to provide an effective response to High Rise.

The SFRS will also research and explore new technology, which can provide enhanced versatility and range and utilise innovative methods to extinguish fire, rescue persons from height and support Firefighter Safety.

#### Smoke Hoods and Smoke Curtains

Following the Interim Phase 1 Grenfell Recommendations, the SFRS undertook a trial and evaluation of both these products to assess the potential benefits within the operational environment, including High Rise incidents.

Trial results provided strong evidence that both pieces of equipment enhanced tactical options by reducing the spread of products of combustion and providing safer options for casualty evacuation.

The SFRS has made the decision to purchase Smoke Curtains and Smoke Hoods and will look to explore how these can best be used to support operational response.

#### Rope Rescue Capability

We will review the current vehicles utilised to deliver this capability. At this time, there are a variety of vehicles in use across the Service, and options for a dedicated and standardised model for the deployment of Rope Rescue will be evaluated and recommendations developed.

This programme will be informed by a review of the disposition of Rope Rescue assets based on risk and equitable access to resources for the communities off Scotland.

## Safe Working at Height

Continuation of the review of the deployment model for SWAH to produce a disposition model predicated on local risk to support an effective and efficient model for response.

In tandem with this ongoing work, we will look at options for identifying and bringing into service the next generations of Personal Protective Equipment (PPE) to ensure the safety of crews when using this equipment.

## Next Generation Rope Rescue and Safe Working at Height

We will research and evaluate how these two related operational activities will inform future operational response, reviewing our levels and training provision for SWAH.

We will also evaluate new technology and opportunities for exploring and further developing new areas of response, such as, utilising Rope Rescue teams who could potentially operate in irrespirable atmospheres with enhanced equipment and PPE.

## Memoranda of Understanding and Partnership Working

The SFRS frequently resolve rescues from height and below ground with partners including the MCA, Mountain and Cave Rescue and Scottish Ambulance Service Special Operations Team (SAS SORT).

The SFRS will look at opportunities to review and enhance existing interoperability and joint working with existing partners and explore new opportunities for responding to the increasing frequency of incidents requiring specialist technical rescue.

## Next Generation High Reach Appliances

We will research and evaluate the development of new technology vehicles that will inform the future High Reach deployment model and which provide enhanced range, rescue capabilities whilst utilising new firefighting technology such as Ultra High Pressure Firefighting Systems.

## Specialist Rescue Stations

We will review our model for specialist rescue stations looking at opportunities for co-locating with partners and options for grouping related specialist rescue skills and equipment where they can be most effectively deployed and support training activities



## 4.5 National Fire Resilience (Scotland)

In support of the development of the Operational Strategy, Capabilities Development committed to a Review and Redesign of Capabilities (RRC).

The outcome of the RRC is a nomenclature change from Capabilities Development to National Fire Resilience (Scotland) (NFRS). Following the submission and agreement of the recommendations in regard to “Defining a SFRS Capability”, the SFRS will now move forward with 8 NFRS Capabilities.

The Future Vision for National Fire Resilience (Scotland) is that the SFRS will continue to ensure that our personnel are equipped and trained to deal with emerging risks, and that our service delivery model has sufficient resilience and flexibility to support specialist incidents that can occur over extended geographies and timescales.

As well as working in partnership with UK resilience partners, we will

- Provide and support UK mutual aid;
- Prepare and work with internal partners to ensure NFRS capabilities are amalgamated into future projects including the Airwave 2024 upgrade;
- Review key SFRS capabilities including the requirements for ‘New Dimension 2’; and
- Align SFRS capability levels with UK and Welsh Resilience teams.

Implement a clear and resilient structure for NFRS  
This will ensure clear lines for communication and reporting and in addition, provide strategic oversight and effective governance.

### Our Objectives

#### Implementation of the National Fire Resilience (Scotland) Operational Response Model

We will achieve this in in step changes to provide a SFRS resilience capability which will meet statutory obligations and protect Scotland through working with our partners to provide best value and alternative options for enhanced utilisation of NFRS capabilities.

The scope of our reviewed operational response model centres around providing a statutory response for 8 NFRS capabilities and ensuring equitable access to assets for Scotland’s communities.

## NFRS Capability Concept of Operations

A Concept of Operations for each NFRS capability will be produced by teams comprising subject matter experts that will:

- Be based on robust planning assumptions;
- Identify an Assurance and Competence Framework; and
- Set out mobilisation and maintenance protocols for each capability.

Implementation of an NFRS Assurance Framework  
This will identify areas for operational improvement and allow the SFRS to learn from Best Practice. This will follow the UK National Resilience Assurance Team (NRAT) model.

## Develop a process for SFRS Operational Assurance for NFRS Capabilities

In tandem with the Assurance Framework, an Operational Assurance programme will allow identified learning to be captured, recorded and progressed to be harnessed with the Service's existing model for OA.

