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A Fireworks Primer for Michigan

My name is Andy Webb, and I am the owner of Captain Boom Fireworks LLC, a small full service fireworks business. I have over 30 years of experience performing professional indoor and outdoor displays, as well as consumer fireworks sales and use. I am certified as an instructor for the Pyrotechnics Guild International's Display Fireworks Operator Certification course, and have trained many of the people who perform professional fireworks displays in Michigan.

The recent efforts to update Michigan's fireworks law from the essentially unchanged form of Public Act 328 of 1931, has prompted me to write what I hope is an educational document. It is my desire to provide some background on current federal fireworks law, within which the states write their own laws. Additionally, I will discuss resources used by federal, state, and local governments, as well as within the fireworks industry that are published by the National Fire Protection Association (NFPA) and the American Pyrotechnics Association (APA). I will attempt to be brief, but am concerned that any effort to explain the various parts will be insufficient. It would behoove the reader to investigate these resources fully.

I will begin with a brief discussion of federal definitions, Michigan's current law, the NFPA, and the APA. I will conclude with my observations of Michigan's current situation regarding fireworks, and what I believe would be an adequate solution to updating Michigan's fireworks law.

Federal Fireworks Regulation

Three main sections in the Code of Federal Regulations (CFR) pertain to fireworks.

27 CFR Part 555 – Commerce in Explosives

16 CFR Part 1500 – Hazardous Substances and Articles, and Part 1507 – Fireworks Devices

49 CFR Parts 171, 172, and 173 – Transportation

There are three classifications of fireworks defined in 27 CFR Part 555.11:

Display fireworks. Large fireworks designed primarily to produce visible or audible effects by combustion, deflagration, or detonation. This term includes, but is not limited to, salutes containing more than 2 grains (130 mg) of explosive materials, aerial shells containing more than 40 grams of pyrotechnic compositions, and other display pieces which exceed the limits of explosive materials for classification as "consumer fireworks." Display fireworks are classified as fireworks UN0333, UN0334 or UN0335 by the U.S. Department of Transportation at 49 CFR 172.101. This term also includes fused setpieces containing components which together exceed 50 mg of salute powder.



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The Bureau of Alcohol, Tobacco, Firearms and Explosives regulate display fireworks under 27 CFR 555. A person must have a permit from ATF to import, manufacture, distribute, or use display fireworks. Display fireworks are those which one would normally associate with a municipal fireworks display. Display fireworks have formerly been known as ‘special fireworks’ or ‘class B’ fireworks.

Consumer fireworks. Any small firework device designed to produce visible effects by combustion and which must comply with the construction, chemical composition, and labeling regulations of the U.S. Consumer Product Safety Commission, as set forth in title 16, Code of Federal Regulations, parts 1500 and 1507. Some small devices designed to produce audible effects are included, such as whistling devices, ground devices containing 50 mg or less of explosive materials, and aerial devices containing 130 mg or less of explosive materials. Consumer fireworks are classified as fireworks UN0336, and UN0337 by the U.S. Department of Transportation at 49 CFR 172.101. This term does not include fused setpieces containing components which together exceed 50 mg of salute powder.

As long as fireworks meet the requirements for consumer devices, these fireworks are federally legal to be used by consumers without any special training or permits. The CPSC assumed jurisdiction over consumer fireworks in 1976. Consumer fireworks have formerly been known as ‘common fireworks’ or ‘class C’ fireworks.

Articles pyrotechnic. Pyrotechnic devices for professional use similar to consumer fireworks in chemical composition and construction but not intended for consumer use. Such articles meeting the weight limits for consumer fireworks but not labeled as such and classified by U.S. Department of Transportation regulations in 49 CFR 172.101 as UN0431 or UN0432.

Articles pyrotechnic are typically used for close proximity indoor or outdoor displays, or for theater special effects.

Note that the designation ‘class B’ or ‘class C’ for display or consumer fireworks has been and continues to be used in common speech. This is derived from vernacular use based on former U.S. Department of Transportation shipping designations. These prior designations have been supplanted by United Nations designations of 1.1G and 1.3G for display fireworks, and 1.4G for consumer fireworks. i.e. It is common in the fireworks community to speak of ‘class B’ when referring to display fireworks, and ‘class C’ when referring to consumer fireworks, though this terminology is technically out of date.

I encourage the reader to refer to the Electronic Code of Federal Regulations for further detail. It can be found at <http://ecfr.gpoaccess.gov/> I have provided the relevant sections of the code above, and a search on any of those pages will help the reader to find the section of interest.



