

TO: Mayor Savage and Members of Halifax Regional Council

SUBMITTED BY:

Original Signed by 

Jacques Dubé, Chief Administrative Officer

DATE: May 25, 2021

SUBJECT: Silent Fireworks for Municipal Events

ORIGIN

February 25, 2020 Halifax Regional Council motion (Item 15.3.2):

MOVED by Councillor Hendsbee, seconded by Deputy Mayor Blackburn

THAT Halifax Regional Council request a staff report about using Silent Fireworks for municipal events and encouraging other community groups that get municipal funding do the same and further the report also investigate additional cost and possible benefits associated with using silent pyrotechnics over traditional fireworks and include consultation with health care professionals to determine the specific impacts of fireworks on those on the Autism Spectrum and individuals suffering from Post-Traumatic Stress Disorder (PTSD).

MOTION AS AMENDED PUT AND PASSED.

LEGISLATIVE AUTHORITY

Halifax Regional Municipality Charter

Section 61

- (3) The property vested in the Municipality, absolutely, or in trust, is under the exclusive management and control of the Council, unless an Act of the Legislature provides otherwise

Halifax Regional Municipality BY-LAW NUMBER N-200 – RESPECTING NOISE

RECOMMENDATION

It is recommended that Halifax Regional Council direct the Chief Administration Officer (CAO) to:

1. use close-proximity pyrotechnic grade fireworks at municipally organized festivals and events where the audience is less than 90 meters away;
2. use commercial grade for large scale fireworks displays in Halifax Harbour and Bedford Basin where the audience is more than 150 meters away;
3. continue use of the municipality's official notification process through all media platforms indicating potential noise impacts and the timing of events with firework displays; and
4. request proof of community notification from events with fireworks displays as a condition of funding in the Regional Special Events and Marketing Levy Special Events grant agreement process.

BACKGROUND

After the July 1, 2018 Canada Day fireworks display in Bedford Basin, staff were notified by the Councilor that a complaint had been received regarding the level of sound from the fireworks display. The complainant referred to the sounds as "bombs going off" and noted the negative effect on the health of residents suffering from anxiety and post-traumatic stress disorder (PTSD). The complainant was also concerned about the negative effects from these types of celebratory displays on animals in their natural habitats as well as household pets. The topic of "silent fireworks" was put forward as an alternative use for such celebratory occasions.

Staff undertook research into "silent" fireworks with emphasis placed on investigating associated costs and the environmental impacts should they be deemed a justifiable replacement to the fireworks typically used at municipally organized events. Based on factors such as increased costs, negative environmental impacts as well as research showing silent fireworks are in fact not silent, there was no further consideration for the conversion to "silent" fireworks. Subsequently, in February 2020, Regional Council requested staff report on the potential use of "silent" fireworks. Further information has now been gathered on the effects of scheduled and non-scheduled fireworks on individuals who suffer from PTSD, Autism Spectrum Disorder (ASD), hyper-sensitivity, or have a phobia related to loud bangs and who may experience distress when witnessing/hearing fireworks displays.

DISCUSSION

Before public health restrictions associated with COVID-19 caused the cancellations of large-scale events, fireworks displays have been a major highlight in municipally organized annual events including Canada Day, Natal Day, Halifax and Dartmouth Tree Lightings and the New Year's Eve celebrations. There are three (3) types of fireworks used by the municipality:

1. **Commercial grade:** Commercial grade refer to the fireworks that offer multiple effects and height options and require a licensed pyrotechnic technician to fire the display i.e. Canada Day displays;
2. **Consumer grade:** Consumer fireworks are sold for use by the general public and are generally weaker in explosive power; and
3. **Pyrotechnics (Pyro):** Explosions, flashes, smoke, flames, fireworks or other pyrotechnic driven effects used in the entertainment industry are referred to as proximate pyrotechnics. Proximate refers to the pyrotechnic device's location relative to an audience and these effects fire at a lower decibel (dB).

