



Home Office

Publishing Incident Recording System data on the fire and rescue service at an Incident Level:

Domestic Appliance Fires Dataset Guidance

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1 Background

Data Quality

Incident records in the Incident Recording System (IRS) are the responsibility of and quality assured by Fire and Rescue Services (FRSs). The Home Office and FRSs work together to improve the data within the IRS and minimise any inconsistencies or errors. However, as the IRS was not designed with record level datasets in mind, a very small number of previously unidentified inconsistencies have been discovered ([see project overview for further detail](#)).

IRS incident records are a judgement call of the lead fire officer at the time of the incident. The quality of the information provided by fire and rescue services is variable and its accuracy cannot be guaranteed, especially at a record level, for instance some records involve estimation by those in attendance.

Dataset rationale

When asked, FRSs said that domestic appliance fires was one of the most common topics covered by Freedom of Information requests they received. We reflected this by publishing this dataset in 'Tranche One' and updating it towards the start of the annual round of updates since. The Home Office has, and will continue to, engage with stakeholders, such as statistical users and FRSs, to gauge opinion on the most useful datasets to publish.

Dataset definition

The domestic appliance fires dataset covers incidents attended by FRSs that were primary dwelling fires in England where the source of ignition was a domestic appliance. The Home Office only has jurisdiction for fire policy in England and has therefore published incident data for England only.

A domestic appliance is defined as one of the following "Cooker incl. oven", "Ring/hot plate (separate appliance)", "Microwave oven", "Grill/Toaster", "Barbecue", "Camping stove", "Other cooking appliance", "TV", "Audio equipment", "PC equipment (domestic use)", "Video/DVD", "Washing machine", "Tumble dryer", "Vacuum cleaner", "Iron", "Extractor fan", "Dishwasher", "Electric blanket", "Hair dryer", "Electric kettle", "Blow lamp/Paint remover", "Gardening equipment", "Other domestic style appliance", "Fridge/Freezer", "Other electrical visual equipment", "Battery charger", "Spin dryer", "Washer/Dryer combined" or "Deep fat fryer".

A dwelling is defined as "a property that is a place of residence i.e. occupied by households". The definition includes residential homes, sheltered accommodation, caravans, houseboats and Houses of Multiple Occupancy (HMO) but it does not include hostels, hotels and residential institutions, bed and breakfast establishments, nursing/care homes and student halls of residence. Fires in common areas of flats (such as stairs) are included.

Fires in derelict dwellings are only included if they are considered a primary fire (i.e. the fire involved a fatality, casualty or rescue or the fire was attended by five or more

pumping appliances). Derelict dwellings are defined as those unfit for further use; awaiting demolition or under demolition.

The data in this dataset are consistent with records that reached the IRS by 14th June 2020.

2 Variable by variable – Scene Setting

Variable Name:	FRS_NAME
Variable Description:	The FRS in which the dwelling fire took place
IRS Question:	1.6

The Fire and Rescue Service (FRS) refers to the territory in which the incident took place, not necessarily the FRS which responded. Occasionally an FRS will respond to an incident “over the border”, because of this users should be careful about making general comments about particular FRSs as some incidents may have been responded to by other FRSs. This dataset only covers incidents that took place in England.

Due to data protection issues we have merged Isles of Scilly data with Cornwall, as the number of domestic appliance fires in Isle of Scilly is minimal. Figures for Dorset and Wiltshire, who merged into one FRS on 1st April 2016, are presented as merged throughout the whole time span.

Variable Name:	E_CODE
Variable Description:	The E Code of the FRS
IRS Question:	1.6 (based on)

The standard National Statistics code (E Code) of the Fire and Rescue Service (FRS) in FRS_NAME. In this case the code for Cornwall has been used for the Cornwall and Isles of Scilly combined FRS.

Variable Name:	FINANCIAL_YEAR
Variable Description:	The financial year the dwelling fire took place
IRS Question:	2.1 (based on)

A financial year runs from 1 April to 31 March. Record level information is published from 2010/11 - although the IRS began in April 2009 there are a few minor issues with the 2009/10 records which mean that while statistics at higher levels are robust some of the incident level records are not of a sufficient quality to publish. Incidents are allocated to financial year depending on the time of the call, which is usually collected through automatic systems, so for example an incident where the call was made at 23.59 on March 31st 2010 but the incident was closed at 01.34 on April 1st 2010 would be allocated to 2009/10 not 2010/11.

3 Variable by variable - Situation

Variable Name:	DWELLING_TYPE
Variable Description:	The type of dwelling the fire was in
IRS Question:	3.2

The domestic appliance fires dataset only covers primary fires, this excludes derelict dwellings unless five or more pumping appliances attended the incident or it resulted in a fatality, casualty or rescue. The definitions used for this variable are those used in the [Census 2011](#) and are consistent with [FIRE0205](#).

There are eight possible answers to this variable (“Bungalow - single occupancy”, “Converted Flat/Maisonette - single occupancy”, “Dwelling - Multiple occupancy”, “House - single occupancy”, “Other dwelling”, “Purpose Built High Rise (10+) Flat”, “Purpose Built Medium Rise (4-9) Flat” and “Purpose Built Low Rise (1-3) Flats/Maisonette”.