## Asset Refresh Programme

A programme for the refresh of NFRS assets, fleet and equipment that have been identified as coming to 'end of life' will enhance operational response for NFRS Capabilities and reduce associated organisational risk.



## 4.6 Operational Communications

Effective communication is at the heart of any organisation, however within a Fire and Rescue operational context, it is vital when dealing with the diverse risks and geography that exists within Scotland.

As communications technology is developed and advanced across the world, the SFRS will utilise this functionality to enhance and support operational response.

The SFRS is already incorporating new technology and investing heavily into communications technologies. This commitment will continue to see the Service research and implement technological advances.

We will also commit to look to new dimensions and possibilities for communications to and from the operational environment through our Digital Strategy and in conjunction with our partners.

### Our Objectives

#### Command and Control Mobilising System

The role of Command and Control Futures is to deliver a modern, resilient and scalable command and control communications system that meets the priorities of the SFRS in terms of improving Firefighter and community safety.

The initial stages of the Programme were completed with the integration of eight Operations Controls into three. The focus of the Programme now moves to the delivery of the Command and Control Mobilising System Project outcomes.

The Command and Control Mobilising System will provide the following benefits:

- A consistent approach to the mobilisation of resources which removes historical boundaries and achieves a high degree of interoperability and resilience;
- Improved call handling and call challenging;
- Full implementation of standardised policies, procedures, and data gathering and storage;
- Consistent staff training and development on a single system;
- A fit for purpose system for the next 10 years with the option for a further 5 years;
- Consistent mobilisation of national SFRS resources across all communities;
- Improved operational efficiency through the use of all OC staff groups possessing the ability to operate in any regional OC;
- A reduction in ongoing system maintenance costs; and
- A single Command and Control platform supporting 3 SDA OCs removing the requirement of standby Control Rooms.

#### Voice Recognition and Electronic Translation Services

We will research and evaluate modern voice text technology where information provided to Operations Control can go as text into an incident log and where speech recognition technology can assist translation and also determine an automated response e.g. the redirection of calls for non-emergency incidents to an automated service.

#### Multi Agency Incident Transfer

Research into this facility will allow the transfer of incident data between Emergency Services and potentially significantly improve our ability to share information quickly and efficiently, leading to a more efficient response.

## Smart Technology and Apps

We will undertake evaluation of new communication technologies and social media tools as they emerge to ascertain viable solutions for communities to connect with the SFRS and other emergency responder partners.

## Emergency Services Mobile Communications Programme

The Home Office is leading a programme to deliver the new Emergency Services Network (ESN) critical communications system which will replace the current Airwave service used by the SFRS and all other Emergency Services.

ESN will transmit fast, safe and secure voice, video and data across the 4G network providing the SFRS with immediate access to life-saving data, images and information on the frontline. Investment in ESN will also mean improvements to 4G network coverage, which will enable 999 calls to be made securely from mobile phones in some of the most remote and rural parts of Scotland.

ESN's high-speed mobile technology will mean communication between the Emergency Services will take priority over all other network traffic, even at peak times in busy urban locations. Other first responders will be able to share vital data, information and expertise quickly and securely from the frontline when it is needed most. ESN will deliver:

- Secure and resilient critical communications the Emergency Services can trust to keep them safe;
- A modern voice and data platform which will enable the Emergency Services to improve front-line operations; and
- A common platform to enable the Emergency Services to work more closely together for data sharing in emergencies.

The SFRS has been involved in ESMCP since 2013 and will continue to integrate and build secure and resilient mission-critical communications for use in the future operational environment in conjunction with our partners.

## Digital Fireground Radios

We will identify our next generation of fireground radios to enhance Firefighter Safety utilising new technology to improve audio quality, provide an extended battery life and look at options such as emergency alarms, GPS positioning and voice recording.

## Unmanned Aerial Vehicle

We will continue to build on the Service's intention to provide remote and on scene incident monitoring to support operational response by providing enhanced visual information.

## Incident Video Streaming

Research and trialling of technology such as body-worn cameras and 360 video, which utilises cameras from the ground, aerially and below water to provide visual displays in real-time to support mobilisation of resources and remote incident support to and from Incident Support Rooms.

## New Technology In-Vehicle Solutions

Embedding and developing new systems to support receipt of risk critical information en route and on the incident ground ensuring compatibility with the new Command and Control System and ESMCP.

## 4.7 Wildfire

Wildfires can occur anywhere across the geographic area of the SFRS. Wildfire is a generic term used to describe incidents of a large land based nature.

These include fires that may involve all the major vegetation types found in Scotland i.e. moorland, heather, gorse, grass, forestry and natural woodland.