The municipality typically hosts ten fireworks displays annually, and they vary from small-scale consumer grade and pyrotechnic grade shows to large-scale commercial displays (Table 1). Seven of the ten municipal shows are launched from a minimum of 150 meters away from the audience (the length of a CFL football field). The two shows held in Grand Parade are pyrotechnic displays due to the close proximity of the audience. The early evening Family New Year's Eve at the Halifax Common, and Bedford Days use consumer grade fireworks from 150 meters away. Large – scale, commercial displays are used in the Halifax Harbour, Lake Banook and Bedford Basin as they are fired a minimum of 150 meters from the audience. The Halifax shows require a barge placed in the middle of the Harbour between the Halifax and Dartmouth waterfront. In Bedford, a launching site is located 150 m away and blocked from the stage and audience.

Table 1
Municipal Events and Type of Fireworks Used

Event	Type of Fireworks Used
Bedford Days – Kids Kickoff	Consumer
Canada Day – Bedford Days	Commercial
Canada Day – Halifax Harbour	Commercial
Natal Day – Halifax Commons	Consumer
Natal Day – Halifax Harbour	Commercial
Natal Day – Lake Banook	Commercial
Halifax Tree Lighting – Grand Parade	Pyrotechnics
Dartmouth Tree Lighting – Dartmouth	Commercial
Family New Years' Eve – Halifax Common	Consumer
New Years' Eve – Grand Parade	Pyrotechnics

“Silent” Fireworks Technical Information

The term “silent” fireworks is misleading. A report on silent fireworks by the Corporate Policy and Strategy Committee from Edinburgh, Scotland states “*there is no legislative or numerical definition as to what is regarded a “silent” or “quiet” firework, and the fact remains these silent firework displays are neither silent or quiet*”. The fireworks industry will generally describe them [quiet or silent fireworks] as being less than 120 decibel (dB) and to lack the characteristic “bang” of a firework. The noises produced tend to be described as whistles or crackles. Most of the energy from fireworks is in the 125, 250 and 500Hz frequency bands which are much higher than the frequencies normally associated with vibrations. Commercial fireworks have a 2-stage system – a type of mortar which launches the firework into the air and then a second explosion as the firework cracks (Attachment 1).

Pyrotechnics are somewhat quieter than commercial fireworks. Pyrotechnics (pyro) are a single stage system with only the mortar firing, though can still be quite loud. The major difference in dB levels for fireworks is the “bombshells” which cause the most impact during fireworks displays. These bombshells can be used in both pyrotechnics and commercial displays but are typically removed to reduce the sound to create a more “silent” display. There are also shells that are used which have a willow effect and produce less of a loud bang but are not silent.

Staff has not conducted dB tests at municipally organized annual fireworks displays, although as a result of this motion and before COVID-19, staff planned to test the dB at the 2020 Canada Day and Bedford Days shows. However, it should be noted that depending on the weather, the dB level at a fireworks show can vary greatly. The Explosives Regulatory Division regulates the products that are approved for use in Canada, and none used at municipal events reach harmful dB levels for the public at the prescribed distance.

Effects of Fireworks Displays on Individuals with PTSD, ASD, Mental and Sensory Health Conditions

Commentary on the effects of fireworks on individuals experiencing PTSD, mental and sensory health conditions should be presented by health care professionals and those with medical expertise on trauma.

For this reason and as per the motion, in early March 2020 staff contacted the Nova Scotia Public Health Authority to request information on the impacts of fireworks on those with sensory sensitivities. No official statement on the effects of fireworks on the aforementioned demographic was forthcoming. Staff also consulted Autism Nova Scotia, whose response in part states, “*When it comes to firework displays—commercial or residential—inclusion means taking steps to ensure they cause as little stress as possible, such as giving advanced notice and opting for quieter, more sensory-conscious display*”, (Attachment 2).

Staff also consulted the Office of Diversity & Inclusion and the following information has been provided by the Accessibility Advisor:

A key focus in the Office of Diversity and Inclusion is to ensure that public spaces and celebrations are inclusive. Therefore, we recommend the use of silent fireworks as they create a safer environment for individuals with various abilities. For example, in addition to individuals on the autism spectrum, individuals with Post-Traumatic Stress Disorder (PTSD) can experience stress during fireworks as the loud noise can trigger a startle response. It is often easier for these individuals to prepare for scheduled fireworks shows than unplanned ones; however, by using silent fireworks, the degree to which individuals will need to prepare will be reduced. Using silent fireworks can ensure that more residents can safely enjoy the festivities.