Variable Name:	DOMESTIC_APPLIANCE_TYPE
Variable Description:	The domestic appliance that was the source of ignition
IRS Question:	8.4

This variable contains options that best describe the appliance, installation or other source of ignition. The domestic appliances included in this variable are “Cooker incl. oven”, “Ring/hot plate (separate appliance)”, “Microwave oven”, “Grill/Toaster”, “Barbecue”, “Camping stove”, “Other cooking appliance”, “TV”, “Audio equipment”, “PC equipment (domestic use)”, “Video/DVD”, “Washing machine”, “Tumble dryer”, “Vacuum cleaner”, “Iron”, “Extractor fan”, “Dishwasher”, “Electric blanket”, “Hair dryer”, “Electric kettle”, “Blow lamp/Paint remover”, “Gardening equipment”, “Other domestic style appliance”, “Fridge/Freezer”, “Other electrical visual equipment”, “Battery charger”, “Spin dryer”, “Washer/Dryer combined” and “Deep fat fryer”.

Variable Name:	MM_CODE
Variable Description:	The three letter code of the make/model of the domestic appliance that was the source of ignition.
IRS Question:	Based on 8.2

This variable is a three letter code for the make and/or model of the faulty appliance or equipment that was the source of ignition for the fire. The question from the IRS that this variable is based on is only asked when the cause of fire was recorded as a piece of faulty appliance or equipment or a faulty lead to that appliance or equipment. It is a free text box, so this has been converted into a usable format for this exercise. The question is not mandatory and in some cases the make/model would not be identifiable by FRSs. The quality and extent of the make/model information provided by FRSs is variable and its accuracy cannot be guaranteed. Recorded incidents do not include judgments on whether the cause of the incident related to the make/model (either its manufacture or maintenance), other circumstances or a combination of those factors. This information should not,

therefore, be used in isolation to make judgments about the safety of particular makes/models.

Variable Name:	MM_FULLNAME
Variable Description:	The full name of the make/model of the domestic appliance that was the source of ignition.
IRS Question:	Based 8.2

This variable is the full name for the make and/or model of the faulty appliance or equipment that was the source of ignition for the fire. The question from the IRS that this variable is based on is only asked when the cause of fire was recorded as a piece of faulty appliance or equipment or a faulty lead to that appliance or equipment. It is a free text box, so this has been converted into a usable format for this exercise. The question is not mandatory and in some cases the make/model would not be identifiable by FRSs. The quality and extent of the make/model information provided by FRSs is variable and its accuracy cannot be guaranteed. Recorded incidents do not include judgments on whether the cause of the incident related to the make/model (either its manufacture or maintenance), other circumstances or a combination of those factors. This information should not, therefore, be used in isolation to make judgments about the safety of particular makes/models.

4 Variable by variable – the fire

Variable Name:	ACCIDENTAL_OR_DELIBERATE
Variable Description:	Whether the incident was recorded as an accidental or deliberate fire
IRS Question:	5.15

A deliberate fire is a fire believed to have been started deliberately such as suspected arson and some fires started by children, psychiatric patients, suicides and attempted suicides. Accidental fires include those where the motive was recorded as “not known”. Whilst we would not expect the fires for “deliberate fires” to match precisely the [published figures for arson](#) in the tables from the Crime in England and Wales statistical release, we would expect “deliberate fires for dwellings, other dwellings and vehicles” to be similar to the arson figures.

Variable Name:	CAUSE_OF_FIRE
Variable Description:	The main cause of the fire
IRS Question:	8.1

This variable contains options that best describe the main cause of the fire. FRSs are not necessarily certain that the fire was due to the cause given, only that the cause was one that could be reasonably supposed, given the evidence available. The cause may change as more evidence through a fire investigation becomes available.

Variable Name:	IGNITION_POWER
Variable Description:	What powered the ignition of the fire
IRS Question:	8.5

This variable contains options that best describe the main source of the ignition’s power. It is not necessary to be certain that the fire was due to the power given, only that the power was one that could be reasonably supposed, given the evidence available. The cause may change as more evidence through a fire investigation becomes available.

5 Variable by Variable - resourcing

Variable Name:	VEHICLES
Variable Description:	The number of fire service vehicles that attended the incident
IRS Question:	6.2

The total number of FRS vehicles that attended the incident. This includes all types of vehicle, for example hazardous materials units, fire boats and canteen vans would be included in this total. Large numbers are grouped for ease of use and to reduce the personal data risk of incidents being matched across datasets. For example there is likely to be few incidents attended by 47 vehicles and this could be matched to other datasets containing this variable but grouping these in the “15 or more” grouping makes this impossible.

Variable Name:	VEHICLES_CODE
Variable Description:	A code to help users analyse data
IRS Question:	6.2

Because some of the options in the vehicles variable contains letters (e.g. 15 or more) this code has been added after feedback from users to aid analysis. 99 is used for “don’t know”.