The implementation of a National Wildfire Strategy, and its inclusion in our Operational Strategy, will meet the risks posed by Climate Change in Scotland, and will be achieved through:

- Research supporting developments in Wildfire management, training and operational procedures and advances in PPE and equipment;
- An enhanced response to Wildfires in Scotland through the implementation of a tiered classification of stations for Wildfire response; and
- Roll-out of new specialist vehicles and training and deployment of Tactical Advisors.

The proposed overarching SFRS strategy for Wildfire is that, through partnership working, a comprehensive approach to prevention will be established that reduces the number and severity of Wildfires in Scotland.

In addition, the SFRS response to Wildfire incidents is state of the art, acknowledging and utilising the experience, skills and equipment that the land management industry has to offer.

## Our Objectives

### A Tiered Response to Wildfire

We will develop a framework that facilitates a risk based approach for an effective and efficient Wildfire response across Scotland.

This approach will have 4 levels of skills ranging from general awareness to Tactical Adviser:

- Level 1 – All operational personnel
- Level 2 – Stations with an identified Wildfire risk and Community Response Units
- Level 3 – Specialist Wildfire Response Units
- Level 4 – Tactical Adviser

### Wildfire Response Stations

The identification of 10 stations as a Wildfire specialist response (Level 3). These stations will be aligned to the areas that have the highest risk of Wildfire according to historical incident data.

Level 3 stations will be supported by 15 Level 2 stations. The Level 2 stations includes a number of Community Response Units which play an important role in remote rural resilience.

### Training

We will undertake training to support an effective Wildfire response. This tiered response will facilitate the safe deployment of first responders to ensure a safe initial response.

This will then be augmented by specialist teams with enhanced skills and equipment who can implement more advanced tactics.

## Wildfire Vehicles

Procurement of a standardised vehicle provision for Level 3 response stations that will carry the equipment and personnel.

This will consist of:

- A 4x4 vehicle with a towing capacity, with a separate, covered load bay; and
- A trailer carrying an ATV which has a load bay for the transportation of equipment to remote locations.

## Air Support

In conjunction with partners, exploring the possibility of utilising budget for the provision of helicopters that can be accessed by the SFRS to allow the Service to request and control helicopters at incidents.

## Community Asset Register

The CAR has proven to be an excellent resource for identifying and accessing assets used at Wildfires. Further and continued expansion of the Register to add to available resources and to encourage appropriate registration of future suitable assets will be explored and invested in.

## Wildfire Tactical Advisers

Alignment with the NFCC Wildfire pathway for Tactical Adviser. When trained, Tactical Advisers can be deployed on scene, within an Incident Support Room or in a mutual aid role across the country.

## Wildfire PPE and Equipment

We will identify lightweight PPE that provides the correct level of protection at Wildfires and initiate a review of the location and type of Wildfire equipment across the Service.

## Wildfire Partnership Working

We will review existing partnership working and look to new opportunities for engagement with various agencies and groups in the rural and land management sectors to capitalise on their existing networks, expertise and influence.

This will not only enhance SFRS response, but provide a strong platform for preventative work. Understanding that landowners and workers play an important role in the management of Wildfires, we will look to develop effective partnership working to ensure any Wildfire response is co-ordinated and that protocols are put in place.

A standard Wildfire Plan will be developed for every estate across Scotland and all landowners encouraged to maintain these.

This information will be collated as Operational Intelligence allowing a comprehensive nation-wide understanding of risk to be developed. In conjunction, with the Scottish Wildfire Forum, the SFRS are well placed to progress this.



# 5 Redesign of the Operational Landscape

## 5.1 The Future State - Realising Our Aspirations

In addition to providing a modern and iterative plan for operational response, our Operational Strategy, identifies areas where the SFRS will devote resource and energy to lead the way across the fire and rescue landscape.

Elements of three areas identified at sections 5.2 - 5.4 of this document are reflected in the Strategy's six Concepts of Operations.

These three areas also take cognisance of wider challenges and opportunities for the Service, and contain potential for significant organisational development, improvement and true innovation.

As the SFRS has always done, the Service will continue to work collaboratively with other fire and rescue services, national organisations and programmes such as the National Fire Chiefs Council (NFCC) and National Operational Guidance (NOG), representative bodies and other Emergency Services partners to modernise response and share best practice.

Where before we have worked collaboratively, the SFRS will, in our Strategy, bring a focus and draw on our diverse and innovative workforce to create cross-organisational Project Teams co-ordinated by the Operations Function that will:

- Work across the six Concepts of Operations to bring a strategic short, medium and long-term focus to these key themes;
- Identify a plan for each, providing options for the future and a roadmap to implementation;
- Inspire innovation and lead the way in these fields, reviewing traditional approaches and applications;
- Co-ordinate with like-minded partners to undertake research involving, not just other Fire and Rescue Services and emergency responders, but also, relevant and related industry, academia and community resources; and
- Report on these strategies through our governance process.

