



Office for Product
Safety & Standards

Fireworks Evidence Base

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The Office for Product Safety and Standards Fireworks Evidence Base

Introduction

1. Following an e-petition debate on 26 November 2018, which called for a ban on the sale of fireworks to the public, the Office for Product Safety and Standards (OPSS) was tasked with developing a fact-based evidence base.
2. OPSS is the national regulator for product safety. It is part of the Department for Business, Energy and Industrial Strategy (BEIS), and is responsible for pyrotechnics (fireworks) policy and legislation. This is in relation to the sale and use of fireworks, as well as product safety matters.
3. There is a comprehensive legislative framework regulating the manufacture, storage, supply, possession and use of fireworks in England, Wales and Scotland. While the product safety and sale of fireworks is reserved to Westminster, their misuse and discharge is a devolved matter to Scotland. Scotland has its own regulations which restrict firework use. Northern Ireland has its own fireworks regulatory framework and does not fall within this work.
4. The issues and concerns that have been raised about fireworks and their use extend beyond OPSS' specific responsibilities with a number of government departments also involved. For example:
 - a. the Home Office is responsible for anti-social and nuisance behaviour and crime statistics through the Anti-social Behaviour, Crime and Policing Act 2014;
 - b. the Health and Safety Executive is responsible for the safe storage and licensing system for fireworks through the Explosives Regulations 2014; and
 - c. the Department for Environment, Food and Rural Affairs is responsible for regulating noise, including that caused by fireworks constituting a statutory nuisance through the Environmental Protection Act 1990.
5. This report sets out what the objectives of the evidence base were, who OPSS has engaged with, and the data we have received.

Purpose, aim and objectives

6. OPSS is the national regulator for product safety, it is responsible for leading and co-ordinating the product safety system. It was created to deliver effective and trusted regulation for consumer products, while ensuring the legislative framework it works within is effective and proportionate. Ensuring consumers are kept safe when using products is its priority. To deliver this, businesses need to understand and meet their legal and regulatory obligations.
7. The Government is responsible for ensuring that its policy making is based on evidence. Having listened to the concerns voiced through a number of e-petitions, parliamentary debates and directly with the Department via correspondence, OPSS has developed this evidence base on the key issues that have been raised.

OPSS Fireworks Evidence Base

8. We have developed the evidence base by:
 - drawing on existing data, literature, and research; and
 - undertaking stakeholder engagement with a wide range of organisations and groups, inviting them to submit data they can collate or have access to that is not available to OPSS or is not publicly accessible.
9. The aim has been to seek evidence around the key issues raised in petitions, correspondence and debate. These are:
 - Market related information
 - Noise
 - Injuries and accidents
 - Anti-social behaviour and illegal activity
 - Environmental information
 - Intelligence related to non-conformity and non-compliance with product requirements
 - International comparisons
10. Once data and information are collated, the government can then consider:
 - What is the problem?
 - Is the issue product safety focused or is it, for example, irresponsible use, or a lack of education and awareness?
 - What is the scale of the problem; is it a national or regional issue?
 - Are there any gaps in information requiring further work?
 - Does the evidence support a change in policy?

Stakeholder engagement

11. OPSS has engaged with a wide range of stakeholders, with the aim of ensuring the evidence base reflects as wide a range of evidence and perspectives as possible. This includes government departments, Local Authorities including trading standards teams, the fireworks industry, charities, and organisations that represent individuals and advocate for animal safety, the Armed Forces, and the retail sector.
12. Stakeholders were invited to share information that they held, that may not be otherwise publicly available, in the hope that this data might provide insight into firework sales, use and issues. It should be noted that not all the stakeholders OPSS engaged with provided any further data or information, but all data that has been received has been republished as part of this report.

Stakeholders OPSS engaged with

- Association of Convenience Stores (ACS)
- Battersea Dogs & Cats Home
- Black Cat Fireworks Ltd
- Blue Cross
- Bright Star Fireworks
- British Fireworks Association (BFA)
- British Horse Society (BHS)
- British Pyrotechnics Association (BPA)
- British Retail Consortium
- British Veterinary Association (BVA)

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- National Fire Chiefs Council
- Civil Aviation Authority
- Dogs Trust
- Fully Fused Fireworks
- Health and Safety Executive - Explosives Policy Team
- Home Office
- Just FX
- Kennel Club
- Local Government Association
- National Farmers' Union
- North Yorkshire County Council Trading Standards
- Red Wings
- Royal Society for the Prevention of Accidents (RoSPA)
- RSPCA
- Soldiers, Sailors, Airmen and Families Association
- STAR Fireworks Ltd
- Suffolk County Council Trading Standards Service
- TNT Fireworks
- Trading Standards Fireworks Enforcement Liaison Group
- Worcestershire County Council Trading Standards

