



Essex County  
Fire & Rescue Service

# **Risk Based Inspection Programme**

## **2020 – 2024**

**Profiling Risk in Regulated Premises**

**ECFRS Protection Methodology**

## Document Version Control

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## Introduction

Essex County Fire & Rescue Service (ECFRS) has undertaken a review of its Risk Based Inspection Programme (RBIP), formerly its Fire Safety Activity Programme (FSAP).

This programme is intended to assist people inside and outside the Service to understand how fire safety risk is identified and protection activity targeted in regulated premises across Essex which are regulated under the Regulatory Reform (Fire Safety) Order 2005 (the Order).

## Scope

These regulated premises include all buildings used for a commercial purpose, or for public use, as well as the areas within residential buildings which are shared by more than one household.

As at March 2020 there are approximately 34,000 premises within Essex that fall in scope of the Order.

The RBIP forms just one strand of the Protection strategy, there are many other tasks undertaken by the ECFRS Technical Fire Safety (TFS) Officers, these include:

- Statutory Consultations e.g. Building Regulations, Planning Applications, Licensing Applications
- Post Fire Investigation
- Alleged/emerging Fire Risk
- Operational Fire Safety Activity
- Enforcement Activity

## Definitions

<b>AddressBase</b>	The Ordnance Survey national gazetteer of all UK Postal addresses.
<b>Attribute</b>	A feature of a premises which has influence on the likelihood a fire may occur or the degree of harm that may be sustained in the event of a fire.
<b>(the) Authority</b>	The Essex Police, Fire and Crime Commissioner Fire and Rescue Authority (EPFCC). The body with a statutory duty to enforce the provisions of the Regulatory Reform (Fire Safety) Order 2005 (RRFSO). (Also the Enforcing Authority).
<b>CRM</b>	Management Information System used by ECFRS TFS Department.
<b>Dwelling</b>	A domestic premises as defined in Article 2 of the RRFSO.
<b>Harm</b>	The adverse impact on life safety of Relevant Persons.
<b>Likelihood</b>	The relative probability that an event will occur based upon local historical data from the preceding three years.
<b>Protection Risk Model</b>	The ECFRS model that incorporates a risk profile and RBIP of all regulated premises in Essex.
<b>Regulated</b>	A premises to which the RRFSO is applicable.
<b>Relevant Person</b>	Relevant Persons as defined in Article 2 of the RRFSO.
<b>Risk</b>	A combination of likelihood and severity; the likelihood that a fire will actually cause harm, together with a measure of effect.
<b>Risk Based Inspection Programme</b>	Pre-planned fire safety visits based upon the Protection risk profile.

<b>Risk Data Capture</b>	An activity whereby information is collected and recorded forming the foundation of risk profiling.
<b>Risk Profile</b>	The value assigned to one or more premises record(s) allowing comparison between individual premises, types of premises or geographic locations.
<b>(the) Service</b>	the Essex County Fire & Rescue Service (also ECFRS)
<b>Severity</b>	A value representing the potential maximum harm in the event of a fire.

### **Risk Based Inspection Programme**

The ECFRS RBIP identifies those premises which will be subject to a pre-planned visit by ECFRS personnel in order to check compliance with the requirements of the RRFSO. Premises will be selected based upon the risk profile of the premises. This is assessed from consideration of the use of the premises, historical data of fires at those premises and previous compliance with the RRFSO.

When considering risk, this RBIP is concentrating on the risk to life safety of relevant persons, which is the focus of the RRFSO. This is a departure from the previous Fire Safety Activity Programme, which considered other factors, including Emergency Responders, Economic, Environmental, Social Community and Heritage. This will enable resources to more accurately target those premises where the public are at risk from fire.

### **Thematic Inspections Programmes**

From time to time, it is acknowledged that incidents or occurrences locally, nationally or even internationally will raise awareness of issues that may have an impact on premises and therefore the safety of persons within Essex.

In such circumstances, consideration will be given to the implementation of a thematic inspection programme in order to ensure that the risk in those premises is reduced to an acceptable level.