The three areas identified within this Strategy are:

- A Sustainable Future for Operational Response;
- The Breathing Apparatus Wearer and Innovation; and
- Trauma and Medical Emergencies - New Risks and Opportunities.

## 5.2 A Sustainable Future for Operational Response

The SFRS will, from an operational response perspective, take the next step to realise the SFRS Climate Change Response Plan 2045.

We will do this within our Strategy, mainstreaming all activities to ensure there is a consolidated approach to energy management and carbon reduction across all operational assets.

To achieve this, we will commit to actively working with partner agencies, suppliers and higher education institutes to explore research and development opportunities.

In doing so, the Service will lead the way in identifying innovative solutions for carbon reduction within all areas of operational response.

Renewable technology, driven by Climate Change and the world's response to global warming through the systemic use of fossil fuels, has in the past decade moved at a pace that reflects the potential environmental and human impact of this issue.

Every organisation, industry and area of society has been impacted by, and will continue to be, influenced to a significant degree by reform to governmental policy to mitigate and reverse the effects of Climate Change.

The Fire and Rescue Framework for Scotland 2021, Strategic Priority 4 - Climate Change, challenges the SFRS to 'continue working with other Public Sector partners and communities to support action to address the climate emergency including the challenges of more extreme weather events... SFRS's corporate response to the Climate Emergency should include, for example, commitment towards transitioning over to ultra-low emission fleets'.<sup>7</sup>

The SFRS fully endorse and support Scottish Ministers in outlining that a key focus within all SFRS Strategic Plans, should continue to be, to deliver a world class and sustainable Service, enhancing partnership working and responding to the increasing climate emergency.

Specifically, they have set out two requirements of the SFRS:

1. Provision of an efficient and effective operational service from SFRS to all Scottish communities, with particular regard for the distinct impacts the climate emergency is having and will continue to have on those communities, with the lowest impact upon the environment; and
2. Action regarding what more SFRS can do as an organisation to reduce its emissions, and increase Scotland's climate resilience in our transition to Net Zero.

Renewable technology, driven by Climate Change and the world's response to global warming through the systemic use of fossil fuels, has in the past decade moved at a pace that reflects the potential environmental and human impact of this issue.

Every organisation, industry and area of society has been impacted by, and will continue to be, influenced to a significant degree by reform to governmental policy to mitigate and reverse the effects of Climate Change.

In Scotland, an estimated 284,000 homes and premises are at risk of flooding, with an additional 110,000 properties at risk by the 2080s.

<sup>7</sup> The Fire and Rescue Framework for Scotland 2021, Strategic Priority 4 - Climate Change

The SFRS has prioritised resources and aligned itself with the Scottish Government's aim to achieve the ambitious target for Scotland to achieve Net Zero carbon emissions by 2045, (5 years before the rest of the UK), through:

- Committing to a Service Climate Change Response Plan;
- A pledge to reduce carbon emissions by 6 per cent each year until 2030 (this is equivalent of an 80% overall reduction in our emissions);
- An annual budget that supports the delivery of our Carbon Management Plan which is supplemented by the Scottish Government's Green Public Sector Estate Decarbonisation Scheme; and
- The creation of an Environment and Carbon Management Board which oversees our carbon reduction programme.

The Service's fleet, equipment and property have historically been designed around the use of high carbon gas, oil and diesel. These assets will be transformed to allow them to either use low carbon energy or be replaced by a range of new assets designed around low carbon energy use.

This process requires the transformation of almost all SFRS assets and represents a huge task for the Service. Fossil fuelled vehicles are one of the primary sources of carbon production and in 2021, our heavy (>3.5 tonnes), light response and white fleet represented 37% of the Service's carbon footprint.

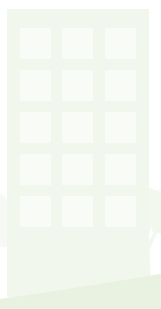
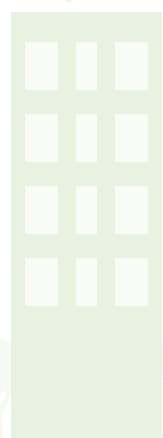
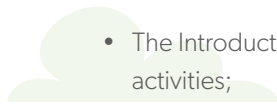
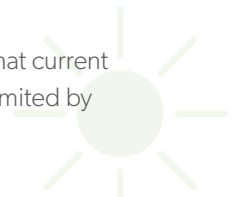
At a time when legislation is driving the replacement of internal combustion engine vehicles with electric vehicles, this presents a challenge to the SFRS in procuring new assets and ensuring best value.

This challenge is compounded by the fact that current prototype low emission fire appliances are limited by range and this entire field is in its infancy.

Given the interim target of reaching a 75% reduction in only ten years, we must take all conceivable action and explore all available options.