Data and information collated

13. The following report sets out a summary of the data and information OPSS has received from stakeholders following our engagement with them, along with any further reports, research, or studies. The full set of data in the evidence base can be accessed via this link:

<https://www.gov.uk/government/news/fireworks-evidence-base>

Market related information

14. **Suffolk County Council Trading Standards Service** operate the Fireworks Importation Notification System (FINS). This is where importers of goods must notify HMRC of their name and the address of the storage destination for imported consignments. The FINS report for Quarter 3 2019 indicates 113 consignments were imported, containing over 1000 tons of explosives, which were transported to 31 local authorities. (Source: SCC Quarter 3 Evaluation – October to December 2019).
15. **The British Pyrotechnics Association (BPA)** estimates that around 14 million people in the UK attend organised displays each year, and that approximately 5,500 public firework displays were carried out by BPA members in 2018 (Source: Briefing paper – BPA 2019).
16. **Bright Star Fireworks and the British Fireworks Association (BFA)** estimate that 10 million people buy and use fireworks per annum. (Source: Written evidence submitted by Bright Star Fireworks (FWS0250) to Petitions Committee inquiry).

17. **The Royal Society for the Prevention of Accidents (RoSPA)** survey was carried out in October 2018. It canvassed the views of 2,003 people aged 18+ on public attitudes to fireworks. It found that 62% of those surveyed did not think enough firework safety information is publicly available and that 53% do not recognise that CE markings on fireworks demonstrate that the product has been tested to the required essential safety standard. (Source: RoSPA survey by Atomik Research).
18. **Association of Convenience Stores (ACS)** data estimates that 7% of the 46,262 convenience stores in the UK have a fireworks licence. (Source: ACS Local Shop Report).

Noise

19. **The Royal Society for the Prevention of Cruelty to Animals (RSPCA)** paper on the impact of fireworks/noise on animal welfare, dated July 2019, looks at fireworks and animal welfare. The RSPCA support measures which help ensure people can enjoy fireworks responsibly, while mitigating potentially significant animal welfare problems for pets, horses, farm animals and wildlife. (Source RSPCA own paper includes references to other authors).
20. **The British Veterinary Association (BVA)** carried out a survey in December 2018 on use and sale of fireworks. It shows incidents where vets have seen injuries to animals from fireworks. (Source: BVA position paper on the use and sale of fireworks July 2019)
21. **British Fireworks Association (BFA)**, in conjunction with 'UK Firework Review Forum', have provided the responses they received in relation to a Freedom of Information (FOI) request sent to 46 local authorities. The request was for the number of noise complaints made by the public with regard to fireworks and barking dogs. The responses to the FOI request indicate that 276 of the overall 258,482 noise complaints related to fireworks.

Injuries and accidents

22. **The Royal Society for the Prevention of Accidents (RoSPA)** provided information from NHS Digital that relates to A&E statistics on injuries caused by the discharge of a firework. The data is from the Hospital Episode Statistics (HES) data warehouse. HES contains records of all admissions, appointments, and attendances for patients at NHS hospitals in England. (Source NHS Digital).
23. **The Royal Society for the Prevention of Accidents (RoSPA)** submitted a reference to the RoSPA Consumer Safety Product Awareness Programme Report, November 2018. They state that, by working in conjunction with OPSS on a fireworks safety campaign in 2018, they were able to deliver a more in-depth campaign which raised the public's awareness of the need to enjoy fireworks safely and responsibly. The data also includes a survey on public attitudes to fireworks by Atomik Research. (Source: RoSPA report by Sheila Merrill and Adam Grinsell, 2018).
24. **The British Horse Society (BHS)** received reports of 272 incidents in the period 2010 to 2019. BHS states that it wishes to see the public gain a greater understanding of the impact and risks of fireworks on horses. (Source: Submission from BHS).

Intelligence relating to non-conformity and non-compliance

25. **The Civil Aviation Authority ‘Firework Occurrence Summary’ (Jan 2014 – June 2019)**, provides aviation industry information on firework use and its impact on flights. This data includes any occurrence mentioning fireworks’ unlawful interference with an aircraft. It highlights the reporting of 24 occurrences involving fireworks either inside or outside of an aircraft between January 2014 and June 2019. All reported occurrences resulted in zero injuries to either the aircraft occupants or any third parties.