Thematic inspections have been implemented within Essex in recent years, e.g. High Rise Residential Buildings following Grenfell, Escape Rooms following the fire in Koszalin, Poland and University Buildings following the fire in student accommodation in Bolton.

### **Enforcement**

ECFRS regard activity from fire safety inspections through to audits as enforcement activity, as the purpose of these activities is to engage with those with a statutory responsibility for fire safety in order to check compliance with the RRFSO and to provide advice and information as appropriate. Officers will, where possible work with those responsible for premises to ensure that premises are compliant with the requirements of the RRFSO in order to keep relevant persons safe from fire. In situations where we are unable to resolve issues informally, or those issues are so serious as to pose a risk to relevant persons of injury or risk to life, then we will take any appropriate formal enforcement action. The levels of enforcement are listed below in ascending order, although dependent on circumstances and severity of any issues identified it is possible that enforcement activity may commence at the formal stage.

## **Informal Enforcement**

- Advise, Educate and Inform
- Notification of Deficiencies

## **Formal Enforcement**

- Enforcement Notice
- Prohibition Notice
- Prosecution

## **Profiling Risk from Fire**

A Fire Hazard is defined as a source, situation or unsafe act, with the potential to result in a fire.

Fire Risk is also defined as, a combination of the likelihood of the occurrence of a fire and consequence(s) (number and severity of injuries) likely to be caused by a fire.

The risk from fire profile described in this document is derived from assessing the likelihood of a fire occurring in a premises, based upon data of fires that have occurred in types of premises (weighted dependent on the severity of injury caused), and assigning a value of potential harm to each premises based on its use/ attributes. Data used for the assessment will be from the preceding three years.

Having assessed the likelihood and potential harm, the level of risk can be assessed using the matrix method, and those premises presenting a higher risk level can be prioritised.

## **Capturing data**

In order to create a risk profile, data must be recorded. Data collected by staff, partners or other agencies, or obtained via (up to date) datasets, provides the most accurate basis for calculations.

TFS staff provide the very best data when they collect information as part of 'risk data capture' activities during fire safety visits.

Not all premises have been or ever will be visited and there may be no other data source to confirm the individual attributes that a premises has. In order to run a Protection Risk Model (PRM) and create a risk profile where attributes have not been validated, assumed values are assigned. These assumed values are a default given to every new premises and remain until overwritten as data is acquired.

## **AddressBase Data**

Previous iterations of the FSAP/RBIP have been based upon data held on the CRM system used by TFS Officers. This RBIP has been adapted to utilise AddressBase. The benefit of this is that AddressBase is updated every six weeks with data from local authorities in relation to premises within their respective areas.

AddressBase is a product from Ordnance Survey, which provides users with a gazetteer of all postal addresses. It is the most comprehensive and reliable database of properties available to the Service.

Addressbase is continually updated; the custodian, responsible for the currency and accuracy of the dataset is the local authority.

### Utilising the regulated premises risk profile

The risk profile described enables ECFRS staff to target fire risk with a high level of effectiveness. It also supports evidence-based decisions involving the allocation of resources by team managers, the directorate and the Service.

The ECFRS Protection Risk Model therefore gives effect to:

- a. A Risk Based Inspection Programme (RBIP)
- b. Establishing an evidence-based team size disposition for the medium and longer term.
- c. Allocation of available staff and other resources to risk reduction for shorter term activity (thematic reviews etc.)

### ECFRS Protection Risk Model

The Protection Risk Model is built using multiple data sets as set out below.