The Service have made inroads to meet Scottish Government's targets of phasing out internal combustion vehicles and moving to electric vehicles (EVs) by 2030 already, through:

- The Introduction of electric vehicles for non-response activities;
- A network of EV charge points across Scotland;
- Committing to grow our EV network as funding becomes available; and
- Participating in a project to develop a prototype low carbon emissions fire appliance.



In other areas of the Service, the SFRS has achieved a 15% reduction in carbon emissions, which has largely been enabled by the delivery of cleaner grid energy sources.

Plans and future initiatives for the SFRS include:

- Investing in technologies such as solar panels, smart heating controls and biomass boilers which will allow our buildings to be more energy efficient;
- Reducing paper use by recycling wherever possible in our buildings, and adopting a digital first approach;
- An energy saving campaign across our fire stations; and
- Providing staff with information, policies and procedures to enable them to make changes to working practices and behaviours that will result in reduced carbon emissions.

To build on the work already underway across the Service, the Operational Strategy will commit to reflect this approach within operational response to support the drive to Net Zero.

As a Service, we have already seen the effects of Climate Change, with increases in severe weather-related incidents. These increases are predicted to continue.

The way Scotland will power domestic, commercial and industrial buildings and develop new technology in the aviation industry and road network, allied to increases in alternative technologies such as solar, geothermal, bioenergy, hydropower and onshore wind, also provide an opportunity for the SFRS, to:

- Play a leading role in the organisation's drive to Net Zero by 2045; and
- Plan for, and design, an operational response model that will meet the challenges of new technology across all sectors and areas of life within a changing Scotland.

Examples of how Scotland's technologies, and the risk profile to the SFRS, will change, are:

- Ineos has announced it will invest £1bn in cutting greenhouse emissions at its petrochemical plant in Grangemouth and move to power the plant with hydrogen made from natural gas, whilst capturing carbon dioxide;
- The UK Government's Hydrogen Strategy plans for up to 35% of the UK's energy consumption to come from hydrogen by 2035;
- The UK Government's Ten Point Plan for Climate Change will deliver new and advanced nuclear power and invest in carbon capture, usage and storage; and
- The phasing out of gas boilers for heating homes, and from 2025, the introduction of renewable heating systems in all new build homes.

New technology and the way we design our operational response traverses all six Concepts of Operations within this Strategy.

Recent examples of how we have started on this journey to respond to Climate Change and increased risk from weather related events include:

- Flooding and Water Rescue, through:
  - The upscaling of SFRS Water Rescue capabilities and the recent introduction of 20 new boats and equipment; and
  - Flood Risk Management Plans for 19 stations to enable crews to react to flood events.
- The implementation of a National Wildfire Strategy, to be delivered over three years, which considers the increased risk due to Scotland's changing climate, and includes:
  - Research supporting developments in Wildfire management, training, operational procedures and advances in PPE and equipment;
  - An enhanced response to Wildfires in Scotland through the implementation of a tiered classification of stations for Wildfire response;
  - Roll-out of new specialist Wildfire vehicles; and
  - Training and deployment of Tactical Advisors.

Other recent examples of how within operational response the SFRS is supporting Climate Change and the move to Net Zero are:

- During 2018/19, 34 Rapid Response Units (RRUs) were strategically located across Scotland. The use of these vehicles, which are smaller and lighter than traditional appliances, has resulted in significant savings in the volume of fuel that is used when responding to incidents, and as a result, a reduction in CO2 emissions;
- Procuring new technology fire blankets to sustainably and safely extinguish fires in electric vehicles, (first deployed at the Conference of the Parties Climate Change Summit (COP26). SFRS are the first UK Fire and Rescue Service to utilise these; and
- The establishment of an SFRS Contaminants Group to drive organisational change to reduce the risk to firefighters from contamination in the course of their operational duties through changing culture, operational practices and introducing initiatives such as clean appliance cabs and station zoning.

The Scottish Government's commitment to reduce carbon emissions by 75% by the year 2030, allied to the lifespan of SFRS assets, represents an increase in risk to the organisation.

The level of funding that will be required to enable SFRS to meet this 2030 objective and become a net zero carbon organisation by 2045 will be challenging using existing funding streams.

Our Operational Strategy will identify opportunities to lead on the drive to Net Zero. It will stay at the forefront of environmental change across Scotland and the corresponding changes to society and embed this within our future response model.

