

ARTS & CULTURE



Photos by Brett Blocker

Star shells and mortars transformed Green Lake into a fluorescent moonscape Saturday evening as the Spicer Fire Department set light to the Commercial Club's arsenal of fireworks.

Smoke on the water: Spicer FD sheds light on pyrotechnic process

By Brett Blocker
Editor

Like moths to the flame, humans are simply unable to resist the allure of a good ol' fashioned explosion, and have been since the dawn of gunpowder, incorporating pyrotechnics throughout the centuries in all manner of public ceremony, from marriages to concerts to, as of last weekend, the Spicer WinterFest celebration along Saulsbury Beach.

And while the array of mortars and shimmering flares featured at the Green Lake light display would have undoubtedly blown the mind of an ancient time traveler, the show still remained uncannily similar to those found throughout the Renaissance era: During the 15th century, European rulers were "especially fond of the use of fireworks to 'enchant their subjects and illuminate their castles on special occasions,'" according to the American Pyrotechnics Association.

In Medieval England, shows were supervised by expert "firemasters," and their court jester assistants, dubbed "green men," so-named for the caps of leaves worn on their heads to protect them from sparks as they entertained the crowd with jokes between preparing the displays.

Our local castle, of course, is made of ice, not stone. And our "green men" – the Spicer Fire Department.

But whether setting off smoke for Renaissance royalty or for locals along Green Lake, for many of us laypeople the question remains: how exactly does a technician go about igniting these explosives, safely and synchronized?

According to Jim Felt, Willmar Police Chief and Spicer Fire Department member: very carefully.

"We do a finger count before and after," he jokes. Felt, along with fellow firefighters Kelly Hammerschmidt and Bill Schweiss, were the agents on the ground lighting the fuses this year – a tradition they've repeated for over a decade.

For a ground-eye view of the process behind the pyrotechnics, the Lakes Area Review stopped by the trio's shoreline setup to learn firsthand how the pros do their shows.

"Don't look down the tube"

It's just before dusk, and several hundred yards out on Green Lake, Felt and his team have hauled out onto the ice 17 cardboard boxes. Save for their warning labels, the "cakes" are otherwise inconspicuous to the untrained eye.

Closer inspection, however, reveals a pair of fuses – one green, one red – protruding from a mouth of cardboard tubes, each packed with a concoction of gunpowder and star shells. The red fuse, he explains, can be hooked up to an electronic circuit board for instant detonation at a distance. Felt's team, however, will use the "old school" green fuse – a manual wick ignited by a standard road flare.

"We call these 'mortars,'" he says, peeling back the tin-foil covering on a rectangular cake. "They're very small, but work just like a military mortar, just on a much smaller scale."

Hammerschmidt explains that the wider the diameter of the firing tube, the greater the height and explosion. Three inches equates to about 300 feet of altitude; four inches – 400 feet. While diameters can range up to 48 inches, the Spicer FD will stick to three-to-four-inch tubes.

Along with mortars, the crew also has in its possession a myriad of crowd favorites in boxes labeled "finale."

"The ones people like most are the 'happy stars,' and that'll be at the end," Hammerschmidt said. "They're the ones that shoot up and are just a bunch of sparkling white – they pop and snap when they go off. That's a crowd favorite. The others are 'colored salutes,' and those are the big boomers. So when we do our fireworks on the Fourth of July, we start out with the four salutes and then always end with them."

After inspecting each cake, the department sets to work arranging their firing sequence, separating the boxes in two parallel lines, spaced equidistant in 20-foot intervals. Finale boxes are at the end of the line, mortars and flares to the front and center.

At 6 p.m. sharp, Hammerschmidt's radio crackles to life as a station assistant gives the crew the countdown.

The trio pops their road

flares and ignites the first box, sending to the sky a stream of screaming orbs.

To ensure each box is properly detonated, the firemen alternates ignitions in a leapfrog pattern with one member's eyes always trained on a flaming cake.

In the event of a dud, crews give the firework time for a delayed detonation before soaking it in water and filling out a report and returning the explosive to the producer.

Although he doesn't recall any major incidents, Hammerschmidt stated that during larger Fourth of July celebrations, which require up to 15 trained hands on deck, boxes believed to have been lit are sometimes overlooked.

"The Fourth of July is quite a bit different. For that show, 'we'll bury metal mortar tubes in the ground with guys hand-lighting and reloading as they're going up ...It takes about a dozen-to-15 guys to make that show happen, and that's with guys running around. At the end, everybody's just sweating... There's so much going on that you swear you lit it..."

Fortunately, Spicer's event last weekend would go without a hitch. Save for one questionable cake, the mortars mortared, the flares flared, and against the eruption of finale-inspired applause, husks of paper embers fluttered across the ice.

Training paid off.

Prior to lighting off recreational explosives in a public setting, each crewmember must be certified as a licensed operator, undergoing a series



Willmar Police Chief and Spicer FD member Jim Felt shows off one of the 17 mortar tube "cakes" arranged in the WinterFest firing sequence.

of tests administered by the ATF, the state and the American Pyrotechnics Association. Certification also involves a 12-hour course in fireworks safety including everything from safe distances per payload to launching fireworks from boats and barges.

The course also highlighted the dangers of complacency when dealing with recreational explosives – namely, peering down the barrel of a "dud" mortar tube.

Hammerschmidt recalls watching trainers send a two-inch mortar – which can be purchased over the counter in South Dakota – through a 3/4-inch slab of plywood "to give an idea of how much power it has, and not to stick your face over it."

"To me, that was the big-

gest surprise – how quick those fuses can go. You don't want to get complacent, and we've all witnessed what these [fireworks] can do."

Once certified, technicians are only able to ignite fireworks, not purchase them. Instead, commercial fireworks in Minnesota must be purchased by a city under a separate licensing process. In Spicer's case, fireworks are purchased by the city through Chad Koosman, known locally for his brilliant Christmas light display each winter in Willmar.

The fireworks themselves are ordered through Brooten's Precocious Pyrotechnics. Prior to his passing in November of last year, company founder Garry Hansen sold custom-made fireworks to Disney

Land and Disney World, in addition to the Spicer Commercial Club, Hammerschmidt said.

"Garry did this his whole life. The guy was just a ball of knowledge. That's who we trained under," he said.

To date, the training has been effective. Save for the occasional ember down the back, firefighter Schweiss reported no injuries or incidents in his time with the department.

And following Saturday's ceremony: All limbs are accounted for.

"We did a finger count and left with the same number intact as when we started that night," Felt wrote in a follow-up email. "We call that a success."

PET OF THE WEEK:
Snow Queen

This almost 2-year-old female Netherland Dwarf Rabbit is ready for a new home! Snow Queen is a bit timid but will warm up after some time and loving support, although, kids can be scary sometimes. Apples are a tasty treat occasionally. Leafy veggies are something that has just been introduced and she is still trying to decide if they are ok or not. The great news is, Snow Queen is litterbox trained and keeps a clean area! She loves to hop around and 'help' you clean by staying close by you. Snow Queen is a bit of a loner but she may grab your heart and run with it! Did I mention her fur is the softest thing in the world?

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