#### Historic Risk of fire

This will be calculated from the preceding three years data for each premises type, with a weighting applied to each fire based on Table 1, below:

**Table 1**

<b>Historic Fire Risk</b>	
<b>Unwanted Fire Signal (no of false alarms/no. of premises x 1)</b>	<b>1</b>
<b>Fire (no of fires/no. of premises within classification x 50)</b>	<b>50</b>
<b>Fire Involving Persons (no. of fires/no. of premises within classification x 50)</b>	<b>50</b>

#### Enforcement Action

This will be calculated from the preceding three years data for each premises with a weighting applied based on the severity of the level(s) of enforcement taken against the premises type, based on Table 2, below:

**Table 2**

<b>Historic Enforcement Outcome</b>	
<b>Advise, educate &amp; inform</b>	<b>+0</b>
<b>Notification of deficiencies</b>	<b>+0</b>
<b>Enforcement Notice</b>	<b>+5 per case</b>
<b>Prohibition Notice</b>	<b>+5 per case</b>
<b>Prosecution</b>	<b>+5 per case</b>

## Building Occupancy Attributes

Table 3 below shows the types of premises and their associated risk groups based upon their attributes from the Chief Fire Officers Association<sup>1</sup>

**Table 3**

<b>Risk Groups</b> (derived from the IRMP Note 4 and 17 FSEC categories)				
<b>Groups</b>	<b>Group A</b>	<b>Group B</b>	<b>Group C</b>	<b>Group D</b>
<b>FSEC Code</b>	<b>Sleeping Unfamiliar (x100)</b>	<b>Sleeping Familiar and Licensed Premises (x75)</b>	<b>Public Unfamiliar (x25)</b>	<b>Workplace Familiar (x10)</b>
<b>A</b>	Hospitals			
<b>B</b>	Care Homes			
<b>C</b>	HMO			
<b>D</b>		Flat		
<b>E</b>	Hostel			
<b>F</b>	Hotel			
<b>G</b>		Converted Flat		
<b>H</b>	Other Sleeping			
<b>J</b>			Further Education	
<b>K</b>			Public Building	
<b>L</b>		Licensed Premises		
<b>M</b>			School	
<b>N</b>			Shop	
<b>P</b>			Other Public Building	
<b>R</b>				Factory
<b>S</b>				Office
<b>T</b>				Other Workplace

<sup>1</sup> CFOA – Fire Safety Guidance Notes and Audit – Version 4.3 (November 2015)

## Strategic Weighting and Overall Severity

Resulting from the risk model an overall risk value is assigned to each regulated premises. These values are then mapped against Table 4 to ascertain what level of activity at which frequency will be undertaken by the Service.

**Table 4**

<b>TFS Risk Descriptor</b>		
<b>Level</b>	<b>Description</b>	<b>Activity/Frequency</b>
<b>Very High (Risk Score ≥100)</b>	Data indicates that a very high number of fires have occurred in these premises. Data or local knowledge indicates that malicious fire setting is a problem in this area. High levels of non-compliance with RR (FS) O and enforcement Specific aspects of construction, occupancy, use or processes give rise for serious concern.	Full Audit by Technical Fire Safety Officers/Annually
<b>High (Risk Score ≥50- &lt;100)</b>	Data indicates that a high number of fires have occurred in these premises. Above average non-compliance with RR (FS) O and enforcement activities. Specific aspects of construction, occupancy, use or processes give rise for concern.	Audit by Technical Fire Safety Officers/Once every 2 years. This could be a Full Audit, A Short Audit or a Desktop audit. Based upon Inspectors judgement and history of compliance.
<b>Medium (Risk Score &gt;25 - &lt;50)</b>	Data indicates that medium number of fires have occurred in these premises. Evidence of compliance with RR (FS) O and low if any enforcement activities Specific aspects of construction, occupancy, use or processes give some cause for concern	Fire Safety Check by Operational Crews/Once every 4 years
<b>Low (Risk Score 0-&lt;25)</b>	Data indicates that low number of fires have occurred in these premises types. Evidence of compliance with RR (FS) O negligible enforcement activities Specific aspects of construction, occupancy, use or processes give little cause for concern	Targeted education through the Business Engagement Officer



### Essex Fire Risk Model

Total number of regulated premises as at April 2020, 33,636.