Other

26. **The British Pyrotechnists Association (BPA) and the CBI Explosives Industry Group** provided information around training firework ‘firers’ and Local Authority enforcement officers. This is to raise the level of awareness and to encourage, where applicable, the critical examination of both tender documents and risk management plans that are prepared as part of an overall event licencing regime. (Source: BPA/EIG own paper)

Gaps and further research

Noise

27. We recognise that a key concern is around noise and disturbance and the impact on communities. Noise concerns that have been raised with OPSS centre around:
- the decibel level of fireworks – that 120 decibels is too high, damages hearing, and should be reduced to 90 decibels;
 - that some fireworks being set off do not adhere to the maximum 120 decibel level in legislation (are louder than 120 decibels), and continue to get louder; and
 - that Government should promote silent or low noise fireworks.
28. OPSS has looked to gain evidence around these specific concerns. OPSS has reviewed existing data and produced the **Fireworks Noise levels and Impacts on Health and the Environment** research paper. This is a literature review and is intended to provide a baseline of current scientific knowledge. One of the findings from the review states that, if the operating instructions for fireworks are observed, there should be no permanent damage to hearing. This is, however, distinct from mental health issues, such as stress and anxiety. It also found that evidence around the impacts of fireworks on animal health is inconclusive, and that different species of animals have different sensitivities and responses to noise.
29. In addition, OPSS has commissioned a programme of fireworks testing to determine the average decibel level for common types of retail fireworks sold for public use. This will confirm that fireworks meet the noise provisions in the Pyrotechnic Articles (Safety) Regulations 2015, and, will help to identify which types of fireworks are associated with the highest noise levels, and which have a lower decibel level. This work will be published in due course.

Social media monitoring

30. OPSS has used social media monitoring to examine online fireworks discussions during the 2019 fireworks season. The **Open Source Monitoring Report** examines comparative rates of online discussions for the fireworks periods in 2018-19 with 2019-20. It gathers a flavour of global discussion around issues and concerns about

the use of fireworks, covering topics such as displays, public nuisance, bans, the environment, pets, and animals. The findings suggest an increase in the latest period (up by almost 18%) of general discussion about fireworks.

Scottish consultation on fireworks

31. In 2019, the Scottish Government carried out a consultation seeking views on the use and regulation of fireworks in Scotland. We agreed to consider this consultation as part of OPSS' evidence base work.
32. As part of the consultation, research was conducted using Progressive's Scottish Opinion online omnibus, with a representative sample of the Scottish population. The headline results of the 1,002 responses indicated:
 - 71% would welcome an increase in control over the sale of fireworks in Scotland;
 - 58% would support banning the sale of fireworks to the public;
 - respondents who would welcome a ban highlighted the potential risk of serious injury posed by fireworks, animal safety, and noise/disturbance;
 - while those who would not welcome a ban commented that a ban would infringe on the public's freedom, that fireworks provide a lot of fun/joy for many, and that most people are responsible/few are not;
 - 68% said there should be more control on how fireworks can be used in Scotland;
 - those who would welcome more control on how fireworks can be used mentioned the risk of danger/injury, animal welfare, and noise/disturbances;
 - those who would not support greater controls believed the status quo is adequate, that more control would infringe on the public's freedom, and that there should be more focus on policing current laws.
33. The analysis of responses received to the consultation questions indicate that the issues highlighted in the Scottish survey generally reflected those from the England and Wales survey, including:
 - the impact fireworks can have on pets, wildlife, and livestock. Respondents specifically referenced dogs, cats, and horses, where their concerns centred around the noise made by fireworks and the distress caused;
 - concerns about the length of the fireworks season, that there is a perception they are being used increasingly throughout the year, but mainly between October and January;
 - that fireworks were being set off in inappropriate places, such as gardens in built-up areas or near livestock;
 - concerns about fireworks being used dangerously, including being set off in the street or being used against the emergency services;
 - that some groups may find fireworks distressing, e.g. those with Post-Traumatic Stress Disorder (PTSD), autism and mental health problems;
 - there was also a view expressed that it is neither fair nor reasonable to penalise the responsible majority for the actions of the irresponsible few and that pet

owners need to take responsibility for the care and training of their animals, including ensuring that they become used to loud noises.

34. Following the consultation, the Scottish Government concluded that legislation is only part of the solution and that there are other ways to take action regarding the safe use of fireworks. The Scottish Government published a **Fireworks Action Plan** that includes a range of measures including activities such as raising awareness.

Petitions Committee inquiry

35. In 2019, the House of Commons Petitions Committee carried out an extensive inquiry into fireworks. OPSS agreed to consider this inquiry as part of the evidence base work.
36. In its report, published on 5 November 2019, the Committee concluded it could not support a ban on the public buying and using fireworks. Instead, the Committee considered that other actions would be more appropriate rather than taking legislative action. These actions include carrying out further work with animal welfare experts and developing a public awareness campaign.
37. In its response to the Petitions Committee inquiry, the Government agreed with the conclusion to not further restrict the sale or use of fireworks. The Government's position has been that a ban on the sale of fireworks to the public could have the unintended consequence of pushing the market underground, driving individuals to source fireworks from illegitimate or unsafe suppliers.
38. The Government is taking action to promote the safe and considerate use of fireworks. This includes:
 - developing a public awareness campaign for the 2020 fireworks season;
 - engaging with animal charities to further discuss their work related to animal welfare issues; and
 - engaging with Local Authorities to understand the issues they face with regard to fireworks.

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