Process for Approval

Fireworks fall under the Explosives Regulatory Division of the Federal government. The Explosives Regulatory Division (ERD) aims to protect the safety and security of Canadians and all workers involved in the explosives industry in Canada. ERD ensures that manufacturers, importers, exporters, and vendors of explosives, as well as those who store explosives, comply with Canada’s *Explosives Act* and its regulations. The Federal regulations also provide site safety and setback requirements. The Federal Act sets the minimum standard but allows provinces and municipalities to make their own laws regarding explosives.

The municipality does not have the authority to ban the sale of fireworks. However, the municipality does have the authority to approve pyrotechnics and display fireworks and this authorization is under the purview of the Fire Prevention Division of Halifax Regional Fire & Emergency (HRFE). All applications for commercial fireworks, pyrotechnic, and consumer fireworks must include a site plan to confirm clearances and other hazards, proof of insurance for the display and a list of fireworks to be used. Typically, there is a site inspection by HRFE (and by civic events staff when applicable) prior to the display to confirm the measurements and suitability of the site, and if there is reason to warrant it, an inspection may be conducted for the actual set up and firing of the fireworks

Advance Notification Process

As previously stated, there is a percentage of the population who suffer from PTSD, hyper-sensitivity, or phobias who experience distress when witnessing/ hearing fireworks displays. Implementing an advance notification system can lessen the effects of fireworks on humans, and in some cases when precautionary actions are taken, on household pets. Staff understand from online research that it is not the major fireworks events (holidays, traditions) that may cause trauma. Instead, it is primarily the “unplanned”, surprise displays that happen outside of the major holidays and often held in neighborhoods without advance notice that triggers anxiety, panic attacks or a flashback scenario for combat veterans who suffer with PTSD.

Civic events staff use multiple media channels to advise the public when HRM organized large-scale fireworks displays will take place. An official Public Service Announcement (PSA) is released several days before the event. There is also a specific site within the Civic Events website to address the fireworks cancellation policy and staff submit the annual fireworks schedule for the organized events and updates to 311. Fireworks are promoted on television, radio, newspaper and social media to inform residents. As well, HRM recreation centers and Halifax Public Libraries place official posters and flyers to advise the public of the events. Recently, the LED information screens across the municipality have also been able to be used to promote the events with fireworks.

Many events hosted by community groups also include fireworks. Therefore, in order to ensure increased communication of the use of fireworks, it is recommended that a request for proof of notification be included in the event funding grant agreement. This would help to encourage organizers to be mindful in the delivery of these firework displays, especially if the smaller more community-based events may have not routinely given advance notice of the displays. Staff also encourage the inclusion of such events in district Councillor's newsletters as another mechanism for notification to communities.

Complaints Regarding Municipal Fireworks

It is estimated that in the past, approximately 100,000 people per year attended civic events that include fireworks as an element of the programming. Over the past several years, there have been no complaints regarding fireworks at civic events recorded through 311 or directly to the civic events business unit. Staff are aware of complaints made directly to Councillors, however in the majority of cases such complaints are in reference to the firing of illegal fireworks. This is the topic of another report related to Consumer and Family Friendly Fireworks.

Greener Alternatives to Fireworks

Cities that have experimented with "silent" fireworks have incorporated proximate pyrotechnic style fireworks. Banff, Alberta, has replaced its traditional 2019 Canada Day and New Year's Eve fireworks displays for low-altitude, low-noise, special effects pyrotechnic displays and Canmore has since followed suit. In an email communication city staff at Banff who were consulted on the 2019 change to pyrotechnics stated:

In person the explosion it is still quite loud and at Canada Day 2019 one could still hear the echo off of the mountains which means it is not perfect. Though we have not commissioned an official study, we have had positive feedback from Parks Canada regarding less impact on wildlife and residents who were grateful for the change.