### TFS Risk Descriptor

Level	Type of Premises	Risk Score	No. in Essex	No. in Total	Activity / Frequency
Very High $\geq$ 100	High Rise 10+ floors	236.88	8	<b>1114</b>	Full Audit By Technical Fire Safety Officers Annually
	Hospital / Hospice	110.4	53		
	Hotel/Motel	105.5	128		
	Care / Nursing Home	100.1	663		
	Boarding / Guest House / Bed And Breakfast / Youth Hostel	100.0	83		
	Holiday Let/Accommodation/Short-Term Let Other Than CH01	100.0	145		
	Holiday / Campsite	100.0	27		
	Hotel / Motel / Boarding / Guest House	100.0	7		
High <100 - $\geq$ 50	High Rise 4-9 Floors	88.38	94	<b>2639</b>	Audit by Technical Fire Safety Officers Bi-Annually. This could be a Full Audit, A Short Audit or a Desktop audit. Based upon Inspectors judgement and history of compliance.
	Restaurant / Cafeteria	60.3	1284		
	Communal Residence	59.3	39		

	Public House / Bar / Nightclub	55.3	660		
	Fast Food Outlet / Takeaway (Hot / Cold)	50.4	562		
Medium <50 - ≥25	Sheltered Accommodation	50.0	858	16214	Fire Safety Check by Operational Crew/ Desktop/ Site Visit Once Every 4 years
	HMO Bedsit / Other Non Self Contained Accommodation	50.0	131		
	HMO Not Further Divided	50.0	695		
	Other Licensed Premise / Vendor	50.0	378		
	House In Multiple Occupation	50.0	37		
	HMO Parent	50.0	363		
	Residential Education	50.0	114		
	Licensed Private Members Club	50.0	130		
	Airfield / Airstrip / Airport / Air Transport Infrastructure Facility	40.8	9		
	Car / Coach / Commercial Vehicle / Taxi Parking / Park And Ride Site	40.1	10		
	Shop / Showroom	30.1	9812		

Bingo Hall / Cinema / Conference / Exhibition Centre / Theatre / Concert Hall	26.5	31
Station / Interchange / Terminal / Halt	26.0	49
Place Of Worship	25.9	110
Dentist	25.2	262
Indoor / Outdoor Leisure / Sporting Activity / Centre	25.2	568
Public / Village Hall / Other Community Facility	25.2	334
General Practice Surgery / Clinic	25.1	379
Marina	25.1	7
Harbour / Port / Dock / Dockyard / Slipway / Landing Stage / Pier / Jetty / Pontoon / Terminal / Berthing / Quay	25.1	13
Museum / Gallery	25.0	41
Petrol Filling Station	25.0	150
Amusements	25.0	26
Mooring	25.0	1
Bank / Financial Service	25.0	258

	Market (Indoor / Outdoor)	25.0	12		
	Automated Teller Machine (ATM)	25.0	3		
	Transport	25.0	30		
	NULL	25.0	324		
	Cemetery / Crematorium / Graveyard. In Current Use.	25.0	8		
	Retail	25.0	876		
	Zoo / Theme Park	25.0	6		
	Arena / Stadium	25.0	1		
	Church Hall / Religious Meeting Place / Hall	25.0	89		
	Castle / Historic Ruin	25.0	6		
	Medical	25.0	20		
	Library	25.0	73		
Low <25 - 0	Recycling Plant	23.4	14	13771	Targeted Education
	University	16.4	8		
	Power Station / Energy Production	16.3	8		
	Office / Work Studio	15.0	3806		
	Farm / Non-Residential Associated Building	11.5	270		
	College	11.0	47		

Other Educational Establishment	10.7	79
Secondary / High School	10.6	115
Children's Nursery / Creche	10.2	272
Factory/Manufacturing	10.2	748
Preparatory / First / Primary / Infant / Junior / Middle School	10.1	523
Warehouse / Store / Storage Depot	10.1	2429
Workshop / Light Industrial	10.1	3722
Ambulance Station	10.0	35
Police / Transport Police / Station	10.0	34
Cattery / Kennel	10.0	35
Animal / Bird / Marine Sanctuary	10.0	5
Wholesale Distribution	10.0	46