We will do this through:

- Influencing and supporting User Intelligence Groups in the sourcing of assets, vehicles and equipment, ensuring that suppliers support operational response and make use of the latest technologies to reduce emissions and support the Service's drive to Net Zero;
- Providing oversight and making interventions to embed carbon reduction across all Service Delivery activities including operational response and Prevention and Protection;
- Influencing our suppliers to reduce emissions and waste, both in their manufacturing and packaging, as well as in their transport and logistics;
- Supporting research and scoping of equipment and techniques that will promote a long-term aspect to response and explore research and development that accesses grant funding opportunities from Scottish and UK Government;
- Identifying opportunities to co-locate with partners and expand the EV charging network;
- Identifying opportunities within operational response research and development, aligned with, the SFRS Digital Strategy, to decrease our carbon footprint;
- Sourcing fleet and equipment such as 4x4 vehicles, that can adapt to meet the challenges presented by more frequent weather extremes, such as increased flooding risks and extreme winters;
- Continuing to work in collaboration with partners and communities to ensure collective resources jointly tackle issues caused by the climate emergency and to protect those citizens at greatest risk; and
- Signposting change and reporting on our progress through the SFRS Environment and Carbon Management Board.



## 5.3 The Breathing Apparatus Wearer and Innovation

The SFRS will create a Working Group to review and research opportunities for our next generation of BA equipment and procedures to identify and implement opportunities to enhance PPE, technology and operational practices.

This Group will look at all aspects of BA within the SFRS and the wider fire and rescue landscape, to pro-actively identify opportunities for innovation to inform the SFRS' procurement of new BA Sets.

The Group will also take a wider approach, reviewing procedures and new technology and exploring options for enhanced levels and types of respiratory protection. This includes research into potential advanced options and models of BA Sets.

By focusing on BA operations, the SFRS retains its commitment to Firefighter Safety, understanding this operational activity remains the single most potentially hazardous in the operational environment.

The SFRS published its Breathing Apparatus Policy and Operational Guidance (BA POG) in December 2017. This document superseded Technical Bulletin 1/1997, and provided the SFRS with a national standardised framework for BA operations at a time when National Operational Guidance (NOG) were undertaking a peer review of BA for UK fire and rescue services. The BA POG was subsequently endorsed and adopted by NOG as best practice.

The introduction of the BA POG delivered on the organisation's commitment to facilitate the drive towards common principles, practices and procedures for BA across Scotland and raised the bar in the key areas of operational response and Firefighter Safety.

Through the adoption of new advances in technology, such as Ultra High Pressure Firefighting Systems, the Service has reduced risk at compartment fires, reducing exposure to heat and the products of combustion to crews when compartment firefighting.

The SFRS are committed to this approach, and whilst retaining this commitment, the SFRS is aware that there foreseeably remains, within operational response, a need for BA to be deployed to enter buildings to extinguish fires and undertake search and rescue activities.

There exists an opportunity within the UK fire and rescue community to undertake a wide ranging and holistic review of BA. A sample of other industries evidences regular review and updating of technology, equipment and techniques, particularly where they support a risk critical activity.

Opportunities for modernisation and innovation include:

### BA Sets

Our BA Sets are safe, fit for purpose and meet all required standards for effective use at incidents. Recent years have seen developments and improvements in the materials involved in their construction.

Composite cylinders make BA Sets lighter for the wearer however, further technologies should be explored to upgrade this vital lifesaving equipment.

The modern BA Set has little significant difference to the BA set used 25 years ago. The use of recent technology, such as telemetry and body temperature monitoring systems, remains underutilised. Integrated communication systems are available.

Opportunities for looking at new radio communications technology for use within BA operations are available and should be explored.

Hands free integrated thermal imaging is an aspect that supports safer compartment firefighting and is an avenue also to be explored.

## BA Guidelines

Guidelines were introduced in 1943. In 1969, Fire Service Circular 46/69 provided a standard specification and procedures for the deployment of Guidelines, and this specification and its operational procedures have remained largely unchanged since then. Guidelines exist as a procedure within the Foundation for Breathing Apparatus but are not detailed anywhere as a control measure for any activity within NOG.

BA Guidelines, whilst providing a safe system of work, do not provide a modern means of supporting operational activities in large or complex structures with limited visibility.

A number of UK fire and rescue services have removed BA Guidelines, citing the training commitment and high levels of skill decay, yet there has been no subsequent upgrade or replacement of this equipment.

## Thermal Imaging

The use of hands-free thermal imaging equipment allows firefighters the use of their hands for personal protection, carrying firefighting media and locating casualties.

Various methods of locating thermal imaging equipment on equipment and PPE e.g. helmet-worn exist, and the benefits of this are easily recognised.

## Search Procedures

Feedback from the Operational Strategy Survey highlights a number of respondents have indicated that BA search and rescue techniques have not been recently reviewed and updated and this is an area with potential for exploration.

The examples above are readily identified and simple areas for exploration. More options exist to look at new technology and techniques within BA operations.

Taking confidence from the fact that the SFRS broke new ground in the review and development of BA policy and procedures with its BA POG, this places the Service in a position with a proven track record of innovation in this area, and a springboard to include BA as an area of focus in this Strategy.