For the past several years American cities in California, Arizona and Colorado have used drones and lasers instead of commercial fireworks to put on light shows for the Fourth of July to reduce the likelihood of wildfires. Hundreds of drones outfitted with LED lights are flown to choreographed patterns using coloured lights, but alternatives to fireworks do have some issues. As noted, Banff's pyro created audible pops as they were launched and while drone shows do not face the same problems as quiet fireworks, they are a costly alternative and not the perfect solution. Each display can need anywhere from 100 to 500 drones depending on how complex the design and the displays must also be programmed and tested before the real show. Laser shows, another option instead of fireworks, in many cases, do not suit the character of some of the more traditional cities and they too can be cost prohibitive for many cities in Canada.

Costs of Pyrotechnics vs Consumer or Commercial

To convert all municipal fireworks displays to pyrotechnics exclusively would require an annual budget increase of approximately \$85,000 in order to maintain the duration of the display and amount of shells that have been used in the large-scale commercial fireworks shows.

Cities that have experimented with silent fireworks have incorporated proximate pyrotechnic style fireworks. These shows are all within 200m of their audience. Table 2 shows the expenses in relation to the three different types of fireworks available.

Table 2

	Bombshells	Comets	Mines	Cakes
Consumer	\$11.00	\$7.00	\$10.00	\$50.00
Professional	\$4.50 to \$58.00	\$13.00	\$25.00	\$200.00
Pyrotechnics	\$36.00	\$32.00	\$35.00	N/A

The displays would not produce the same dramatic effects as previous displays in the Halifax Harbour. Dr John Conkling, the former Executive Director of the American Pyrotechnics Association and Professor Emeritus of chemistry at Washington College in Maryland, is widely regarded as one of the world's foremost experts on pyrotechnics. He summarized the central issue for major displays being "quiet" in a March 2017 Edinburgh City Council Report:

Because they do not include big aerial explosions, quiet shows cannot entertain a large audience. The public who attend large-scale fireworks displays expect to hear explosions and loud bangs as part of the experience, and these add to the sense of occasion and celebration which organizers try to create.¹

Two displays, the Halifax Tree Lighting and New Year's Eve are held at Grand Parade and have transitioned to pyro grade fireworks. The events attract audiences in numbers between 3,000 – 5,000. These shows are more expensive, so the duration of these shows is not as long nor as visually impactful. However, staff have recognized when in close proximity of the public, pyrotechnics are the safest effect available and have adjusted the budgets accordingly.

Conclusion

For the reasons outlined in this report, it is recommended that HRM continue to use commercial grade fireworks for those events in which a minimum distance of 150m is able to be achieved between the audience and the fireworks launching area. Further, the use of pyrotechnics should continue for those areas which do not enable the minimum distance. The requirement for additional notification is recommended to be included for those events which received HRM event grants.

FINANCIAL IMPLICATIONS

There are no financial implications associated with the recommendations in this report. The funding for municipal fireworks is included in the Parks and Recreation operating budget.

RISK CONSIDERATION

The assessed risk to the municipality is primarily reputational.

Assessment of reputational risk rates moderate, insofar as the municipality could be perceived as insensitive to the impact of fireworks displays on those on the Autism Spectrum and individuals suffering from PTSD. The staff recommendations on requiring grant applicants to provide proof of notification to the community, continued municipal notifications when using fireworks and continued used of pyrotechnics in some instances mitigate this risk.

COMMUNITY ENGAGEMENT

Staff have consulted Autism Nova Scotia, the Creative City Network of Canada members ListServe, Nova Scotia Health Authority, and Public Health Division of NS Department of Health and Wellness.

¹ Silent Fireworks Report – Edinburgh Corporate Policy and Strategy Committee – Section 3.14, pg. 5. (Attachment 1)

[https://democracy.edinburgh.gov.uk/Data/Corporate%20Policy%20and%20Strategy%20Committee/2017/0328/Agenda/item_78 - silent fireworks.pdf](https://democracy.edinburgh.gov.uk/Data/Corporate%20Policy%20and%20Strategy%20Committee/2017/0328/Agenda/item_78_-_silent_fireworks.pdf)

ENVIRONMENTAL IMPLICATIONS

Smoke- pyrotechnics generally produce less smoke than commercial fireworks on an item by item basis due to differences in the chemical compositions. In comparison with other smoke producing activities typical firework displays generate far less smoke than other common activities such as burning leaves, summertime campfires, fireplaces in homes, and wood pellet stoves.