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Michigan Fireworks Regulation

Michigan's current fireworks law was passed as Public Act 328 of 1931, and can be found at MCL 750.243a, *et seq.* There have been minor changes in the law since then, but the language is essentially unchanged. Due to the age of Michigan's fireworks law there are inconsistencies with current federal law, and the current law is not based on any objective standard like that provided by NFPA.

The current law does not make a distinction between display fireworks, consumer fireworks, or articles pyrotechnic. Michigan law uses the terminology 'class B' or 'class C' fireworks, but this terminology is not consistent with the vernacular use of the terms.

Michigan currently allows use of all fireworks that are federally legal, provided that a permit is obtained from the local municipality for certain types. In essence, a fireworks display permit is required if a fireworks device is propelled into the air prior to or during functioning, or makes a noise report. A permit is not required for paper caps, sparklers, fountains, toy snakes, and toy smoke devices.

Municipalities may grant a permit for a fireworks dealer to have restricted fireworks in his possession, for sale to those who have display permits.

Michigan law requires proof of financial responsibility in that a bond or insurance be obtained in order to secure a fireworks display permit, but there is no minimum required amount. Non-resident persons must appoint a resident agent upon whom legal process can be served if necessary. The law also requires the local authority to rule on the competence of the operator, but there is no objective standard upon which to base this decision.

Intrastate transport of fireworks is allowed for permit holders, and refers to United States department of transportation regulations.

MCL 750.243d contains a table of distances for storage of fireworks that is not consistent with federal or NFPA distance tables. It would be appropriate to adopt the current federal guideline.

Lastly, the current penalty for violation of Michigan law or of a permit is a misdemeanor.

For additional detail on Michigan fireworks law, please see <http://legislature.mi.gov/> and search for MCL 750.243 or 'fireworks'.

National Fire Protection Association

According to the National Fire Protection Association (NFPA) web site, <http://www.nfpa.org/> the NFPA is: "The world's leading advocate of fire prevention and an authoritative source on



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public safety, NFPA develops, publishes, and disseminates more than 300 consensus codes and standards intended to minimize the possibility and effects of fire and other risks.”

The NFPA has created codes and standards that provide guidance for the manufacture, transportation, storage, retail sale, and use of fireworks and pyrotechnic articles. The current fireworks related codes are:

NFPA 1123 – Code for Fireworks Display, 2010 edition.

NFPA 1124 – Code for the Manufacture, Transportation, Storage, and Retail Sales of Fireworks and Pyrotechnic Articles, 2006 edition.

NFPA 1126 – Standard for the Use of Pyrotechnics Before a Proximate Audience, 2006 edition.

It is possible to read the above documents at the NFPA web site, and they are also available for purchase.

NFPA allows use, by reference, of their codes and standards in the development of laws and regulations. The fireworks industry already uses NFPA codes and standards as a guide for their daily operations, and it would be appropriate to use these codes and standards in updating Michigan law. In addition, the use of NFPA codes will minimize any conflict with federal law or industry best practice. Annex F of both NFPA 1123 and 1124 provide sample language that can be used to adopt these codes by reference.

American Pyrotechnics Association

The APA worked with the U.S. Department of Transportation to create APA Standard 87-1. APA 87-1 is titled “Standard for Construction and Approval for Transportation of Fireworks, Novelties, and Theatrical Pyrotechnics”. I believe the current edition is dated 2001.

APA 87-1 was created to aid the fireworks industry in complying with federal transportation laws by providing a framework within which to apply for and receive permission to transport fireworks devices. It is incorporated by reference in 49 CFR 173.56(j).

From the Introduction to APA 87-1: This standard provides manufacturers, importers and distributors of fireworks and novelties with information to assist them in manufacturing, testing, shipping, and labeling the products of the fireworks industry in accordance with applicable federal laws and current good manufacturing practices.

Current Fireworks Use and Practice in Michigan

With the preceding information as background, I’ll discuss current fireworks use and practice in Michigan, with possible changes and solutions. I think it best to discuss in terms of display fireworks, proximate fireworks, and consumer fireworks.



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Display Fireworks and Proximate Fireworks. I'll treat these two categories together, as consumers do not use them, and the codes concerning their use are similar. There are currently about two dozen fireworks companies in Michigan that provide professional displays. Approximately half of these are Michigan companies; the others have their main offices located in other states. Most professional displays are done for municipal celebrations, but it is also common to do displays for festivals, weddings, anniversaries, birthdays and graduations.

Current Michigan law works fairly well with regard to display and proximate fireworks, in that a display company will work with the local municipality and local fire service to obtain a permit for a display. All reputable fireworks companies will utilize the aforementioned NFPA standards, as a guide for their operations, so codifying those standards in state law is a reasonable course of action. Note that the state has incorporated NFPA 70, the National Electrical Code, in MCL 125.1505, so there is precedent for doing this.