Whilst BA operations will be reviewed within the Firefighting Concept of Operations, where this maps across other Concepts of Operations in the Strategy, is the potential use of BA and Respiratory Protective Equipment (RPE) in National Fire Resilience (Scotland) activities.

These include Chemical, Biological, Radiological and Nuclear (CBRNe) incidents and Urban Search and Rescue (USAR) and Rope Rescue operations, where rescues may be required in irrespirable atmospheres.

The role of this Group is to be forward looking with a view to the Service's procurement process for the next generation of BA Sets. Recognising the importance of this risk critical equipment, the Group will research, report on and advise on all aspects of BA with the view to informing the organisation as to the options and opportunities for innovation in this field.

We will do this through:

- Extensive research of new technologies that support BA operations and take a joined up and holistic approach to integrated safety and use of communications systems in next generation BA Sets;
- Taking a collegiate approach to research and evaluation of ancillary and BA related equipment to inform User Intelligence Groups to ensure compatibility and use of this equipment in the BA environment e.g. fireground radios and personal torches;
- Researching options for enhanced capability BA sets for introduction alongside our next generation Sets;
- Identifying options for enhanced command and control at incidents involving BA, such as, the development of BA Sector Command Boards and related procedures;
- Reviewing BA search procedures, BA Entry Control procedures and equipment for casualty removal. In addition, options for techniques to support deep penetration into buildings and associated equipment e.g. BA Guidelines;
- Looking at new and innovative options for RPE that will support future operational response; and
- Enhancing Firefighter Safety through the use of biotelemetry and alternative technologies that monitor the health of BA teams within the risk area and support BA wearer safety.

## 5.4 Trauma and Medical Emergencies - New Risks and Opportunities

The SFRS will create a Working Group to forward plan and continue the development of its trauma care and medical knowledge at operational incidents to provide personnel with the equipment and training to meet the changing needs of operational response.

As well as looking at opportunities to keep crews safe at incidents and improve outcomes for our communities, the Service will continue in its commitment to work with partners to deliver the Scottish Government's Out of Hospital Cardiac Arrest Strategy 2021-2026.

The number of incidents the SFRS are attending where casualty care is required to be administered by SFRS personnel has increased significantly over the last decade.

Also increasing are the occasions where crews responding to incidents not fire related are first in attendance without the immediate support of the SAS.

This is common to many UK fire and rescue services, but where there is a difference to the SFRS, is, as a national organisation, the Service responds to emergencies in a country which has large and extensive remote rural areas.

With the Service's large station footprint, this presents both challenges and opportunities for the Service.

The Fire and Rescue Framework for Scotland 2022 directs the SFRS to 'give consideration to integrating emergency response provision, including medical response, in a holistic way, taking into account the broader aims and aspirations of the Scottish Government to integrate public service provision.'<sup>8</sup>

The upskilling of operational personnel in medical care has evolved, through limited local training with the SAS and operational experience.

There is, however, an opportunity for the SFRS to take the next step, by undertaking a detailed analysis of the existing and upcoming challenges to support trauma and patient care and incorporating it within our Strategy.

The direction set by Scottish Government is to assist our partners meet the needs of Scotland's communities in a nation where people are living longer and care is increasingly community based for much of its vulnerable population.



<sup>8</sup> The Fire and Rescue Framework for Scotland 2022, Strategic Priority 4 - Modernisation and Expansion of the Firefighter Role

Increases in operational activity where the SFRS are required to treat casualties and patients, and therefore opportunities to enhance response and identify options to progress our knowledge and skills include:

### Effecting Entry

Historically the SFRS have forced entry to lockfast premises for the purpose of locating and extinguishing fire.

With the move from a Fire Service to a Fire and Rescue Service, this operational activity has seen significant increases in requests for the Service to support.

The combination of the balanced footprint the Service has across Scotland, allied to the fact that Scotland has large rural regions out with the country's central belt and some distance away from SAS resources, has resulted in an uplift of the requirement for the SFRS to force entry without the SAS in attendance. On these occasions, SFRS personnel have provided trauma and medical care and have saved lives.

With this type of incident increasing year on year and Scotland's population enjoying greater life expectancy, requests for our personnel to assess, treat and make medical interventions will continue to rise.

### Bariatric Care

The increasing number of occasions the SFRS are requested to support the SAS, care providers and local authorities with the rescue of bariatric patients provides an opportunity for a review of mutual support arrangements, provision of dedicated equipment and training with partners to enhance response at this type of incident.

### Marauding Terrorist Attack

In recent years, the UK has experienced a number and range of terrorist attacks, Scotland has not been immune.

Recognition that a multi-agency approach is the most appropriate and effective way to respond to these events has seen the SFRS plan and prepare for future events through the creation of dedicated MTA stations with trained personnel located strategically across Scotland.