Packaging/garbage/recycling of pyrotechnics (Grand Parade shows) produce more waste item for item than commercial fireworks (Canada Day, Natal Day).

ALTERNATIVES

Alternative 1: Regional Council may choose to direct the Chief Administrative Officer (CAO) to convert all municipal fireworks displays to pyrotechnic grade fireworks. This would cost an additional \$85,000 to be able to provide similar size and scale events and would need to be considered in 2022-2023 budget cycle.

Alternative 2: Regional Council may choose to direct the Chief Administrative Officer (CAO) to not request proof of community notification from events with fireworks displays as a condition of funding in the Regional Special Events and Marketing Levy Special Events grant agreement process.

ATTACHMENTS

Attachment 1: Corporate Policy and Strategy Committee, The City of Edinburgh Council

Attachment 2: April 17, 2020 Letter from Executive Director, Autism Nova Scotia

A copy of this report can be obtained online at halifax.ca or by contacting the Office of the Municipal Clerk at 902.490.4210.

Report Prepared by: Elizabeth Taylor, Manager, Culture & Events, 902.229.7622

Corporate Policy and Strategy Committee

10.00am, Tuesday, 28 March 2017

Silent Fireworks

Item number	7.8
Report number	
Executive/routine	Executive
Wards	All

Executive Summary

This report is in response to a [Council motion](#) which asked for information on the effects of firework noise on buildings, people and animals. The motion also asked for an exploration of other options which might maintain the spectacle but reduce the noise impact, such as silent fireworks. The legislative background is explained and the impact of firework noise is discussed. While there are no fireworks which are completely silent, quieter fireworks and alternatives such as laser displays are explored. However, event organisers and industry professionals regard these as 'add-ons' rather than constituting a viable substitute for entire fireworks displays.

Links

Coalition Pledges	P24
Council Priorities	CP6
Single Outcome Agreement	SO1

Silent Fireworks

1. Recommendations

- 1.1 That the Corporate Policy and Strategy Committee notes this report.

2. Background

- 2.1 At the Council meeting on 15 December 2016 Councillor Mowat submitted the following motion in terms of Standing Order 16:

Council:

- 2.1.1 Recognises that the fireworks set off regularly in the city add excitement, colour and gaiety to celebrations in Edinburgh but that there is an impact from these regular fireworks on the residents living close to the launch sites and that there are concerns that the increasing scale of such may be having adverse impacts; and
- 2.1.2 Calls for a report in two cycles to investigate:
- What impact the noise of the bangs has on the health and wellbeing of people and animals;
 - What damage may be caused to property from the vibrations from the large pyrotechnic displays;
 - What other options are available for keeping the spectacle but reducing the impact such as silent fireworks.

3. Main report

- 3.1 Currently there is no recognised maximum noise level for fireworks displays in residential areas. In terms of legislation governing fireworks, there are several controls:
- Firstly, the Pyrotechnic Articles (Safety) Regulations 2015 state that all category F1-F3 fireworks must not exceed 120dB (A, Imp) when measured at the safety distance (e.g. 15 metres for category F3 fireworks). This places an onus on manufacturers to design fireworks to meet this criterion. Category F1-3 fireworks are those which can be sold to the general public.
 - Category F4 fireworks can only be sold and used by fireworks professionals. There are no legal restrictions on the noise levels Category F4 fireworks can produce. However the overarching Noise at Work Regulations would apply, and responsibility would lie with display organisers to ensure that noise levels were within safe limits. Presently, there is no evidence that noise levels experienced

by the general public stemming from organised fireworks displays in the city are exceeding safe limits.