Variable Name:	PERSONNEL
Variable Description:	The number of fire crew and officers that attended the incident
IRS Question:	Combination of 6.1 and 6.4

The number of FRS personnel that attended the incident on fire service appliances or by other means (e.g. their own vehicle, on foot). Large numbers of personnel are grouped for ease of use and to reduce the personal data risk of incidents being matched across datasets. For example, there are likely to be few incidents attended by 147 officers and this could be matched to other datasets containing this variable but grouping these in the “40 or more” grouping makes this impossible.

Variable Name:	PERSONNEL_CODE
Variable Description:	A code to help users analyse data
IRS Question:	Combination of 6.1 and 6.4

Because some of the options in the personnel variable contains letters (e.g. 40 or more) this code has been added after feedback from users to aid analysis. 99 is used for “don’t know”.

6 Variable by Variable - outcomes

Variable Name:	FATALITY_CASUALTY
Variable Description:	Whether the incident involved a fatality or casualty
IRS Question:	Combination of 9.6 and 9.21

This records whether the incident involved at least one fire-related fatality or one casualty from the fire.

To be consistent with published statistics the variable combines “fire-related fatality” and “casualty in the fire” (whether fire-related or not). Where “don’t know” is recorded for whether a fatality is fire-related it is included in the fire-related totals. In general, ‘fire-related fatalities’ are those that would not have occurred had there not been a fire. Casualties include those with injuries requiring hospital attention, those requiring first aid at the scene and those given advice to have precautionary checks (whether they then take that advice or not).

Variable Name:	FIRE_DAMAGE_EXTENT
Variable Description:	The total horizontal area damaged by the flame and heat (sq. m) at the stop of the fire.
IRS Question:	8.24

The total horizontal area damaged by the flame and/or heat (in square metres) at the stop of the fire.

Where an incident was due to fire spread, the extent of all the area affected is included. Where both the floor and ceiling are damaged in a room only that which had the greater amount of damage is included. The total aggregate of all horizontal damage is recorded, e.g. if three floors are damaged, the total area is given. Vertical surfaces (e.g. walls) that were damaged in the fire are not included, but the horizontal area occupied by damaged contents is included.

Where the horizontal area damaged was zero, this includes where damage was confined to vertical surfaces. A very small area would be included in ‘up to 5 metres squared’.

Variable Name:	FIRE_DAMAGE_EXTENT_CODE
Variable Description:	A code to help users analyse data
IRS Question:	8.24

Because all of the options in the time at scene variable contains letters (e.g. Up to 5) this code has been added after feedback from users to aid analysis.

7 Summary statistics

The number of domestic appliance fires in England decreased by 21 per cent between 2010/11 and 2019/20. The table below shows the number of domestic appliance fires by appliance type over the time covered by this release.

DOMESTIC_APPLIANCE	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
England	19,067	18,780	17,988	17,311	17,167	17,070	16,332	16,172	15,478	14,977
Audio equipment	21	29	25	18	20	18	17	12	16	15
Barbecue	69	74	59	96	66	77	87	88	124	89
Battery charger	24	38	37	55	72	79	67	91	71	60
Blow lamp/ Paint remover	110	129	87	130	89	93	53	81	60	58
Camping stove	33	27	32	49	39	40	36	40	44	37
Cooker incl. oven	9,723	9,707	9,426	9,109	9,227	9,113	8,692	8,656	8,291	8,001
Deep fat fryer	223	236	212	202	202	181	196	212	182	186
Dishwasher	406	440	383	391	356	253	307	265	210	194
Electric blanket	83	84	88	75	48	59	51	31	44	25
Electric kettle	28	29	21	21	37	22	33	33	22	19
Extractor fan	150	162	187	194	171	163	179	185	183	182
Fridge/ Freezer	267	301	297	265	275	226	218	206	229	215
Gardening equipment	5	6	3	5	6	4	7	7	6	15
Grill/ Toaster	2,325	2,183	2,027	1,926	1,840	1,890	1,615	1,570	1,425	1,368
Hair dryer	52	52	36	54	50	57	48	48	35	48
Iron	77	97	67	71	52	48	38	54	44	36
Microwave oven	1,021	1,030	1,017	1,008	1,039	1,034	1,000	988	1,000	922
Other cooking appliance	315	358	264	238	197	208	199	209	221	235
Other domestic style appliance	334	289	170	147	116	148	134	117	154	145
Other electrical visual equipment	31	21	21	17	20	24	20	13	15	10
PC equipment (domestic use)	46	37	47	43	26	37	60	67	53	50
Ring/ hot plate (separate appliance)	2,163	2,040	1,933	1,823	1,793	1,858	1,697	1,654	1,629	1,581
Spin dryer	61	53	72	50	46	46	35	44	44	49
Tumble dryer	611	539	705	590	681	684	808	727	638	668
TV	166	159	111	86	68	65	51	56	63	32
Vacuum cleaner	19	23	22	19	27	19	18	26	16	43
Video/ DVD	8	8	5	5	5	5	2	6	4	2
Washer/ Dryer combined	87	76	88	68	64	80	67	86	71	68
Washing machine	609	553	546	556	535	539	597	600	584	624



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