The role of the SFRS, in conjunction with emergency partners, is the assessment, treatment and removal to a place of safety for casualties at MTAs. This new role has seen the sourcing and provision of new equipment and trauma supplies to support this recently adopted and vital area of future operational response.

The next step is to further develop new skills and look at options for training, new lifesaving equipment and casualty extrication techniques to further prepare the Service.

This next step will also inform other areas of acute casualty and patient care that will be transferrable to the wider firefighter role.

## Out of Hospital Cardiac Arrest

With the publication of the Scottish Government's Out of Hospital Cardiac Arrest Strategy 2021-2026, the SFRS will continue its collaboration with the Emergency Services and other partners including third sector organisations, to deliver on the Save a Life for Scotland (SALFS) campaign.

The key strategic aims of SALFS are promoting Cardio-Pulmonary Resuscitation (CPR) readiness in young people and communities and shaping perceptions of OHCA among people living in Scotland. Within our Operational Strategy.

The SFRS will continue to look at new ways to work with partners on a range of interconnected projects to improve OHCA survival rates nationally and regionally and to upskill our personnel within other core operational activities such as casualty care at Road Traffic Collisions.

The role of this Group is to research and advise on future trauma and patient care and provide options to safeguard our personnel undertaking operational response.

Additionally, we will identify options to support our partners to provide the best outcomes possible where we respond to incidents where trauma and medical care is required to save life.

We will do this through:

- Continuing the Service's commitment to Firefighter Safety through the provision of training and equipment to respond to injuries and medical situations that may affect our personnel in the operational and training environment;
- Looking at options to place our personnel in the best possible position to make meaningful medical interventions at incidents through training and provision of new equipment and the repurposing of existing equipment;
- Research and development of new technology to ensure our Trauma Packs and related medical equipment is state of the art;
- New opportunities to co-locate, train and work with emergency partners to support operational response; and
- Looking at further initiatives and opportunities to work with partners to deliver on the Scottish Government's OHCA Strategy 2021-2026 through the SALFS campaign.





# 6 The Operational Strategy and Governance

## 6.1 Governance and Strategy Management

Governance, as a framework to apply and maintain corporate control in the implementation of the Strategy, provides a basis for the management of risk and the measurement of performance.

The principles of good governance are set out here and will be reviewed throughout the programme.

### Our governance principles are:

- **Values based**  
Our Operational Strategy must reflect our values of Safety, Teamwork, Respect and Innovation.
- **Clarity**  
Governance operates with clear purpose, authority and accountability.
- **Empowerment**  
The responsibility for making decisions is matched with the authority to enact them and encourages end-user engagement.
- **Alignment**  
Governance is not an end, but how the organisation will implement its Operational Strategy and support its Strategic Priorities.
- **Engagement and Consultation**  
To engage with our internal stakeholders and external partners on the impact of our proposals to inform decision making.
- **Excellence**  
Commitment to excellence underpins our governance and we strive for continuous improvement.



Governance for the Operational Strategy will integrate into existing organisational arrangements, with the addition of the Service Delivery Directorate Management Team (SD DMT) as the first level in this process.

SD DMT and Asset Management Liaison Board (AMLB) meet monthly and are established forums. SD DMT has representation from Heads of Function across Service Delivery and AMLB is cross-representative of all Directorates and departments of the SFRS.

SD DMT brings together the Service Delivery structures to ensure business continuity and Firefighter Safety, supporting LSOs in the delivery of operational response. AMLB supports all work streams with an asset request or impact and has a proven track record.

It provides a foundation for sustainable success and influences inputs and support from all levels of the Service. We will review the Terms of Reference of AMLB to support alignment of organisational plans with future change activities identified within SIPs.

Though good governance practices, we will provide the framework for planning, implementation and monitoring of performance of the Operational Strategy and report on its progress to the Senior Management Board (SMB) and the Strategic Leadership Team (SLT).

Day to day Strategy management will be undertaken by the Operations Function. With a department dedicated to Operational Strategy and Development, this team will co-ordinate all aspects of Strategy implementation and work closely with engaged partners to:

- Develop SIPs;
- Undertake research and development activities with a focus on innovation;
- Co-ordinate the Strategy project teams; and
- Update SD DMT on Strateg objectives.



# 7 SFRS Operational Strategy on a Page

## Our Vision and a New Approach

### Shaping our Strategy



Flexible and Risk Based



Digital First Approach



People and Culture

### Develop Concepts of Operations



Appliances and Equipment



Firefighting



Height



National Fire Resilience (Scotland)



Wildfire



Operational Communications

## Identify Areas of Focus

### Redesign of the Operational Landscape



Sustainable Approach to Operational Response



The BA Wearer and Innovation



Trauma and Medical Emergencies  
New Risks and Opportunities



## Effective Governance



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SFRS Operational Strategy 2022-32

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