- 3.2 Secondly, the Fireworks (Scotland) Regulations 2004 prohibits the use of fireworks between the hours of 23.00 – 07.00, except for certain holidays, e.g. Chinese New Year, New Year's Eve, Diwali and 5 November; or where the Local Authority has granted a dispensation. When a dispensation is granted the event must be publicly advertised no later than seven days prior to the commencement of the event. The Local Authority may refuse a dispensation if it is satisfied that there is significant potential for:
- death of persons or injury, alarm, distress or anxiety to persons;
 - death of animals or injury or distress to animals; and
 - destruction of, or damage to, property.
- 3.3 There is no legislative or numerical definition as to what is regarded a “silent” or “quiet” firework, although the fireworks industry will generally describe them as being less than 120dB (A, Imp) and to lack the characteristic “bang” of a firework. (The noises produced tend to be described as whistles or crackles). Most of the energy from fireworks is in the 125, 250 and 500Hz frequency bands which are much higher than the frequencies normally associated with vibrations.
- 3.4 Large scale displays to be viewed from a distance need to achieve a significant amount of height to be able to be seen by the audience over that distance and to progressively climb above the smoke layer from previous firings. This height and the accompanying large bursts of colour can only be achieved with the use of propellants. These propellants, or explosives, are what create the loud bangs associated with fireworks displays.
- 3.5 A fireworks display which comprised solely of “quiet” fireworks would be limited in height, and therefore in the range from which people could view it. It would also be of reduced impact in terms of the drama and spectacle that people associate with large-scale firework displays, and the expectations that contemporary audiences bring to such shows.
- 3.6 Laser and lighting displays were used to augment the 2016 Hogmanay fireworks display in the city, but there are no plans to consider using them to replace fireworks entirely. They rely on cloud cover for their effect, and they lack the ‘big bang’ literally and figuratively of an aerial fireworks display. They are also not a cheap option, costing about the same as an equivalent fireworks display.
- 3.7 Environmental Health can find no studies or reports which indicate that the air-borne vibration from fireworks causes structural damage to buildings. Following a question from the Edinburgh [Evening News](#) in 2012, Historic Scotland stated that “There is no evidence to suggest that firework displays during the Tattoo or other annual events have any effect on the stability of rock faces below Edinburgh Castle. We previously undertook a full year of vibration monitoring at the Castle to establish

if fireworks would have any effects on historic glass. The results showed there were no vibrations from any activity at the Castle sufficient to crack glass.”

- 3.8 Damage to property from any source of vibration is dependent upon the duration, strength and frequency of the vibration, but also the sensitivity and state of repair of the building. It is not possible to directly link a source of vibration as a cause of specific damage to a property. As a consequence of this, when construction works are undertaken, it is common practice for contractors to undertake a dilapidation survey to identify existing defects in nearby properties. This is to avoid later claims of causing domestic or structural vibration damage which pre-existed any works.
- 3.9 For the year 2016, the City of Edinburgh Council Noise Team received a total of eleven complaints regarding noise from fireworks. All of the complaints related to the loudness of the fireworks, as well as one concern about the effect on pets, and six about the timings of the displays. Of these eleven, the Royal Edinburgh Military Tattoo (REMT) generated four complaints and the Royal Yacht Britannia two. The Edinburgh International Festival and Hogmanay firework displays gave rise to one complaint each, and the others were concerning fireworks from an unknown origin.
- 3.10 In order to try to reduce the noise impact of their displays, in 2015 the REMT asked their supplier to reduce the blowing charge on their aerial fireworks, and to reduce the maximum calibre of their aerial shells from 125mm to 100mm. It is suggested anecdotally that this may have resulted in a small reduction in noise levels, but there is no scientific evidence to support this. Nevertheless, the REMT has continued with these restrictions in current displays.
- 3.11 There appears to be little evidence to suggest that fireworks displays have a detrimental impact on the health and wellbeing of healthy individuals who are either spectating or within earshot. Any prolonged exposure to loud noise carries a risk of hearing damage, but in the case of fireworks displays, the main risk is to those who are involved in the delivery of the display, and who may be much closer to the aerial shells at the point of ignition. The public are normally kept well away from any firework source. The further the distance from the noise source, the lower the risk of hearing damage.
- 3.12 There is a small percentage of the population who suffer from post-traumatic stress disorder, hyper-sensitivity, or a phobia related to loud bangs who may experience distress when witnessing fireworks displays. For the majority of those individuals any adverse effects are greatly lessened by prior warning of the noise. Displays that happen at the same time each year and are therefore predictable, e.g. Hogmanay, the Tattoo, Festival fireworks and bonfire night are generally regarded as less of a problem.
- 3.13 For animals too, such as household pets, if their owners are made aware in advance of the likelihood of a display giving rise to loud noises, then there are steps they can take to minimise any animal distress. These include e.g. a ‘Sounds Scary’, a CD which helps desensitise dogs to loud bangs, and a ‘thundershirt’ anxiety coat which is available for both cats and dogs. There is now a wealth of helpful

information on the internet readily available to pet-owners to help them minimise any distress which might arise from exposure to fireworks displays.