<b>Incinerator / Waste Transfer Station</b>	10.0	4
Slaughter House / Abattoir	10.0	1
Broadcasting (TV / Radio)	10.0	7
Vet / Animal Medical Treatment	10.0	86
Office	10.0	201
<b>Gas / Oil Storage / Distribution</b>	10.0	2
Coastguard Rescue / Lookout / Station	10.0	3
Lock-Up Garage / Garage Court	10.0	4
Maintenance Depot	10.0	23
Medical / Testing / Research Laboratory	10.0	17
Animal Services	10.0	31
Equestrian	10.0	75
Community Service Centre / Office	10.0	103

Goods Freight Handling / Terminal	10.0	30
Storage Land	10.0	10
Vehicle Storage	10.0	31
Fire Station	10.0	51
Lifeboat Services / Station	10.0	2
Tourist Information Signage	10.0	3
General Storage Land	10.0	147
Builders½ Yard	10.0	15
Special Needs Establishment.	10.0	22
Professional Medical Service	10.0	61
Animal Centre	10.0	1
Retail Service Agent	10.0	645

### **Audit outcomes/scorings**

During each premises audit assessments are made against each Article within the RRO. Table 5 below indicates the weighting of scores applied to different categories of premises dependent upon the Article.

**Table 5**

<b>Weighting/ Score Awarded to Articles</b>
<b>Safety Critical Articles/Risks</b>

Article Number	Description	Group A	Group B	Group C	Group D	Level of Deficiency/ Risk
		Sleeping Unfamiliar	Sleeping Familiar and Licensed Premises	Public Unfamiliar	Workplace Familiar	
8	General Fire Precautions	13	13	8	5	Major
		7	7	4	3	Minor
9	Risk Assessment	10	10	10	10	Major
		5	5	5	5	Minor
10	Principles of Prevention	5	5	5	5	Major
		3	3	3	3	Minor
11	Fire Safety Arrangements	5	3	2	2	Major
		3	2	1	1	Minor
12	Dangerous Substances	5	5	5	5	Major
		3	3	3	3	Minor
13	Fire Warning/ Alarm	26	13	13	13	Major
		10	5	5	5	Minor
14	Emergency Routes and Exits	26	26	20	13	Major
		10	10	8	5	Minor
15	Procedures for Imminent Danger	5	3	2	2	
17	Maintenance	15	15	10	8	Major
		7	7	4	3	Minor
21	Training	6	4	2	2	Major
		3	2	1	1	Minor
38	Maintenance of Firefighters measures	3	3	3	3	
<b>Other Articles/ Risks</b>						
Article Number	Description	Group A	Group B	Group C	Group D	Level of Deficiency/ Risk
		Sleeping Unfamiliar	Sleeping Familiar and Licensed Premises	Public Unfamiliar	Workplace Familiar	
13	Firefighting Equipment	1	1	1	1	
16	Additional Measures – Dangerous Substances	1	1	1	1	
18	Safety Assistance	1	1	1	1	
19	Information to Employees	1	1	1	1	
20	Information to employers from outside undertakings	1	1	1	1	
22	Co-operation and co-ordination	2	2	2	2	
23	Employees Duties	1	1	1	1	
37	FF switches for Luminous tubes	1	1	1	1	
<b>Maximum Score</b>		<b>128</b>	<b>109</b>	<b>89</b>	<b>77</b>	

**Risk Scoring Matrix for Enforcement Activity**



A total score for a premises will be attained through Audit activity using Table 5 above. The total score will then be referenced to Table 6 to ascertain the relevant level of enforcement activity that is required. The enforcement activity is a recommendation and the TFS Officer has discretion to exercise professional judgement when deciding upon the level of enforcement to be imposed.