I would make a few suggestions with regard to professional displays.

1. Fireworks Display Permits should be for shows that use display fireworks. i.e. If the fireworks require a federal ATF permit for purchase, then the state should require a display permit, along with requirements that NFPA 1123 be met. Display permits should not be required for consumer fireworks use, as many states already allow unregulated use of consumer fireworks.
2. The current Application for Fireworks Display Permit and Fireworks Display Permit don't follow NFPA 1123, in that they require number and type of device, where NFPA 1123 is based on the size of the device. Modify the permit forms to comply with the NFPA 1123 size requirement.
3. The current Application for Fireworks Display Permit requires the display operator's and assistant's name, address, and age. It would make sense for the application to also be made by a company, who then will supply a trained operator and assistants for the display. Permit applications are often made between January and May for a July 4 display, and the company may not have crew availability confirmed that early in the season. If a private individual will perform the display, it is appropriate to use the current method.
4. Current Michigan law has the local authority rule on the competency of the display operator. Putting a reasonable standard in place for operator training could be appropriate but is not necessarily required. Many fireworks companies provide in house training for their operators at the beginning of every season. This has been sufficient for the life of the current law, so there is little reason to change it. If a common standard is desired, then there are two programs I am aware of that I feel the state should consider as sufficient. One is provided by the Pyrotechnics Guild International, and the other by the American Pyrotechnics Association. Michigan could accept either of these training programs in lieu of developing state specific training, and this would have the benefit of minimizing administrative costs. Both of these training programs make extensive use of the NFPA standards.



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Consumer Fireworks. Michigan has allowed unregulated sale and use of a subset of consumer fireworks since 1931. Aerial consumer fireworks are not currently legal to sell or use in Michigan without the previously described display permit. Given that the states that border Michigan allow the sale and use of federally legal consumer fireworks, it is easy for Michigan residents to purchase aerial consumer fireworks from bordering states. Every year, I read front-page newspaper articles about consumers who make the pilgrimage to these border state stores for fireworks. These consumers bring the fireworks back to Michigan and use them in their Independence Day celebrations, largely with impunity. The reality is most police and fire service personnel have better things to do with their time than pursue people having a celebration, aside from the simply overwhelming number of people who are using aerial consumer fireworks.

I have done professional displays on numerous lakes throughout the state, and every single one of those lakes has a large quantity of aerial consumer fireworks being used on or around Independence Day. It would be useful to provide safety education to consumers who are already using these fireworks, though I believe that most people use fireworks safely already. By legalizing the sale and use of federally legal consumer fireworks, Michigan has an opportunity to generate revenue for the state through sales tax and a fireworks user fee, as well as to allow additional businesses to thrive.

Based upon the previous discussion, I would like to suggest the following structure within which to update Michigan's fireworks law. Due to the difficulty in changing law, I suggest that the statute should be as simple as possible.

An updated Michigan fireworks statute should:

1. Use the Federal definitions for novelties, consumer fireworks, display fireworks, and articles pyrotechnic.
2. Establish a permit structure for public fireworks displays and for retail consumer fireworks sales.
3. Establish a fee structure for retail consumer fireworks sales permits, how those fees will be collected, and what educational, fire training, or other programs the funds will be used for.
4. Allow those with display permits to perform displays, and those with consumer fireworks sales permits to engage in selling consumer fireworks.
5. Allow local municipalities to establish their own ordinances regarding the use of consumer fireworks.
6. Provide the Governor with emergency powers to suspend or prohibit the use of fireworks in the event of a drought or other unusual condition.
7. Direct the state fire marshal to develop reasonable criteria for permits and licenses, along with reasonable standards based on NFPA fire codes for the safe manufacture, transportation, storage, retail sales and use of novelties, consumer fireworks and display fireworks into the state fire code.



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8. Require a bond or insurance, with the amount to be determined by the authority having jurisdiction, as is done now.
9. Establish penalties for those who engage in performing a display or retail sales of consumer fireworks without possessing a permit.
10. Establish penalties for violations of the statute and fire code (i.e. shooting fireworks too close to a tent or stand, not paying the fee or tax, etc.)
11. Establish penalties for someone who deliberately misuses or abuses fireworks.

In conclusion, I would like to express my support for updating Michigan's fireworks law, and legalizing the use of all federally legal consumer fireworks. I hope that this treatise has been helpful in educating the reader about federal and Michigan fireworks law, as well as the current use of fireworks in Michigan. I have made an effort to be concise, referring the reader to relevant resources, and have striven to be accurate to the best of my knowledge. This work is the opinion of the author, and any errors are my own.

Sincerely,

A handwritten signature in black ink that reads "Andrew Webb". The signature is written in a cursive, flowing style.

Andrew Webb
President