- 3.14 A former Executive Director of the American Pyrotechnics Association, Emeritus Professor Dr John Conkling is widely regarded as one of the world's foremost experts on pyrotechnics. He has succinctly summarised the central issue for major displays thus: "Because they do not include big aerial explosions, quiet shows cannot entertain a large audience." The public who attend large-scale fireworks displays expect to hear explosions and loud bangs as part of the experience, and these add to the sense of occasion and celebration which organisers endeavour to create.

4. Measures of success

- 4.1 This report is for information only.

5. Financial impact

- 5.1 This report is for information only and has no financial impact.

6. Risk, policy, compliance and governance impact

- 6.1 There are no risk, policy, compliance or governance impacts arising from this report.

7. Equalities impact

- 7.1 There is no impact on equalities issues arising from this report.

8. Sustainability impact

- 8.1 Not applicable.

9. Consultation and engagement

- 9.1 The following organisations were consulted regarding this report: Council Environmental Health Team, Council Events Team, Festivals Edinburgh, various commercial pyrotechnic companies, Royal Edinburgh Military Tattoo, Unique Events Ltd.

10. Background reading/external references

- 10.1 [The Pyrotechnic Articles \(Safety\) Regulations 2015; House of Commons Briefing Paper on Regulation of Fireworks 2015](#)

Paul Lawrence

Executive Director of Place

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11. Links

Coalition Pledges	P24 - Maintain and embrace support for our world-famous festivals and events
Council Priorities	CP6 – A creative, cultural capital
Single Outcome Agreement	SO1 - Edinburgh's economy delivers increased investment, jobs and opportunities for all
Appendices	None



April 17th, 2020

Support Means Success

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Board Members

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Autism Nova Scotia

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Dave Nicholson, FCPA FCMA
CFO
Atlantic Subway

Stephanie McGrath
Senior Director, Content Strategy
VERB Interactive

Catherine Rahey
Autism Consultant
Complex Cases and Learning Centre
Consulting Services

Dr. Robert Strang
Parent

Re: Silent Fireworks Report

Dear Mr. Comer,

On behalf of Autism Nova Scotia, I wish to express my support of offering sensory-conscious firework display options in Nova Scotia to better accommodate those with Autism Spectrum Disorder (ASD) and the greater disability community.

ASD is a lifelong neurodevelopmental disorder that can affect the way a person communicates and interacts with their environment. Here in Nova Scotia, there are approximately 14,000 people of all ages on the autism spectrum. As autism is the most common neurodevelopmental disorder diagnosed among children in Canada, that number is only expected to grow.

One common trait associated with autism is an over-reactive sensory system. For many autistic individuals, bright lights, loud sounds, and sudden or abrupt noises are experienced at a much more escalated level than neurotypical individuals. This can make common excursions like taking the bus, getting groceries, or navigating festivities very difficult.

To build a truly inclusive province, Nova Scotians must view all decisions through an autism lens. When it comes to firework displays—commercial or residential—inclusion means taking steps to ensure they cause as little stress as possible, such as giving advanced notice and opting for quieter, more sensory-conscious displays. Viewing firework displays through an autism lens means impressing upon the general public the needs of people on the autism spectrum and the importance of considering those needs when planning a display.

Inclusive festivities not only accommodate the autism community, they also model inclusion and acceptance in our daily lives. Nova Scotia has the opportunity to stand out as a leader of inclusion for the entire country by showing the same care and consideration for the needs of the autism community as we do for neurotypical Canadians.

Working together, we can build a brighter future for Nova Scotians with autism, and a better province for us all.



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