**Table 6**

<b>Scoring Matrix</b>		
<b>Score</b>	<b>Compliance Level</b>	<b>Recommended Action</b>
<b>0-25</b>	<b>1</b>	<b>Broadly Compliant - FS02 A letter of compliance</b>
<b>26-35</b>	<b>2</b>	<b>Inform and Educate – FS02 or FS03 (Notification of Deficiencies) Based upon Inspecting Officers Discretion</b>
<b>36-45</b>	<b>3</b>	<b>Notification of Deficiencies - FS03 or Enforcement Notice, Based upon Inspecting Officers Discretion</b>
<b>46-55</b>	<b>4</b>	<b>Enforcement Notice/Prohibition Notice</b>
<b>56+</b>	<b>5</b>	<b>Fast track enforcement Notice (consider prosecution)</b>

### **Audit / Inspection Capacity**

Technical Fire Safety Officers will audit very high-risk premises on an annual frequency and high risk on a bi-annual frequency. Table 7 below shows the predicted levels of Audits to be carried out per Officer. The difference between Audits conducted by Watch Managers and Green Book Officers is due to line management responsibilities and other activities such as Day Duty Officer Riding) DDOR, Control Commitments and Fire Investigation.

**Table 7**

<b>Audits by Protection Officer</b>			
<b>Officer Type</b>	<b>Number of Officers</b>	<b>Audits per Month per Officer</b>	<b>Number of Annual Audits</b>
Watch Manager	8	6	576
Green Book Inspecting Officer	15.4	10	1848
		<b>Total</b>	<b>2424</b>

**Table 8**

<b>Station Based Inspections</b>			
<b>Crewing System</b>	<b>Number of Appliances</b>	<b>Audits per Month per Appliance</b>	<b>Number of FS040</b>

			Inspections Per Year
Wholetime	18	28	6048
On Call	38	3	1368
		<b>Total</b>	<b>7416</b>

Station Based Inspections are calculated aligned to current agreements for operational personnel to undertake Prevention and Protection activity. Due to the change of crewing of Day Crewed Stations to On Call, the calculations in Table 8 are based on the Day Crewed Stations being On Call. There is additional capacity based on the maximum possible number of inspections that could be conducted by operational crews, when compared to the actual number of Medium risk premises that require inspecting over the four-year period. This is to allow flexibility for incidents and other station-based activities.

The Business Engagement Officer will work across all premises types to raise awareness of fire safety.

### **Performance/Reporting/Governance**

Performance against the risk-based inspection programme will be reported to the Service Leadership Team and Performance and Resource Board through the quarterly performance reports.

### **Review cycle of RBIP**

The RBIP will be subject to an annual review, which will coincide with the assessment of Risk to inform the RBIP for the following year. In addition to an annual review, the ECFRS TFS team will need to constantly review information provided through the Home Office, MHCLG and NFCC in relation to fire safety legislation and enforcement guidance which is likely to change in the short term as a direct result of the Grenfell fire in 2017.

### **Relevant Legislation**

The Regulatory Reform (Fire Safety) Order 2005

The Fire & Rescue Services Act 2004

### **Horizon Scanning**

ECFRS TFS has recently recruited new personnel against existing vacancies, which totalled in excess of 30% of the department's establishment. New staff training/induction is due to begin in January 2020. The training mentoring of new staff will take on average 2-3 years for those officers to attain competence (BTEC Level 4 Diploma Fire Safety). The mentoring and workplace training will be undertaken by existing TFS officers and this will impact the number of audits they are able to complete.

Additionally, it is recognised that significant numbers of experienced existing TFS Team members are eligible to retire within the next 12 months which could significantly impact the capacity of the Department to inspect premises. A succession plan is in place and is currently under review.

As part of 5 national work streams set up by the NFCC, one of the work streams deals specifically with RBIP's. The Eastern Region NFCC has set up working group to develop a regional approach to Risk Based Inspection Programme. Essex TFS Officers are engaged in this Group and are feeding back information both from this group and other groups from across the Country which are also tackling the RBIP issue. ECFRS will assess the RBIP's that are developed, and guidance/ recommendations produced by NFCC with a view to ensuring best practice.

NFCC are exploring a national definition of what constitutes a high-risk premises.

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